2021 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:

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July 2021

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Submitted To:

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

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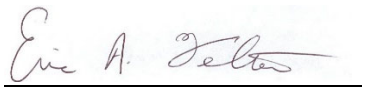
Date: July 2021

Eric A. Felter — Name
07/09/21 — Date



Signature
07/09/21 — Date

Project Manager - Parsons

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

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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 June 2020 through May 2021.

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 May 2021. These four wells are screened in the shallow overburden materials. As requested by the USEPA, viable piezometers screened within the landfill waste, East-A, East-C, and East-D were also sampled. Groundwater sampling on an annual schedule commenced in 2006. East-A, East-C, and East-D will continue to be sampled for the next two years when the usefulness will be reevaluated.

Each groundwater monitoring well and piezometer was purged prior to sample collection using a dedicated disposable HDPE bailer, except for East-D, where a Wattera brand pump was used. The four wells and piezometer East-A were bailed dry the day prior to sampling. Piezometers East-C and East-D were purged of three well volumes the day before sampling. Physical parameters including pH, temperature, conductivity, and turbidity of the purge water were periodically measured and recorded. All purge water was placed in an onsite wet-well. Wet well water is discharged to the City of North Tonawanda publicly owned treatment works (POTW). The dedicated disposable bailer was also used to collect the groundwater samples.

Since 2006, volatile organic compounds (VOCs) and semi-volatile organic compound (SVOCs) samples have been collected every other year and total metals samples have been collected annually. Beginning in 2019, collection of groundwater samples for VOCs, SVOCs, and mercury analysis were eliminated from the sampling requirements. In May 2021, in accordance with this schedule, groundwater samples were collected and analyzed for inorganics in accordance with EPA Method 200.7 and Method SW-6010. Additionally, as per the request of the USEPA, anions (bicarbonate, sulfate, chloride, and nitrate-nitrite) and cations (sodium, potassium, magnesium, calcium, and ammonium) samples were also collected. Cation and anion samples were filtered in the laboratory. Analysis of cations and anions will

be included for the next two years and then evaluated to determine if continuation would be beneficial. At piezometer East-A, due to a lack of water volume, dissolved metals and nitrogen analyses could not be completed.

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

Beginning in 2014, in addition to samples for total metals, samples for dissolved-phase metals were also collected and analyzed. Samples for dissolved-phase metals samples were collected based on comments in the USEPA's Third Five Year Review Report (September 2014) concerning metals concentrations and the potential for sample turbidity to change the total metals concentrations.

1.2.2 Effluent Sampling

Groundwater from the perimeter collection system is discharged to the City of North Tonawanda treatment system without pre-treatment. A monitoring station in Wet Well A allows both the effluent water quality and the volume of effluent to be verified by the City of North Tonawanda. In compliance with the City of North Tonawanda Industrial Wastewater Discharge Permit (the Permit), the effluent was sampled monthly through February 2007. A revised permit was issued covering from February 2007 through March 2010, requiring only semi-annual sampling. A new Industrial Wastewater Discharge Permit (Appendix A) was issued by the City of North Tonawanda in 2019 and is effective from March 31, 2019 through April 1, 2022. The new permit has a reduced analytical parameter list compared to the original permit, but continues to require a semi-annual sampling frequency. During the current reporting period, discharge samples were collected in October 2020 and April 2021. The effluent samples were collected in compliance with the permit using the procedures identified in the OM&M Manual. Effluent samples were analyzed by the City of North Tonawanda. The sole purpose of these analyses is for compliance with the Industrial Wastewater Discharge Permit.

1.2.3 Water Levels

Water levels (depths to water) were measured in four monitoring well locations and at four wet well locations inside the limits of the landfill. Water level measurements were collected monthly during the current reporting period (June 2020 through May 2021). The water levels were measured with an electronic water level indicator, and reported as an elevation above mean sea level. Figure 1.1 shows the locations of the water level monitoring points.

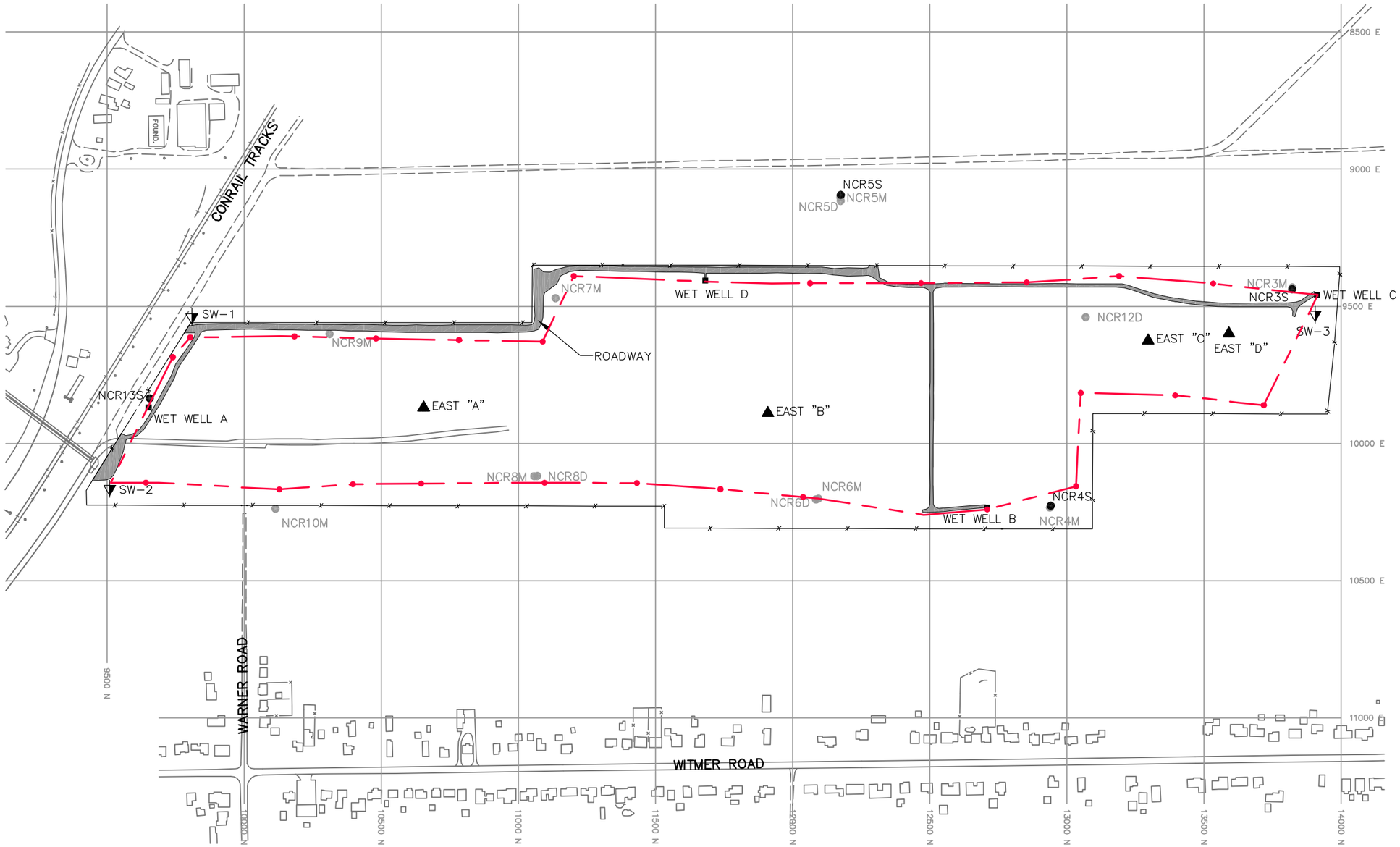
1.2.4 Site Inspections

The Site was inspected by GHD on a monthly basis during the reporting period, in accordance with procedures in the OM&M Manual. The perimeter collection system, offsite force main, wetlands, perimeter fence, drainage ditches, swale outlets, culverts, gas vents, wells, and landfill cap were visually inspected, and the results documented on inspection logs.

1.2.5 Well and Piezometer Inspections

Each of the wells and piezometers was inspected by checking the total depth, checking for buildup of silt in the well bottom, checking for bends or kinks in the risers, and documenting

the general condition of the well and lock. This information was recorded on the well purging forms included in Appendix B.



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 SHADED IF ABANDONED)
——X——	FENCELINE
— — —	PERIMETER BARRIER TRENCH
●	PERIMETER COLLECTION SYSTEM MANHOLE

400 200 0 400 800

SCALE: 1"=400'

FILE NAME: P:\738641\TECH\CAD\38641C001-PCS.DWG
PLOT DATE: 2/21/2019 8:17 AM PLOTTED BY: RUSSO, JILL

FIGURE 1.1

NIAGARA COUNTY REFUSE SITE
WHEATFIELD, NEW YORK

SITE PLAN

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

SECTION 2
RESULTS

2.1 ANALYTICAL RESULTS

2.1.1 Effluent Samples

Effluent samples were collected in October 2020 and April 2021 by GHD and analyzed by the City of North Tonawanda. The analytical results from these samples were used by the City to confirm that the effluent received from the Site met the criteria for acceptance by the City treatment system. All analytical results were found to be compliant with the March 31, 2019 discharge permit. Effluent analytical results 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 235 to 247 since the start-up of the perimeter collection system in November 2000. The collection of quarterly and semi-annual groundwater samples has been completed as outlined in the OM&M Manual. Annual collection and analysis of groundwater samples began in 2006. Groundwater sample analytes are currently scheduled to include inorganics annually, as approved by the USEPA (see Appendix C). The groundwater samples collected during this reporting period were analyzed for total and dissolved inorganics (see Appendix B) including anions and cations. Additionally, samples were collected from viable piezometers within the landfill perimeter (East-A, East-C, and East-D). Anions and cations as well as the three piezometers from within the landfill, are scheduled to be sampled for the next two years. An evaluation will be completed at that time to determine if continuing to sample the piezometers and analyze for the anions/cations should continue.

Beginning in 2014, in addition to total mercury and inorganic samples, dissolved-phase mercury and inorganic samples were also collected and analyzed. Sampling for both total and dissolved-phase inorganics is planned to continue in future annual groundwater sampling events.

The analytical results received from the laboratory are presented in Appendix B, along with the COC. A Sample Collection Data Sheet for each well, which includes required and actual purge volumes, sample date, time, description, required analyses, and the COC number, is included in Appendix B. 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 B.

May 2021 Event

Monitoring wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S and piezometers East-A, East-C, and East-D were sampled on May 4, 2021. The locations of the monitoring wells are provided in Figure 1.1. The data validation report is presented in Appendix D. Inadequate water volume in piezometer East-A did not allow for the collection of dissolved inorganics and nitrogen samples.

Twelve metals were identified in one or more of the groundwater samples from the wells. Three of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs (screening criteria), which is consistent with previous sampling events. In general, the detected values are consistent with ranges observed in previous sampling events. Plots of selected total metals concentrations over time are presented in Figures 2.1A through Figure 2.1C. General chemistry analytical results were found to be below the screening criteria for each of the samples from the wells. Key results are summarized below.

- Total iron was identified in each of the samples and exceeded the AWQS and the NYSDOH MCL in NCR-4S. Dissolved iron was identified in three of the four samples but only exceeded the AWQS and the NYSDOH MCL in NCR-4S. The Record of Decision (ROD) (USEPA, 1993) identifies iron as typically exceeding MCLs in the regional groundwater indicating that exceedances of iron are likely related to background conditions.
- 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 and dissolved sodium were identified in each of the four samples. Total and dissolved sodium exceeded the NYSDEC AWQS, NYSDOH MCLs, and USEPA MCLs in the sample from NCR-4S. The Record of Decision (ROD) (USEPA, 1993) identifies sodium as typically exceeding MCLs in the regional groundwater indicating that exceedances of sodium are likely related to background conditions.

Seventeen metals were identified in one or more of the groundwater samples from the piezometers. Ten of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs (screening criteria). General chemistry results also exceeded criteria for three of the analytes. Key results are summarized below.

- Total arsenic was detected in two of the three piezometers and exceeded the NYSDEC AWQS and NYSDOH MCL and USEPA MCL in the sample from East-C. Dissolved arsenic exceeded only the NYSDEC AWQS in the sample from East-C.
- Total cadmium was detected in the three piezometer samples and exceeded the three criteria in the sample from East-C. Dissolved cadmium exceeded the three criteria in the sample from East-C.
- Total chromium was detected in each of the samples from the piezometers and exceeded the NYSDEC AWQS and NYSDOH MCL and USEPA MCL in the sample from East-C and exceeded the NYSDEC AWQS in the sample from East-D. Dissolved chromium exceeded all three criteria in East-C and only the NYSDEC AWQS in the sample from East-D.
- Both total and dissolved iron samples exceeded NYSDEC AWQS and NYDOH MCLs. The Record of Decision (ROD) (USEPA, 1993) identifies iron as typically exceeding MCLs in the regional groundwater indicating that exceedances of iron are likely related to background conditions.

- Lead exceeded the three criteria in each of the three total and two dissolved samples collected.
- Magnesium exceeded the NYSDEC guidance value (not a standard) in each of the three total and two dissolved samples collected.
- Manganese was detected in each of the samples collected and exceeded the NYSDEC AWQS and NYSDOH MCLs in the total manganese samples from East-A and East-C and the dissolved sample from East-C.
- Nickel was detected in each of the samples collected and exceeded the NYSDEC AWQS for total nickel in the samples from East-C and East-D and the dissolved sample from East-C and East-D.
- Sodium was detected in each of the samples collected and exceeded all three criteria in both the total sodium samples from East-A, East-C, and East-D and the two dissolved sodium samples from East-C and East-D.
- Zinc was identified in each of the samples from the piezometer and exceeded the NYSDEC AWQS and NYSDOH MCLs in the total and dissolved sample from East-C.
- Chloride exceeded the NYSDEC AWQS and NYSDOH MCLs in the samples from East-C and East-D and was detected in the sample from East-A below screening criteria.
- Nitrogen, ammonia (as nitrogen) exceeded NYSDEC AWQS in the sample from East-C.
- Sulfate (as SO4) was detected in each of the three samples and exceeded each of the three screening criteria in the sample from East-C.

Comparison of Total Metals Results Between Wells and Piezometers

The monitoring wells (NCR-3S, NCR-4S, NCR-5S, and NCR-13S) are installed outside the perimeter of the landfill, outside the collection system. The piezometer (East-A, East-C, and East-D) are within the landfill footprint. Comparing the results of the monitoring wells with the piezometers, the analytical results for total metals found several analytes were detected in the piezometers that were not detected in the monitoring wells: arsenic, cadmium, cobalt, lead, and vanadium. Lead was not detected in the well samples but was above the three screening criteria in each of the piezometer samples. Chromium, manganese, nickel, and zinc were below criteria in each of the well samples but were found above criteria in one of more of the samples from the piezometers. Other analytes (aluminum, barium, calcium, copper, iron, magnesium, potassium, and sodium) were typically found at higher concentrations in the samples from the piezometers than the wells.

Comparison of Dissolved Metals Results Between Wells and Piezometers

Comparing the results of the monitoring wells with the piezometers, the analytical results for dissolved metals found several analytes were detected in the piezometers that were not detected in the monitoring wells: arsenic, cadmium, cobalt, lead, and vanadium. Chromium, manganese, nickel, and zinc were below criteria in each of the well samples but were found

above criteria in one of more of the samples from the piezometers. Other analytes (aluminum, barium, calcium, copper, iron, magnesium, potassium, and sodium) were typically found at higher concentrations in the samples from the piezometers than the wells.

The general chemistry parameters are typically one to five orders of magnitude higher in the samples from the piezometers. Most notably bicarbonate alkalinity, chloride (as Cl), nitrogen, ammonia (as N), and sulfate (as SO4). Nitrate-nitrite results were comparable between the wells and the piezometers.

Data Validation

Groundwater analytical results were reviewed and validated by Parsons for usability (see Appendix D for the complete 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. A summary of the data validation report is provided below:

Although all metals sample results were considered usable following data validation, three minor issues were noted:

- Blank contamination – The laboratory preparation blank associated with the project samples contained total iron and total zinc below the reporting limits at concentrations of 0.0233 and 0.00159 mg/L, respectively. Therefore, results for these analytes less than validation action concentrations were considered not detected and qualified "U" for the affected samples.
- Continuing Calibration Verifications - All continuing calibration verifications were analyzed at the appropriate frequency with recoveries within QC limits. All low reference standard verifications were analyzed at the appropriate frequency with recoveries within the 70-130%R QC limit with the exception of the high verification recoveries for total chromium (142%R), total iron (291%R), total manganese (149%R), and total potassium (147%R) associated with sample EAST D. Therefore, positive results for these analytes were considered estimated, possibly biased high, and qualified "J+" for the affected samples.
- Field duplicate precision – All field duplicate precision results were considered acceptable with the exception of the precision for total sodium (49.3%RPD) associated with sample NCR-13S and its field duplicate sample NCR-6S. Therefore, results for these analytes were considered estimated and qualified "J" for the affected parent sample and field duplicate.

Although all general chemistry sample results were considered usable following data validation, two minor issues were noted:

- The laboratory preparation blank associated with samples NCR-3S and NCR-5S contained bicarbonate alkalinity below the reporting limit at a concentration of 5.28 mg/L; the laboratory preparation blanks associated with samples EAST C and EAST D contained ammonia below the reporting limit at concentrations ranging 0.00997-0.0121 mg/L; and the continuing calibration blanks associated with the

project samples contained ammonia below the reporting limit at concentrations ranging 0.0104-0.0138 mg/L. Validation qualification was not required for the affected samples.

- All MS/MSD recoveries were considered acceptable and within QC limits with the exception of the low MS recovery for ammonia (81%R; QC limit 90-110%R) associated with sample NCR-5S. Therefore, the nondetected ammonia result was considered estimated and qualified "UJ" for the affected sample.

After data validation was completed, the data was electronically submitted to the USEPA Region 2 database.

2.2 SITE INSPECTIONS

Monthly Site inspections were conducted between June 2020 and May 2021. 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. No issues with the condition of the grass covering on the landfill were noted during each of the inspections. The landfill cap was mowed the first week of July 2020.

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

The wetlands were visually examined during monthly inspections for growth and propagation of wetland species, dead/dying vegetation, presence of invasive species (i.e., purple loosestrife), change in water budget, and general conditions. No signs of damage to the wetlands due to loss of vegetation, or changes in the water budget, were observed during each of the inspections. No issues were identified in changes in the water budget of the wetlands during each of the inspections during the reporting period between June 2020 and May 2021. No issues were identified with the wetland vegetation (no dead or dying vegetation) during each of the inspections during the reporting period.

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

2.3 MAINTENANCE

Scheduled maintenance during the reporting period included the following:

- On August 27, 2020 annual pump maintenance was completed at Wet Well A.
- On May 11, 2021 the totalizer in Wet Well A was removed and replaced with a new totalizer to confirm proper operation.
- On May 19, 2021 weed and grass trimming was completed around all wet wells, monitoring wells, piezometers, and other areas that have normal foot traffic.
- On June 2, 2021 annual maintenance was completed on the pump in Wet Well B. the pump was pulled, cleaned, and the connections were checked.

Occasional unscheduled maintenance at the landfill is required. During this reporting period, nine unscheduled maintenance items were addressed:

- On July 23, 2020 the discharge hose on Wet Well D came loose. The pump was removed and the hose was reattached.
- On October 7, 2020 faulty float switches at Wet Well A were replaced.
- On November 19, 2020 and again on March 11, 2021 a fallen tree had blocked the access road to the site. The tree was cut into manageable pieces and moved off of the road.
- On December 23, 2020 the 2-inch nipple on the Wet Well D pump broke. The part was removed and replaced with a new 2-inch nipple.
- On January 20, 2021 a tree had fallen on the southwest corner of the property. The pieces were removed and placed in a wooded area.
- On January 27, 2021 several small trees that were starting to block the main gate were cut and removed.
- On March 3, 2021 garbage that had blown onto the site over the winter was picked up and removed from the site.
- On March 24, 2021 the pump in Wet Well C failed. The pump was pulled and replaced with a new pump.
- On May 11, 2021 the pump in Wet Well C failed, was removed, and replaced with a new pump.

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 the reporting period, water levels were collected from the monitoring wells on a monthly basis. Water levels varied (rose or fell) between 1.4 and 4.3 feet over the course of the reporting period.

2.5 PERIMETER COLLECTION SYSTEM (PCS)

The PCS encloses the landfill and capped area of the Site. Leachate is passively collected along the perimeter flowing to Wet Wells B, C, and D and pumped to Wet Well A, which then discharges the leachate to the City of North Tonawanda Waste Water Treatment Plant. The PCS is functioning as designed, based on the following observations:

- The effectiveness of the PCS is directly observed through collection of groundwater samples from the four monitoring wells that are located outside the perimeter of the PCS. Historic analytical results from the groundwater samples have shown that VOCs or SVOCs have not been observed outside the PCS.
- Analytical results for inorganics analyses have not shown sustained concentration increases or increasing trends which could potentially indicate a breach of the PCS.
- Samples were collected from three piezometers within the landfill (East-A, East-C, and East-D) for comparison to analytical results from the monitoring wells outside the perimeter of the PCS. Additional analytes were collected in 2020 and 2021 to enhance this comparison. As discussed in Section 2.1.2, elevated levels of analytes were identified in the piezometers compared to the monitoring wells. In 2021, ten total metals were greater than screening criteria in the samples from the piezometers compared to the three total metals in the monitoring well samples. Ten dissolved metals were greater than screening criteria in the samples from the piezometers compared to the three dissolved metals in the monitoring well samples. Additionally, three of the general chemistry analytes exceeded criteria in the samples from the piezometers and none of the samples from the monitoring wells exceeded.

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

									Duplicate of NCR-13S				
	Location ID:				NCR-3S	NCR-4S	NCR-5S	NCR-13S	NCR-13S	EAST-A	EAST-C	EAST-D
	Sample ID:				WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421
	Matrix:				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	SDG:				4801842481	4801842481	4801842481	4801842481	4801842481	4801842481	4801842481	4801842481
	Lab Sample ID:	NYS	NYS	US	480-184248-1	480-184248-2	480-184248-3	480-184248-5	480-184248-4	480-184248-6	480-184248-7	480-184248-8
	Sampled:	DEC	DOH	EPA	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
CAS. No.	Chemical Name	Unit	AWQS*	MCL	MCL								
	TOTAL METALS												
7429-90-5	Aluminum	mg/l	-	-	-	0.2 U	0.63	0.18 J	0.2 U	0.2 U	2.2	7.4	1.5
7440-38-2	Arsenic	mg/l	0.025	0.050	0.050	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.057**	0.015
7440-39-3	Barium	mg/l	1	2	2	0.048	0.055	0.14	0.063	0.051	0.45	0.19	0.62
7440-43-9	Cadmium	mg/l	0.005	0.005	0.005	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0014	**0.01**	0.0029
7440-70-2	Calcium	mg/l	-	-	-	121	116	86	151	151	193	2820	135 J+
7440-47-3	Chromium, Total	mg/l	0.05	0.10	0.10	0.004 U	0.0011 J	0.0042	0.004 U	0.004 U	0.013	**0.24**	0.084
7440-48-4	Cobalt	mg/l	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0029 J	0.2	0.023
7440-50-8	Copper	mg/l	0.2	-	-	0.004 J	0.002 J	0.0031 J	0.0021 J	0.0025 J	0.048	0.05 U	0.028
7439-89-6	Iron	mg/l	0.3>	0.3+	-	0.06	**1.1**	0.15	0.046	0.032	**64.3**	**1490**	**77.6 J+**
7439-92-1	Lead	mg/l	0.025	0.025	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.15**	**0.6**	**0.28**
7439-95-4	Magnesium	mg/l	35+	-	-	54.1	35	39.9	58.8	66.7	122	1380	414
7439-96-5	Manganese	mg/l	0.3>	0.3+	-	0.0079	0.023	0.0033	0.003 U	0.00062 J	**0.41**	**18.2**	0.12 J+
7440-02-0	Nickel	mg/l	0.10	-	-	0.0029 J	0.01 U	0.0026 J	0.01 U	0.01 U	0.018	1.1	0.22
7440-09-7	Potassium	mg/l	-	-	-	1.4	9	0.28 J	1	0.85	17.7	889	372 J+
7440-23-5	Sodium	mg/l	20	20	20	6.4	**21.9**	8	8.4 J	13.9 J	**70.3**	**2370**	**743**
7440-62-2	Vanadium	mg/l	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0049 J	0.026	0.011
7440-66-6	Zinc	mg/l	2.0+	5	-	0.0089 J	0.021	0.0024 J	0.01 U	0.0021 J	0.16	**27.9**	0.59
	DISSOLVED METALS												
7429-90-5	Aluminum	mg/l	-	-	-	0.2 U	1.2	0.07 J	0.2 U	0.2 U	- -	6.8	1.5
7440-38-2	Arsenic	mg/l	0.025	0.050	0.050	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	- -	0.044	0.017
7440-39-3	Barium	mg/l	1	2	2	0.049	0.057	0.14	0.061	0.055	- -	0.18	0.62
7440-43-9	Cadmium	mg/l	0.005	0.005	0.005	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	- -	**0.0083 J**	0.0041
7440-70-2	Calcium	mg/l	-	-	-	117	105	77	142	137	- -	2650	122
7440-47-3	Chromium, Total	mg/l	0.05	0.10	0.10	0.004 U	0.0018 J	0.0012 J	0.004 U	0.004 U	- -	**0.23**	0.083
7440-48-4	Cobalt	mg/l	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	- -	0.19	0.027

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

Location ID:						NCR-3S	NCR-4S	NCR-5S	NCR-13S	NCR-13S	EAST-A	EAST-C	EAST-D
Sample ID:						WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421	WG-11109668-050421
Matrix:						WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
SDG:						4801842481	4801842481	4801842481	4801842481	4801842481	4801842481	4801842481	4801842481
Lab Sample ID:			NYS	NYS	US	480-184248-1	480-184248-2	480-184248-3	480-184248-5	480-184248-4	480-184248-6	480-184248-7	480-184248-8
Sampled:			DEC	DOH	EPA	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
CAS. No.	Chemical Name	Unit	AWQS*	MCL	MCL								
7440-50-8	Copper	mg/l	0.2	-	-	0.0031 J	0.0026 J	0.0024 J	0.002 J	0.0019 J	- -	0.05 U	0.025
7439-89-6	Iron	mg/l	0.3>	0.3+	-	0.05 U	**2.1**	0.068	0.05	0.031 J	- -	**1410**	**98.5**
7439-92-1	Lead	mg/l	0.025	0.025	0.015	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	- -	**0.46**	**0.23**
7439-95-4	Magnesium	mg/l	35+	-	-	57.4	35.4	41.9	61.4	61.5	- -	1370	446
7439-96-5	Manganese	mg/l	0.3>	0.3+	-	0.0057	0.02	0.0016 J	0.003 U	0.00058 J	- -	**17.3**	0.14
7440-02-0	Nickel	mg/l	0.10	-	-	0.0034 J	0.0013 J	0.0019 J	0.01 U	0.0021 J	- -	1	0.22
7440-09-7	Potassium	mg/l	-	-	-	1.2	8.4	0.32 J	0.9	0.82	- -	830	379
7440-23-5	Sodium	mg/l	20	20	20	6.4	**20.9**	9.1	9.6	11.1	- -	**2220**	**1580**
7440-62-2	Vanadium	mg/l	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	- -	0.016 J	0.014
7440-66-6	Zinc	mg/l	2.0+	5	-	0.0085 J	0.03	0.0015 J	0.0018 J	0.0022 J	- -	**26.5**	0.73
	OTHER												
ALKB	Alkalinity, Bicarbonate (As CaCO	mg/l	-	-	-	488	425	400	616	687	666	19900	6780
16887-00-6	Chloride (As Cl)	mg/l	250	250	-	2.5 U	1 U	1.1	2.5 U	2.5 U	230	**3010**	**1480**
7664-41-7	Nitrogen, Ammonia (As N)	mg/l	2	-	-	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U	- -	1360	0.62
NO3NO2N	Nitrogen, Nitrate-Nitrite	mg/l	10	10	10	0.51	0.043 J	0.033 J	0.049 J	0.045 J	- -	0.05 U	0.22
14808-79-8	Sulfate (As SO4)	mg/l	250	250	250+	86.6	71.8	5.1	93.7	84.5	85.7	**1920**	17.6 J

* = NYSDEC Ambient Water Quality Standards + = Guidance value or secondary standard

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

J = estimated value. J+ = estimated biased high. - = No standard identified. U = Not detected at given value.

Boxed values exceed NYSDEC AWQS.

Bold values exceed NYSDOH maximum contaminant levels (MCL).

Shaded values exceed USEPA maximum contaminant levels.

Table 2.2 Monthly Site Inspection Summary

Inspection Item	Acceptable	Not Acceptable	Comments
Manholes	X		
Wet Wells	X		Water levels were measured monthly.
Wetlands	X		No issues were observed in the wetlands or their water levels during the monthly inspections.
Perimeter Fence	X		No repairs were required.
Condition of Roads	X		No erosion or other problems other than removal of branches.
Integrity of the Cap	X		No problems were noted.
Drainage Ditches/Swales	X		
Gas Venting System	X		
Wells	X		Water levels were measured monthly.
Culverts	X		
Vegetative Cover	X		No issues were identified with the vegetative cover on the cap.

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		2/5/2009		3/5/2009		4/3/2009		5/1/2009		6/4/2009		7/10/2009		8/12/2009		9/5/2009		10/9/2009		11/8/2009		12/4/2009	
		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	25.34	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		2/1/2010		3/11/2010		4/1/2010		5/6/2010		6/1/2010		7/2/2010		8/12/2010		9/16/2010		10/8/2010		11/5/2010		12/2/2010	
		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	25.62	573.31	25.72	573.21	25.77	573.16	25.81	573.12	25.79	573.14	25.73	573.20	25.78	573.15	25.74	573.19	25.78	573.15	25.77	573.16	25.82	573.11	25.88	573.05
East "B"	596.23	19.78	576.45	19.97	576.26	19.83	576.40	19.83	576.40	19.79	576.44	19.83	576.40	19.99	576.24	19.84	576.39	19.87	576.36	19.70	576.53	19.52	576.71	19.52	576.71
East "C"	598.69	20.24	578.45	20.46	578.23	20.25	578.44	20.31	578.38	20.21	578.48	20.24	578.45	20.65	578.04	20.22	578.47	20.19	578.50	20.32	578.37	19.98	578.71	20.40	578.29
East "D"	593.20	15.25	577.95	15.42	577.78	15.38	577.82	15.48	577.72	15.49	577.71	15.59	577.61	15.7	577.50	15.65	577.55	15.65	577.55	15.43	577.77	15.53	577.67	15.22	577.98
WW A	-	0.83	-	0.83	-	0.83	-	0.67	-	0.58	-	0.83	-	0.67	-	0.75	-	0.67	-	0.67	-	0.83	-	0.67	-
WW B	-	0.58	-	0.58	-	0.75	-	0.50	-	0.50	-	0.50	-	0.42	-	0.50	-	0.50	-	0.50	-	0.42	-	0.42	-
WW C	-	0.33	-	0.50	-	0.50	-	0.50	-	0.50	-	0.58	-	0.67	-	0.58	-	0.58	-	0.42	-	0.58	-	0.67	-
WW D	-	0.67	-	0.58	-	0.92	-	0.58	-	0.67	-	0.50	-	0.50	-	0.50	-	0.50	-	0.58	-	0.50	-	0.50	-
NCR-3S	579.60	3.19	576.41	3.48	576.12	2.06	577.54	3.30	576.30	4.61	574.99	3.98	575.62	dry	-	dry	-	dry	-	dry	-	dry	-	2.78	576.82
NCR-4S	577.88	2.85	575.03	frozen	frozen	2.60	575.28	2.94	574.94	2.84	575.04	2.86	575.02	dry	-	dry	-	dry	-	dry	-	dry	-	2.91	574.97
NCR-5S	579.34	6.45	572.89	6.33	573.01	5.81	573.53	6.18	573.16	7.93	571.41	7.75	571.59	9.11	570.23	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	4.64	572.51	4.65	572.50	3.68	573.47	4.71	572.44	5.10	572.05	4.97	572.18	7.40	569.75	dry	-	dry	-	dry	-	dry	-	5.82	571.33

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

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

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

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

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

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

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

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

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

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/4/2017 Depth to Water (ft)	1/4/2017 Elevation (ft. msl)	2/6/2017 Depth to Water (ft)	2/6/2017 Elevation (ft. msl)	3/6/2017 Depth to Water (ft)	3/6/2017 Elevation (ft. msl)	4/5/2017 Depth to Water (ft)	4/5/2017 Elevation (ft. msl)	5/8/2017 Depth to Water (ft)	5/8/2017 Elevation (ft. msl)	6/7/2017 Depth to Water (ft)	6/7/2017 Elevation (ft. msl)	7/10/2017 Depth to Water (ft)	7/10/2017 Elevation (ft. msl)	8/15/2017 Depth to Water (ft)	8/15/2017 Elevation (ft. msl)	9/6/2017 Depth to Water (ft)	9/6/2017 Elevation (ft. msl)	10/4/2017 Depth to Water (ft)	10/4/2017 Elevation (ft. msl)	11/8/2017 Depth to Water (ft)	11/8/2017 Elevation (ft. msl)	12/13/2017 Depth to Water (ft)	12/13/2017 Elevation (ft. msl)
East "A"	598.93	27.01	571.92	26.31	572.62	26.49	572.44	27.14	571.79	27.08	571.85	27.11	571.82	27.08	571.85	27.94	570.99	26.91	572.02	27.01	571.92	26.98	571.95	26.92	572.01
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	20.57	578.12	17.55	581.14	17.80	580.89	21.31	577.38	21.41	577.28	21.38	577.31	18.51	580.18	18.36	580.33	21.33	577.36	21.62	577.07	21.49	577.20	21.38	577.31
East "D"	593.20	15.24	577.96	15.78	577.42	16.11	577.09	15.82	577.38	15.98	577.22	16.05	577.15	16.09	577.11	15.98	577.22	15.81	577.39	15.89	577.31	16.11	577.09	15.64	577.56
WW A	-	3.33	-	2.25	-	2.67	-	3.33	-	3.17	-	2.17	-	2.83	-	3.33	-	3.58	-	2.92	-	3.17	-	2.92	-
WW B	-	3.17	-	2.08	-	1.33	-	2.92	-	3.08	-	3.25	-	2.92	-	3.25	-	3.25	-	2.08	-	2.92	-	2.75	-
WW C	-	2.08	-	2.67	-	2.92	-	3.25	-	2.92	-	2.92	-	2.75	-	2.75	-	3.00	-	2.75	-	3.33	-	3.33	-
WW D	-	2.92	-	2.08	-	3.42	-	8.17	-	7.08	-	3.08	-	3.17	-	2.92	-	2.75	-	3.33	-	3.42	-	3.17	-
NCR-3S	579.60	3.93	575.67	4.24	575.36	4.43	575.17	3.98	575.62	4.10	575.50	6.62	572.98	4.86	574.74	5.36	574.24	5.84	573.76	dry	-	4.31	575.29	4.57	575.03
NCR-4S	577.88	3.50	574.38	3.32	574.56	3.43	574.45	3.40	574.48	3.45	574.43	3.47	574.41	3.89	573.99	3.88	574.00	3.79	574.09	4.84	573.04	3.23	574.65	3.43	574.45
NCR-5S	579.34	dry	-	dry	-	6.79	572.55	5.85	573.49	6.19	573.15	dry	-	dry	-	10.21	569.13	10.28	569.06	dry	-	6.15	573.19	6.98	572.36
NCR-13S	577.15	dry	-	5.23	571.92	4.89	572.26	4.16	572.99	4.22	572.93	6.85	570.30	7.95	569.20	dry	-	7.76	569.39	dry	-	4.34	572.81	4.90	572.25

Observation Point	Elevation Top of Casing (ft. msl)	1/10/2018 Depth to Water (ft)	1/10/2018 Elevation (ft. msl)	2/13/2018 Depth to Water (ft)	2/13/2018 Elevation (ft. msl)	3/6/2018 Depth to Water (ft)	3/6/2018 Elevation (ft. msl)	4/16/2018 Depth to Water (ft)	4/16/2018 Elevation (ft. msl)	5/14/2018 Depth to Water (ft)	5/14/2018 Elevation (ft. msl)	6/7/2018 Depth to Water (ft)	6/7/2018 Elevation (ft. msl)	7/17/2018 Depth to Water (ft)	7/17/2018 Elevation (ft. msl)	8/9/2018 Depth to Water (ft)	8/9/2018 Elevation (ft. msl)	9/12/2018 Depth to Water (ft)	9/12/2018 Elevation (ft. msl)	10/9/2018 Depth to Water (ft)	10/9/2018 Elevation (ft. msl)	11/14/2018 Depth to Water (ft)	11/14/2018 Elevation (ft. msl)	12/5/2018 Depth to Water (ft)	12/5/2018 Elevation (ft. msl)
East "A"	598.93	26.45	572.48	26.48	572.45	27.13	571.80	27.24	571.69	28.20	570.73	27.12	571.81	28.18	570.75	27.04	571.89	27.09	571.84	27.09	571.84	27.17	571.76	27.09	571.84
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.02	577.67	19.87	578.82	21.24	577.45	20.99	577.70	22.26	576.43	21.54	577.15	22.25	576.44	21.14	577.55	21.68	577.01	21.60	577.09	21.90	576.79	21.16	577.53
East "D"	593.20	15.41	577.79	14.41	578.79	15.93	577.27	15.76	577.44	17.01	576.19	16.02	577.18	16.99	576.21	15.77	577.43	16.14	577.06	16.19	577.01	15.99	577.21	16.01	577.19
WW A	-	2.50	-	3.08	-	3.42	-	3.08	-	2.50	-	2.17	-	3.08	-	2.33	-	3.08	-	2.92	-	2.83	-	3.33	-
WW B	-	3.08	-	2.50	-	2.92	-	2.58	-	2.17	-	2.75	-	2.92	-	2.50	-	3.25	-	2.83	-	3.08	-	2.50	-
WW C	-	3.33	-	3.33	-	3.08	-	5.75	-	2.33	-	3.08	-	3.17	-	2.92	-	2.83	-	3.17	-	3.08	-	2.25	-
WW D	-	2.92	-	2.92	-	3.25	-	5.83	-	2.50	-	2.83	-	2.92	-	3.08	-	3.25	-	3.00	-	3.33	-	3.67	-
NCR-3S	579.60	4.69	574.91	4.43	575.17	4.42	575.18	3.06	576.54	4.65	574.95	dry	-	dry	-	dry	-	dry	-	dry	-	4.47	575.13	4.16	575.44
NCR-4S	577.88	3.52	574.36	3.19	574.69	3.13	574.75	3.75	574.13	4.29	573.59	3.70	574.18	dry	-	dry	-	dry	-	dry	-	3.87	574.01	3.34	574.54
NCR-5S	579.34	7.11	572.23	7.18	572.16	6.76	572.58	4.97	574.37	7.49	571.85	9.35	569.99	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	5.27	571.88	5.32	571.83	5.04	572.11	3.04	574.11	5.94	571.21	7.42	569.73	dry	-	dry	-	dry	-	dry	-	dry	-	5.22	571.93

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)	1/10/2019 Depth to Water (ft)	1/10/2019 Elevation (ft. msl)	2/11/2019 Depth to Water (ft)	2/11/2019 Elevation (ft. msl)	3/7/2019 Depth to Water (ft)	3/7/2019 Elevation (ft. msl)	4/11/2019 Depth to Water (ft)	4/11/2019 Elevation (ft. msl)	5/8/2019 Depth to Water (ft)	5/8/2019 Elevation (ft. msl)	6/19/2019 Depth to Water (ft)	6/19/2019 Elevation (ft. msl)	7/10/2019 Depth to Water (ft)	7/10/2019 Elevation (ft. msl)	8/21/2019 Depth to Water (ft)	8/21/2019 Elevation (ft. msl)	9/23/2019 Depth to Water (ft)	9/23/2019 Elevation (ft. msl)	10/21/2019 Depth to Water (ft)	10/21/2019 Elevation (ft. msl)	11/21/2019 Depth to Water (ft)	11/21/2019 Elevation (ft. msl)	12/17/2019 Depth to Water (ft)	12/17/2019 Elevation (ft. msl)
East "A"	598.93	27.14	571.79	27.14	571.79	27.14	571.79	27.22	571.71	27.25	571.68	27.14	571.79	27.09	571.84	27.04	571.89	27.02	571.91	26.98	571.95	26.88	572.05	27.01	571.92
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.56	577.13	21.38	577.31	21.70	576.99	21.74	576.95	21.91	576.78	21.36	577.33	21.64	577.05	21.44	577.25	21.36	577.33	21.60	577.09	21.66	577.03	21.44	577.25
East "D"	593.20	15.79	577.41	16.03	577.17	16.11	577.09	16.2	577.00	16.39	576.81	16.23	576.97	16.38	576.82	16.20	577.00	15.7	577.50	16.11	577.09	16.11	577.09	16.05	577.15
WW A	-	3.00	-	3.33	-	3.50	-	3.08	-	3.08	-	2.08	-	2.08	-	2.83	-	2.50	-	2.50	-	3.08	-	3.00	-
WW B	-	3.25	-	2.50	-	3.17	-	2.17	-	3.25	-	3.17	-	2.50	-	2.17	-	3.17	-	3.17	-	3.17	-	3.33	-
WW C	-	2.08	-	2.58	-	2.75	-	2.50	-	2.67	-	3.17	-	2.33	-	2.50	-	3.00	-	2.83	-	2.17	-	2.83	-
WW D	-	2.50	-	3.08	-	2.58	-	5.17	-	2.92	-	3.00	-	2.50	-	3.00	-	3.17	-	2.42	-	3.08	-	3.50	-
NCR-3S	579.60	4.13	575.47	3.90	575.70	4.83	574.77	3.82	575.78	4.44	575.16	4.88	574.72	6.33	573.27	6.39	573.21	dry	-	dry	-	4.00	575.60	4.17	575.43
NCR-4S	577.88	3.40	574.48	2.95	574.93	3.13	574.75	2.90	574.98	3.18	574.70	3.89	573.99	4.30	573.58	4.84	573.04	dry	-	4.41	573.47	3.20	574.68	3.19	574.69
NCR-5S	579.34	6.16	573.18	6.38	572.96	7.06	572.28	6.40	572.94	6.76	572.58	7.98	571.36	10.12	569.22	dry	-	dry	-	dry	-	10.83	568.51	6.26	573.08
NCR-13S	577.15	4.52	572.63	4.57	572.58	5.89	571.26	4.88	572.27	5.33	571.82	7.20	569.95	7.69	569.46	7.94	569.21	dry	-	dry	-	5.41	571.74	4.53	572.62

Observation Point	Elevation Top of Casing (ft. msl)	1/21/2020 Depth to Water (ft)	1/21/2020 Elevation (ft. msl)	2/19/2020 Depth to Water (ft)	2/19/2020 Elevation (ft. msl)	3/17/2020 Depth to Water (ft)	3/17/2020 Elevation (ft. msl)	4/22/2020 Depth to Water (ft)	4/22/2020 Elevation (ft. msl)	5/21/2020 Depth to Water (ft)	5/21/2020 Elevation (ft. msl)	6/24/2020 Depth to Water (ft)	6/24/2020 Elevation (ft. msl)	7/23/2020 Depth to Water (ft)	7/23/2020 Elevation (ft. msl)	8/19/2020 Depth to Water (ft)	8/19/2020 Elevation (ft. msl)	9/23/2020 Depth to Water (ft)	9/23/2020 Elevation (ft. msl)	10/14/2020 Depth to Water (ft)	10/14/2020 Elevation (ft. msl)	11/19/2020 Depth to Water (ft)	11/19/2020 Elevation (ft. msl)	12/16/2020 Depth to Water (ft)	12/16/2020 Elevation (ft. msl)
East "A"	598.93	26.96	571.97	27.21	571.72	27.27	571.66	27.11	571.82	28.60	570.33	27.63	571.30	27.32	571.61	27.07	571.86	27.08	571.85	27.21	571.72	27.20	571.73	27.30	571.63
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.52	577.17	21.89	576.80	21.35	577.34	21.36	577.33	21.90	576.79	21.50	577.19	21.72	576.97	21.70	576.99	21.58	577.11	21.64	577.05	21.72	576.97	21.80	576.89
East "D"	593.20	16.07	577.13	16.22	576.98	16.11	577.09	16.24	576.96	17.32	575.88	16.74	576.46	17.61	575.59	17.35	575.85	17.4	575.80	17.34	575.86	17.32	575.88	17.36	575.84
WW A	-	3.08	-	2.58	-	3.33	-	2.92	-	2.50	-	2.92	-	3.08	-	3.40	-	3.08	-	3.17	-	3.08	-	3.33	-
WW B	-	2.83	-	3.17	-	2.25	-	2.67	-	2.92	-	3.33	-	2.83	-	2.70	-	3.25	-	3.42	-	3.17	-	3.00	-
WW C	-	3.25	-	3.00	-	2.17	-	3.08	-	2.67	-	2.75	-	3.08	-	1.70	-	3.33	-	2.92	-	2.92	-	2.83	-
WW D	-	3.58	-	2.92	-	3.00	-	3.33	-	2.75	-	3.17	-	3.67	-	2.50	-	3.58	-	3.33	-	3.33	-	3.25	-
NCR-3S	579.60	4.22	575.38	4.03	575.57	4.35	575.25	4.53	575.07	4.73	574.87	dry	-	6.39	573.21	6.38	573.22	dry	-	dry	-	dry	-	4.41	575.19
NCR-4S	577.88	3.17	574.71	3.10	574.78	3.47	574.41	3.35	574.53	3.49	574.39	4.61	573.27	dry	-	dry	-	dry	-	dry	-	dry	-	3.84	574.04
NCR-5S	579.34	7.11	572.23	6.00	573.34	6.55	572.79	6.99	572.35	7.51	571.83	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	4.96	572.19	4.33	572.82	4.86	572.29	5.44	571.71	6.16	570.99	7.71	569.44	7.87	569.28	7.92	569.23	dry	-	dry	-	dry	-	dry	-

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/13/2021 Depth to Water (ft)	1/13/2021 Elevation (ft. msl)	2/10/2021 Depth to Water (ft)	2/10/2021 Elevation (ft. msl)	3/11/2021 Depth to Water (ft)	3/11/2021 Elevation (ft. msl)	4/14/20221 Depth to Water (ft)	4/14/20221 Elevation (ft. msl)	5/19/2021 Depth to Water (ft)	5/19/2021 Elevation (ft. msl)
East "A"	598.93	27.33	571.60	27.35	571.58	27.39	571.54	27.42	571.51	26.08	572.85
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.55	577.14	22.08	576.61	21.70	576.99	21.77	576.92	22.07	576.62
East "D"	593.20	16.89	576.31	17.7	575.50	17.2	576.00	17.36	575.84	17.93	575.27
WW A	-	3.08	-	2.58	-	3.25	-	3.33	-	3.25	-
WW B	-	2.83	-	2.92	-	3.08	-	3.00	-	3.25	-
WW C	-	2.83	-	2.83	-	3.33	-	3.17	-	3.42	-
WW D	-	3.25	-	3.08	-	3.25	-	3.08	-	3.08	-
NCR-3S	579.60	4.55	575.05	4.90	574.70	4.12	575.48	4.45	575.15	5.43	574.17
NCR-4S	577.88	3.41	574.47	3.66	574.22	3.22	574.66	3.41	574.47	4.09	573.79
NCR-5S	579.34	dry	-	10.94	568.40	6.62	572.72	6.99	572.35	7.88	571.46
NCR-13S	577.15	5.14	572.01	5.85	571.30	4.03	573.12	5.50	571.65	6.50	570.65

Notes:

- = measurment not collected.

dry = no water in well.

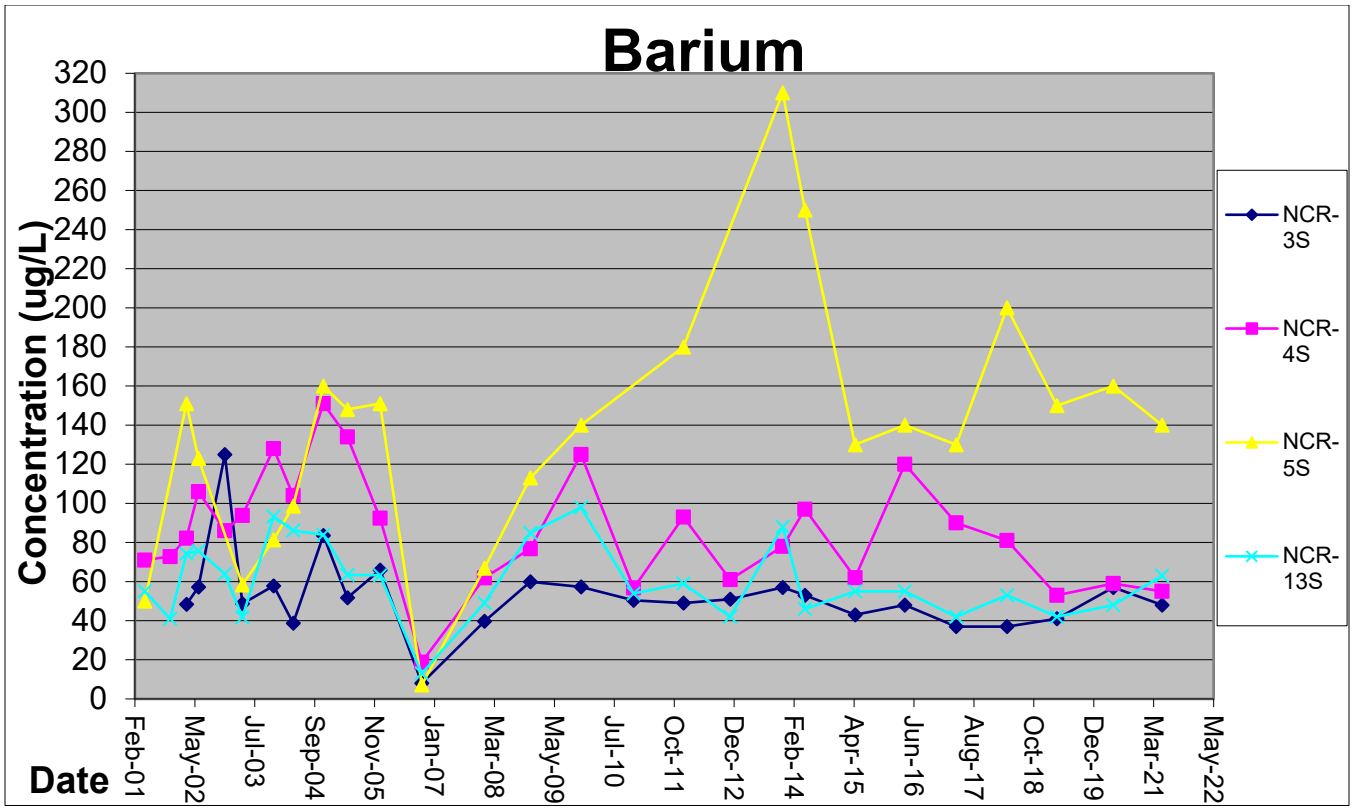


Figure 2.1A: Plot of Historical Total Barium Concentration

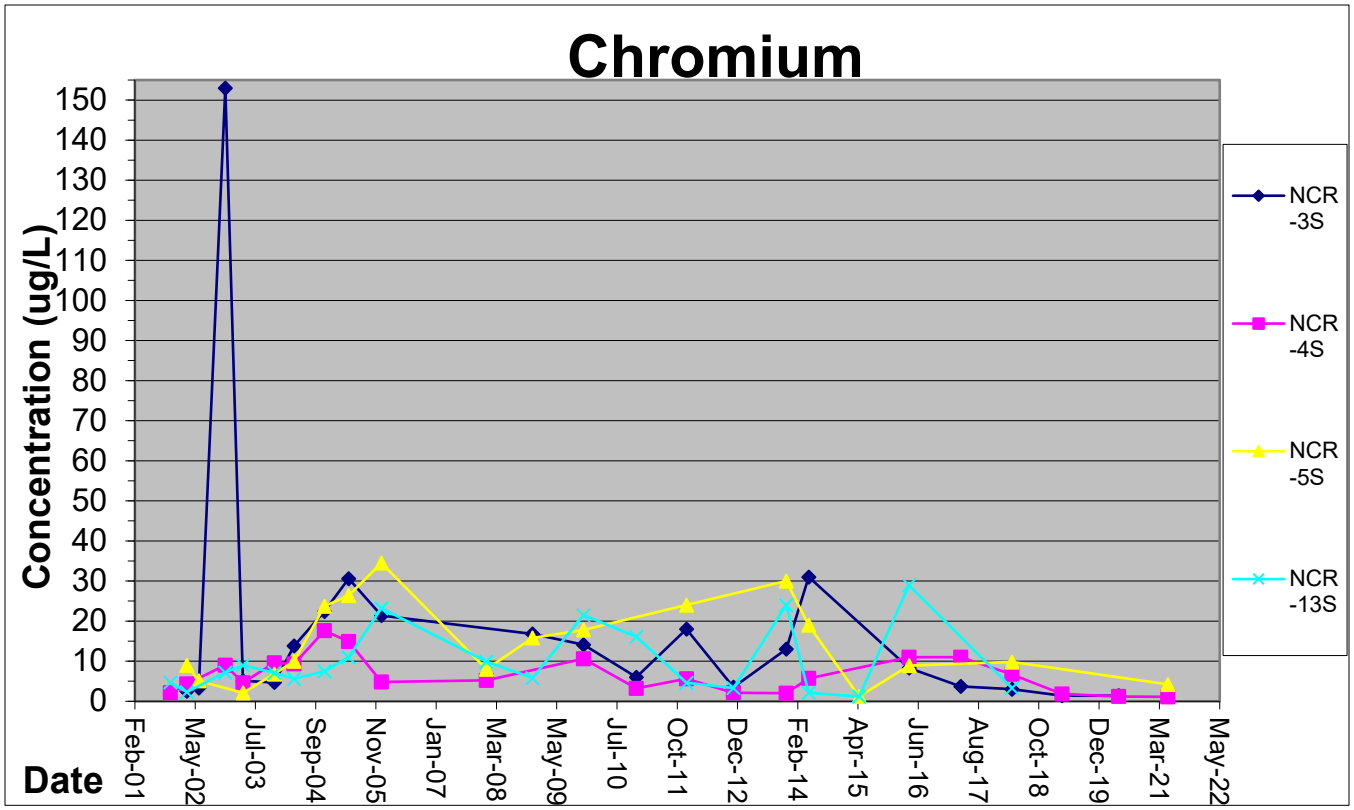


Figure 2.1B: Plot of Historical Total Chromium Concentration

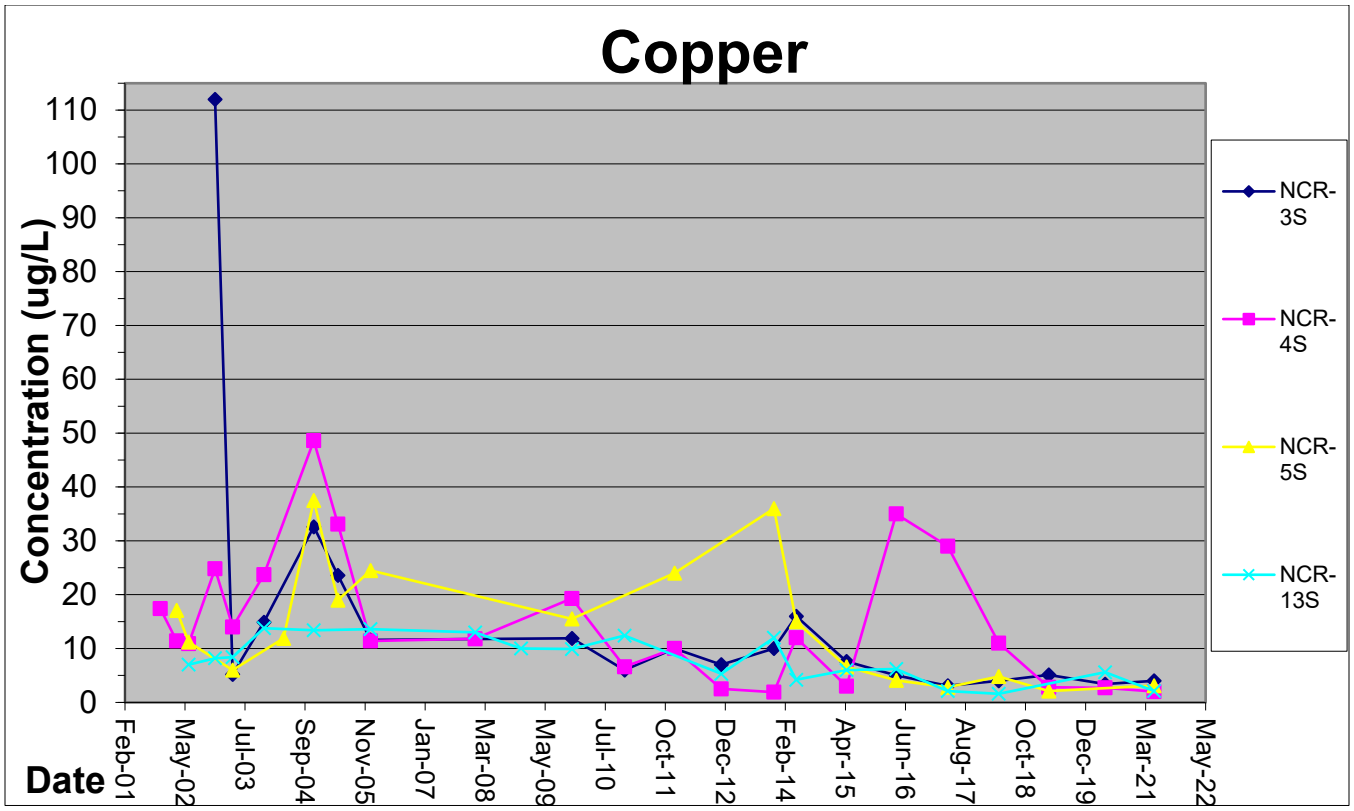


Figure 2.1C: Plot of Historical Total Copper Concentration

SECTION 3
SUMMARY AND CONCLUSIONS

The following summary and conclusions were developed based on the data collected during this reporting period (June 2020 through May 2021):

- Groundwater samples were collected for inorganic analysis in 2021. The analytical results were consistent with historical results. The annual groundwater samples scheduled for collection in April 2022 will continue to be analyzed for inorganics only.
- Twelve metals were identified in one or more of the groundwater samples from the monitoring wells. Three of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs, which is consistent with previous sampling events. Two of these metals appear to be associated with background conditions. In general, detected values appeared to be consistent with ranges observed in previous sampling events.
- The three usable piezometers were also sampled in 2020. Piezometer sampling is scheduled to continue for the next two years and will be evaluated to determine if needed past that time. Seventeen metals were identified in one or more of the samples from the three piezometers. Ten of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs. Concentrations of analytes were generally higher in the piezometer samples compared to the samples collected from the monitoring wells.
- General chemistry (bicarbonate alkalinity, chloride, ammonia nitrogen, nitrate-nitrite, and sulfate) samples were collected from the four wells and two of the three piezometers in 2021. Collection of general chemistry samples is scheduled to continue for the next two years and will be evaluated to determine if needed past that time. None of general chemistry analytes exceeded screening criteria in the wells while three of the five analytes exceeded screening criteria in the piezometers.
- Two effluent samples were collected during the reporting period. The analytical results were found to be compliant with the discharge permit. Compliance with the discharge permit was maintained during the reporting period.
- 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. During the reporting period, the wetlands were documented to be in good condition.
- Water levels were collected from the wet wells, monitoring wells, and the locations within the landfill on a monthly basis during the reporting period. Water levels generally varied between 1.4 and 4.3 feet over the course of the reporting period.
- The groundwater monitoring program is intended to provide data for demonstration of the effectiveness of the hydraulic containment, collection, and extraction of Site-related

groundwater. The objectives of the groundwater monitoring program (to monitor the effectiveness of the perimeter collection system and the perimeter barrier system) were met during the reporting period.

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, 2019 Annual Monitoring Report, Niagara County Refuse District Site; Parsons, June 2019.

APPENDIX A

CITY OF NORTH TONAWANDA INDUSTRIAL WASTEWATER DISCHARGE PERMIT

CITY OF NORTH TONAWANDA
INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit Number: 2628010

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

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

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

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

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

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

Effective the 31st day of March, 2019

To expire the 1st day of April, 2022

William M. Davignon

William M. Davignon, Water Works Superintendent

Signed this 1st day of April, 2019

PART I. SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

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

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

PART I. SPECIFIC CONDITIONS

B. DISCHARGE MONITORING AND REPORTING REQUIREMENTS

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

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

PART I. SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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

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

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

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

Analytical Results: NIAGARA COUNTY REFUSE SITE 2020

PARAMETER	RESULT mg/l	RESULT mg/l	COMPLIANCE
pH (COMP.)	7.56	7.73	YES
COD	< 50	176	YES
SUSPENDED SOLIDS	10	15	YES
BOD	14.35	9.35	YES
PO4	< 0.10	0.16	YES
METALS			
ALUMINUM	< 0.20	ND	YES
LEAD	< 0.010	< 0.010	YES
IRON	2.10	0.77	YES
MAGNESIUM	90.9	181.0	YES
MANGANESE	0.15	0.19	YES
SODIUM	66.3	629.0	YES
TOTAL FLOW (gallons)	**16,000**	**1,000**	
SAMPLE DATE	**4/22 & 4/23 2020**	**10/7 & 10/8 2020**	
Report prepared by: Michael W. Gibbons, Lab Director / Chemist			

Analytical Results: NIAGARA COUNTY REFUSE SITE 2021

PARAMETER	RESULT mg/l	RESULT mg/l	COMPLIANCE
pH (COMP.)	7.31		YES
COD	62		YES
SUSPENDED SOLIDS	19		YES
BOD	7.85		YES
PO4	0.07		YES
METALS			
ALUMINUM	ND		YES
LEAD	< 0.010		YES
IRON	0.72		YES
MAGNESIUM	78.8		YES
MANGANESE	0.13		YES
SODIUM	50.2		YES
TOTAL FLOW (gallons)	**12,000**		
SAMPLE DATE	**4/14 & 4/15 2021**		
Compound was found in blank and CCV Standard failed QC limits			
Report prepared by: Michael W. Gibbons, Lab Director / Chemist			

APPENDIX B
ANALYTICAL DATA AND FIELD DATA FORMS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 480-184248-1
Client Project/Site: City of North Tonawanda - NCRS

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

Attn: Michael W Gibbons

Authorized for release by:
5/19/2021 5:49:46 PM

Judy Stone, Senior Project Manager
(484)685-0868
Judy.Stone@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
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.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
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.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
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)
TNTC	Too Numerous To Count

Job ID: 480-184248-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-184248-1

Receipt
The samples were received on 5/5/2021 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

HPLC/IC
Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: WG-11109668-050421-SG-NCR3S (480-184248-1), WG-11109668-050421-SG-NCR6S (480-184248-4), WG-11109668-050421-SG-NCR13S (480-184248-5), WG-11109668-050421-SG-EAST A (480-184248-6), WG-11109668-050421-SG-EAST C (480-184248-7) and WG-11109668-050421-SG-EAST D (480-184248-8). Elevated reporting limits (RLs) are provided.

Method 300.0: The following samples were reported with elevated reporting limits for all analytes: WG-11109668-050421-SG-NCR4S (480-184248-2) and WG-11109668-050421-SG-NCR5S (480-184248-3). The samples were analyzed at a dilution based on screening results.

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

Metals
Method 6010C: The recovery of Post Spike, (480-184248-C-3-A PDS), in batch 480-580970 exhibited results outside the quality control limits for Dissolved Calcium. However, the Serial Dilution of this sample was compliant. Therefore, no corrective action was necessary.

Method 6010C: The continuing calibration blank (CCB 480-580970/56) for analytical batch 480-580970 contained Dissolved Iron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of sample WG-11109668-050421-SG-EAST D (480-184248-8) was not performed.

Method 6010C: The Low Level Continuing Calibration Verification (CCVL 480-580970/57) associated with batch 480-580970 contained Dissolved Iron above the upper quality control limit. The associated samples were either ND for the affected analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of sample WG-11109668-050421-SG-EAST D (480-184248-8) was not performed.

Method 6010C: The recovery of Post Spike, (480-184248-B-3-A PDS), in batch 480-580972 exhibited results outside the quality control limits for Total Calcium. However, the Serial Dilution of this sample was compliant. Therefore, no corrective action was necessary.

Method 6010C: The Low Level Continuing Calibration Verification, (CCVL 480-580972/56) associated with batch 480-580972, contained Total Calcium, Iron, Potassium, Magnesium, Manganese above the upper quality control limit. The associated samples were either ND for the affected analytes or contained these analytes at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of sample WG-11109668-050421-SG-EAST D (480-184248-8) was not performed.

Method 6010C: The continuing calibration blank (CCB 480-580972/55) for analytical batch 480-580972 contained Total Iron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of sample WG-11109668-050421-SG-EAST D (480-184248-8) was not performed.

Method 6010C: The following sample was diluted due to the presence of Total Iron which interferes with Cadmium, Chromium, Manganese, Nickel, Lead, Antimony, Selenium, and Vanadium: WG-11109668-050421-SG-EAST C (480-184248-7). Elevated reporting limits (RLs) are provided.

Method 6010C: The following sample was diluted due to the presence of Dissolved Iron which interferes with Cadmium, Chromium, Manganese, Nickel, Lead, and Antimony: WG-11109668-050421-SG-EAST C (480-184248-7). Elevated reporting limits (RLs) are provided.

Job ID: 480-184248-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Method 6010C: The following sample was diluted due to the presence of Dissolved Calcium which interferes with Copper: WG-11109668-050421-SG-EAST C (480-184248-7). Elevated reporting limits (RLs) are provided.

Method 6010C: The following sample was diluted for Dissolved Silver due to the nature of the sample matrix: WG-11109668-050421-SG-EAST C (480-184248-7). Elevated reporting limits (RLs) are provided.

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

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

Detection Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR3S — Lab Sample ID: 480-184248-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.048		0.0020	0.00070	mg/L	1		6010C	Total/NA
Calcium	121		0.50	0.10	mg/L	1		6010C	Total/NA
Copper	0.0040	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	0.060	B	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	54.1		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.0079		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0029	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	6.4		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0089	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.049		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	117		0.50	0.10	mg/L	1		6010C	Dissolved
Copper	0.0031	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	57.4		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.0057		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0034	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	1.2		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	6.4		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0085	J	0.010	0.0015	mg/L	1		6010C	Dissolved
Sulfate	86.6		10.0	1.7	mg/L	5		300.0	Dissolved
Alkalinity, Bicarbonate	488	B	50.0	20.0	mg/L	5		310.2	Dissolved
Nitrate Nitrite as N	0.51		0.050	0.020	mg/L	1		353.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-NCR4S — Lab Sample ID: 480-184248-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.63		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.055		0.0020	0.00070	mg/L	1		6010C	Total/NA
Calcium	116	B	0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0011	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Copper	0.0020	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	1.1	B	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	35.0		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.023		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	9.0	B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	21.9	B	1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.021	B	0.010	0.0015	mg/L	1		6010C	Total/NA
Aluminum	1.2		0.20	0.060	mg/L	1		6010C	Dissolved
Barium	0.057		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	105		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0018	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0026	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	2.1		0.050	0.019	mg/L	1		6010C	Dissolved
Magnesium	35.4		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.020		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0013	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	8.4		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	20.9		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.030		0.010	0.0015	mg/L	1		6010C	Dissolved
Sulfate	71.8		4.0	0.70	mg/L	2		300.0	Dissolved
Alkalinity, Bicarbonate	425		50.0	20.0	mg/L	5		310.2	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR4S (Continued)
Lab Sample ID: 480-184248-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.043	J	0.050	0.020	mg/L	1		353.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-NCR5S
Lab Sample ID: 480-184248-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.18	J	0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.14		0.0020	0.00070	mg/L	1		6010C	Total/NA
Calcium	86.0		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0042		0.0040	0.0010	mg/L	1		6010C	Total/NA
Copper	0.0031	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	0.15	B	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	39.9		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.0033		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0026	J	0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	0.28	J	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	8.0		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0024	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Aluminum	0.070	J	0.20	0.060	mg/L	1		6010C	Dissolved
Barium	0.14		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	77.0		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0012	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0024	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	0.068		0.050	0.019	mg/L	1		6010C	Dissolved
Magnesium	41.9		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.0016	J	0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0019	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	0.32	J	0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	9.1		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0015	J	0.010	0.0015	mg/L	1		6010C	Dissolved
Chloride	1.1		1.0	0.56	mg/L	2		300.0	Dissolved
Sulfate	5.1		4.0	0.70	mg/L	2		300.0	Dissolved
Alkalinity, Bicarbonate	400	B F1	50.0	20.0	mg/L	5		310.2	Dissolved
Nitrate Nitrite as N	0.033	J	0.050	0.020	mg/L	1		353.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-NCR6S
Lab Sample ID: 480-184248-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.051		0.0020	0.00070	mg/L	1		6010C	Total/NA
Calcium	151	B	0.50	0.10	mg/L	1		6010C	Total/NA
Copper	0.0025	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	0.032		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	66.7		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.00062	J B	0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	0.85	B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	13.9	B	1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0021	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.055		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	137		0.50	0.10	mg/L	1		6010C	Dissolved
Copper	0.0019	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	0.031	J	0.050	0.019	mg/L	1		6010C	Dissolved
Magnesium	61.5		0.20	0.043	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR6S (Continued)
Lab Sample ID: 480-184248-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.00058	J	0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0021	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	0.82		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	11.1		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0022	J	0.010	0.0015	mg/L	1		6010C	Dissolved
Sulfate	84.5		10.0	1.7	mg/L	5		300.0	Dissolved
Alkalinity, Bicarbonate	687		200	80.0	mg/L	20		310.2	Dissolved
Nitrate Nitrite as N	0.045	J	0.050	0.020	mg/L	1		353.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-NCR13S
Lab Sample ID: 480-184248-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.063		0.0020	0.00070	mg/L	1		6010C	Total/NA
Calcium	151	B	0.50	0.10	mg/L	1		6010C	Total/NA
Copper	0.0021	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	0.046		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	58.8		0.20	0.043	mg/L	1		6010C	Total/NA
Potassium	1.0	B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	8.4	B	1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0016	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.061		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	142		0.50	0.10	mg/L	1		6010C	Dissolved
Copper	0.0020	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	0.050		0.050	0.019	mg/L	1		6010C	Dissolved
Magnesium	61.4		0.20	0.043	mg/L	1		6010C	Dissolved
Potassium	0.90		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	9.6		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0018	J	0.010	0.0015	mg/L	1		6010C	Dissolved
Sulfate	93.7		10.0	1.7	mg/L	5		300.0	Dissolved
Alkalinity, Bicarbonate	616		200	80.0	mg/L	20		310.2	Dissolved
Nitrate Nitrite as N	0.049	J	0.050	0.020	mg/L	1		353.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-EAST A
Lab Sample ID: 480-184248-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.2		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.45		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.0014		0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	193	B	0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.013		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0029	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.048		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	64.3	B	0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.15		0.0050	0.0030	mg/L	1		6010C	Total/NA
Magnesium	122		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.41	B	0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.018		0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	17.7	B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	70.3	B	1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.0049	J	0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.16	B	0.010	0.0015	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

Job ID: 480-184248-1

Client Sample ID: WG-11109668-050421-SG-EAST A (Continued)

Lab Sample ID: 480-184248-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	230		2.5	1.4	mg/L	5		300.0	Dissolved
Sulfate	85.7		10.0	1.7	mg/L	5		300.0	Dissolved
Alkalinity, Bicarbonate	666		200	80.0	mg/L	20		310.2	Dissolved

Client Sample ID: WG-11109668-050421-SG-EAST C

Lab Sample ID: 480-184248-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7.4		0.20	0.060	mg/L	1		6010C	Total/NA
Arsenic	0.057		0.010	0.0056	mg/L	1		6010C	Total/NA
Barium	0.19		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.010		0.0050	0.0025	mg/L	5		6010C	Total/NA
Calcium	2820	B	2.5	0.50	mg/L	5		6010C	Total/NA
Chromium	0.24		0.020	0.0050	mg/L	5		6010C	Total/NA
Cobalt	0.20		0.0040	0.00063	mg/L	1		6010C	Total/NA
Iron	1490	B	0.25	0.097	mg/L	5		6010C	Total/NA
Lead	0.60		0.025	0.015	mg/L	5		6010C	Total/NA
Magnesium	1380		1.0	0.22	mg/L	5		6010C	Total/NA
Manganese	18.2		0.015	0.0020	mg/L	5		6010C	Total/NA
Nickel	1.1		0.050	0.0063	mg/L	5		6010C	Total/NA
Potassium	889	B	1.0	0.20	mg/L	2		6010C	Total/NA
Sodium	2370	B	5.0	1.6	mg/L	5		6010C	Total/NA
Vanadium	0.026		0.025	0.0075	mg/L	5		6010C	Total/NA
Zinc	27.9	B	0.020	0.0030	mg/L	2		6010C	Total/NA
Aluminum	6.8		0.20	0.060	mg/L	1		6010C	Dissolved
Arsenic	0.044		0.015	0.0056	mg/L	1		6010C	Dissolved
Barium	0.18		0.0020	0.00070	mg/L	1		6010C	Dissolved
Cadmium	0.0083	J	0.010	0.0025	mg/L	5		6010C	Dissolved
Calcium	2650		2.5	0.50	mg/L	5		6010C	Dissolved
Chromium	0.23		0.020	0.0050	mg/L	5		6010C	Dissolved
Cobalt	0.19		0.0040	0.00063	mg/L	1		6010C	Dissolved
Iron	1410		0.25	0.097	mg/L	5		6010C	Dissolved
Lead	0.46		0.050	0.015	mg/L	5		6010C	Dissolved
Magnesium	1370		1.0	0.22	mg/L	5		6010C	Dissolved
Manganese	17.3		0.015	0.0020	mg/L	5		6010C	Dissolved
Nickel	1.0		0.050	0.0063	mg/L	5		6010C	Dissolved
Potassium	830		1.0	0.20	mg/L	2		6010C	Dissolved
Sodium	2220		5.0	1.6	mg/L	5		6010C	Dissolved
Vanadium	0.016	J	0.025	0.0075	mg/L	5		6010C	Dissolved
Zinc	26.5		0.020	0.0030	mg/L	2		6010C	Dissolved
Chloride	3010		50.0	28.2	mg/L	100		300.0	Dissolved
Sulfate	1920		200	34.9	mg/L	100		300.0	Dissolved
Alkalinity, Bicarbonate	19900		2000	800	mg/L	200		310.2	Dissolved
Ammonia	1360	B	20.0	9.0	mg/L	1000		350.1	Dissolved

Client Sample ID: WG-11109668-050421-SG-EAST D

Lab Sample ID: 480-184248-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.5		0.20	0.060	mg/L	1		6010C	Total/NA
Arsenic	0.015		0.010	0.0056	mg/L	1		6010C	Total/NA
Barium	0.62		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.0029		0.0010	0.00050	mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-EAST D (Continued)

Lab Sample ID: 480-184248-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	135	^+ B	0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.084		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.023		0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.028		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	77.6	^+ B ^2	0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.28		0.0050	0.0030	mg/L	1		6010C	Total/NA
Magnesium	414	^+	0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.12	^+	0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.22		0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	372	^+ B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	743	B	1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.011		0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.59	B	0.010	0.0015	mg/L	1		6010C	Total/NA
Aluminum	1.5		0.20	0.060	mg/L	1		6010C	Dissolved
Arsenic	0.017		0.015	0.0056	mg/L	1		6010C	Dissolved
Barium	0.62		0.0020	0.00070	mg/L	1		6010C	Dissolved
Cadmium	0.0041		0.0020	0.00050	mg/L	1		6010C	Dissolved
Calcium	122		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.083		0.0040	0.0010	mg/L	1		6010C	Dissolved
Cobalt	0.027		0.0040	0.00063	mg/L	1		6010C	Dissolved
Copper	0.025		0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	98.5	^2	0.050	0.019	mg/L	1		6010C	Dissolved
Lead	0.23		0.010	0.0030	mg/L	1		6010C	Dissolved
Magnesium	446		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.14		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.22		0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	379	^+	0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	1580		2.0	0.65	mg/L	2		6010C	Dissolved
Vanadium	0.014		0.0050	0.0015	mg/L	1		6010C	Dissolved
Zinc	0.73		0.010	0.0015	mg/L	1		6010C	Dissolved
Chloride	1480		25.0	14.1	mg/L	50		300.0	Dissolved
Sulfate	17.6	J	100	17.5	mg/L	50		300.0	Dissolved
Alkalinity, Bicarbonate	6780		800	320	mg/L	80		310.2	Dissolved
Ammonia	0.62	B	0.020	0.0090	mg/L	1		350.1	Dissolved
Nitrate Nitrite as N	0.22		0.050	0.020	mg/L	1		353.2	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: WG-11109668-050421-SG-NCR3S
Lab Sample ID: 480-184248-1
Date Collected: 05/04/21 09:05
Matrix: Water
Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:01	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:01	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:01	1
Barium	**0.048**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:01	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:01	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:01	1
Calcium	**121**		0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:01	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:01	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:01	1
Copper	**0.0040**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:01	1
Iron	**0.060**	**B**	0.050	0.019	mg/L		05/13/21 10:48	05/14/21 00:01	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:01	1
Magnesium	**54.1**		0.20	0.043	mg/L		05/13/21 10:48	05/14/21 00:01	1
Manganese	**0.0079**		0.0030	0.00040	mg/L		05/13/21 10:48	05/14/21 00:01	1
Nickel	**0.0029**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:01	1
Potassium	**1.4**		0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:01	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:01	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:01	1
Sodium	**6.4**		1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:01	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:01	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:01	1
Zinc	**0.0089**	**J B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:01	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		05/13/21 10:48	05/13/21 19:38	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 19:38	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 19:38	1
Barium	**0.049**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 19:38	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 19:38	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 19:38	1
Calcium	**117**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 19:38	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 19:38	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 19:38	1
Copper	**0.0031**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 19:38	1
Iron	ND		0.050	0.019	mg/L		05/13/21 10:48	05/13/21 19:38	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 19:38	1
Magnesium	**57.4**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 19:38	1
Manganese	**0.0057**		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 19:38	1
Nickel	**0.0034**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 19:38	1
Potassium	**1.2**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 19:38	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 19:38	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 19:38	1
Sodium	**6.4**		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 19:38	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 19:38	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 19:38	1
Zinc	**0.0085**	**J**	0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 19:38	1

Client Sample ID: WG-11109668-050421-SG-NCR3S
Lab Sample ID: 480-184248-1

Date Collected: 05/04/21 09:05
Matrix: Water
Date Received: 05/05/21 15:30

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.5	1.4	mg/L			05/11/21 13:01	5
Sulfate	**86.6**		10.0	1.7	mg/L			05/11/21 13:01	5
Alkalinity, Bicarbonate	**488**	**B**	50.0	20.0	mg/L			05/10/21 18:39	5
Alkalinity, Carbonate	ND		50.0	20.0	mg/L			05/10/21 18:39	5
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:43	1
Nitrate Nitrite as N	**0.51**		0.050	0.020	mg/L			05/14/21 12:50	1

Client Sample ID: WG-11109668-050421-SG-NCR4S
Lab Sample ID: 480-184248-2

Date Collected: 05/04/21 09:20
Matrix: Water
Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.63**		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:05	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:05	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:05	1
Barium	**0.055**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:05	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:05	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:05	1
Calcium	**116**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:05	1
Chromium	**0.0011**	**J**	0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:05	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:05	1
Copper	**0.0020**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:05	1
Iron	**1.1**	**B**	0.050	0.019	mg/L		05/13/21 10:48	05/14/21 00:05	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:05	1
Magnesium	**35.0**		0.20	0.043	mg/L		05/13/21 10:48	05/14/21 00:05	1
Manganese	**0.023**		0.0030	0.00040	mg/L		05/13/21 10:48	05/14/21 00:05	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:05	1
Potassium	**9.0**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:05	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:05	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:05	1
Sodium	**21.9**	**B**	1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:05	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:05	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:05	1
Zinc	**0.021**	**B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.2**		0.20	0.060	mg/L		05/13/21 10:48	05/13/21 19:42	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 19:42	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 19:42	1
Barium	**0.057**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 19:42	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 19:42	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 19:42	1
Calcium	**105**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 19:42	1
Chromium	**0.0018**	**J**	0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 19:42	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 19:42	1
Copper	**0.0026**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 19:42	1
Iron	**2.1**		0.050	0.019	mg/L		05/13/21 10:48	05/13/21 19:42	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 19:42	1

Client Sample ID: WG-11109668-050421-SG-NCR4S

Lab Sample ID: 480-184248-2

Date Collected: 05/04/21 09:20

Matrix: Water

Date Received: 05/05/21 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**35.4**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 19:42	1
Manganese	**0.020**		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 19:42	1
Nickel	**0.0013**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 19:42	1
Potassium	**8.4**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 19:42	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 19:42	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 19:42	1
Sodium	**20.9**		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 19:42	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 19:42	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 19:42	1
Zinc	**0.030**		0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 19:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.56	mg/L			05/11/21 13:15	2
Sulfate	**71.8**		4.0	0.70	mg/L			05/11/21 13:15	2
Alkalinity, Bicarbonate	**425**		50.0	20.0	mg/L			05/10/21 19:19	5
Alkalinity, Carbonate	ND		50.0	20.0	mg/L			05/10/21 19:19	5
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:44	1
Nitrate Nitrite as N	**0.043**	**J**	0.050	0.020	mg/L			05/14/21 12:52	1

Client Sample ID: WG-11109668-050421-SG-NCR5S

Lab Sample ID: 480-184248-3

Date Collected: 05/04/21 09:45

Matrix: Water

Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.18**	**J**	0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:08	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:08	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:08	1
Barium	**0.14**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:08	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:08	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:08	1
Calcium	**86.0**		0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:08	1
Chromium	**0.0042**		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:08	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:08	1
Copper	**0.0031**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:08	1
Iron	**0.15**	**B**	0.050	0.019	mg/L		05/13/21 10:48	05/14/21 00:08	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:08	1
Magnesium	**39.9**		0.20	0.043	mg/L		05/13/21 10:48	05/14/21 00:08	1
Manganese	**0.0033**		0.0030	0.00040	mg/L		05/13/21 10:48	05/14/21 00:08	1
Nickel	**0.0026**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:08	1
Potassium	**0.28**	**J**	0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:08	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:08	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:08	1
Sodium	**8.0**		1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:08	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:08	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:08	1
Zinc	**0.0024**	**J B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:08	1

Client Sample ID: WG-11109668-050421-SG-NCR5S

Lab Sample ID: 480-184248-3

Date Collected: 05/04/21 09:45

Matrix: Water

Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.070**	**J**	0.20	0.060	mg/L		05/13/21 10:48	05/13/21 19:46	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 19:46	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 19:46	1
Barium	**0.14**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 19:46	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 19:46	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 19:46	1
Calcium	**77.0**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 19:46	1
Chromium	**0.0012**	**J**	0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 19:46	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 19:46	1
Copper	**0.0024**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 19:46	1
Iron	**0.068**		0.050	0.019	mg/L		05/13/21 10:48	05/15/21 00:51	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 19:46	1
Magnesium	**41.9**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 19:46	1
Manganese	**0.0016**	**J**	0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 19:46	1
Nickel	**0.0019**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 19:46	1
Potassium	**0.32**	**J**	0.50	0.10	mg/L		05/13/21 10:48	05/15/21 00:51	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 19:46	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 19:46	1
Sodium	**9.1**		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 19:46	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 19:46	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 19:46	1
Zinc	**0.0015**	**J**	0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 19:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.1**		1.0	0.56	mg/L			05/11/21 13:44	2
Sulfate	**5.1**		4.0	0.70	mg/L			05/11/21 13:44	2
Alkalinity, Bicarbonate	**400**	**B F1**	50.0	20.0	mg/L			05/10/21 18:37	5
Alkalinity, Carbonate	ND		50.0	20.0	mg/L			05/10/21 18:37	5
Ammonia	ND	F1	0.020	0.0090	mg/L			05/07/21 11:55	1
Nitrate Nitrite as N	**0.033**	**J**	0.050	0.020	mg/L			05/14/21 12:47	1

Client Sample ID: WG-11109668-050421-SG-NCR6S

Lab Sample ID: 480-184248-4

Date Collected: 05/04/21 07:55

Matrix: Water

Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:38	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:38	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:38	1
Barium	**0.051**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:38	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:38	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:38	1
Calcium	**151**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/18/21 17:20	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:38	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:38	1
Copper	**0.0025**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:38	1
Iron	**0.032**		0.050	0.019	mg/L		05/13/21 10:48	05/15/21 02:50	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:38	1

Client Sample ID: WG-11109668-050421-SG-NCR6S
Lab Sample ID: 480-184248-4
Date Collected: 05/04/21 07:55
Matrix: Water
Date Received: 05/05/21 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**66.7**		0.20	0.043	mg/L		05/13/21 10:48	05/18/21 17:20	1
Manganese	**0.00062**	**J B**	0.0030	0.00040	mg/L		05/13/21 10:48	05/15/21 02:50	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:38	1
Potassium	**0.85**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/15/21 02:50	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:38	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:38	1
Sodium	**13.9**	**B**	1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:38	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:38	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:38	1
Zinc	**0.0021**	**J B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:38	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		05/13/21 10:48	05/13/21 20:16	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 20:16	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 20:16	1
Barium	**0.055**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 20:16	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 20:16	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 20:16	1
Calcium	**137**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 20:16	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 20:16	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 20:16	1
Copper	**0.0019**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 20:16	1
Iron	**0.031**	**J**	0.050	0.019	mg/L		05/13/21 10:48	05/15/21 01:21	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 20:16	1
Magnesium	**61.5**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 20:16	1
Manganese	**0.00058**	**J**	0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 20:16	1
Nickel	**0.0021**	**J**	0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 20:16	1
Potassium	**0.82**		0.50	0.10	mg/L		05/13/21 10:48	05/15/21 01:21	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 20:16	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 20:16	1
Sodium	**11.1**		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 20:16	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 20:16	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 20:16	1
Zinc	**0.0022**	**J**	0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 20:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.5	1.4	mg/L			05/11/21 13:29	5
Sulfate	**84.5**		10.0	1.7	mg/L			05/11/21 13:29	5
Alkalinity, Bicarbonate	**687**		200	80.0	mg/L			05/10/21 18:53	20
Alkalinity, Carbonate	ND		200	80.0	mg/L			05/10/21 18:53	20
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:58	1
Nitrate Nitrite as N	**0.045**	**J**	0.050	0.020	mg/L			05/14/21 12:53	1

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR13S
Lab Sample ID: 480-184248-5
Date Collected: 05/04/21 07:55
Matrix: Water
Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:42	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:42	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:42	1
Barium	**0.063**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:42	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:42	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:42	1
Calcium	**151**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/18/21 17:24	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:42	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:42	1
Copper	**0.0021**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:42	1
Iron	**0.046**		0.050	0.019	mg/L		05/13/21 10:48	05/15/21 02:53	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:42	1
Magnesium	**58.8**		0.20	0.043	mg/L		05/13/21 10:48	05/18/21 17:24	1
Manganese	ND		0.0030	0.00040	mg/L		05/13/21 10:48	05/15/21 02:53	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:42	1
Potassium	**1.0**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/15/21 02:53	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:42	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:42	1
Sodium	**8.4**	**B**	1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:42	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:42	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:42	1
Zinc	**0.0016**	**J B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:42	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		05/13/21 10:48	05/13/21 20:20	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 20:20	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 20:20	1
Barium	**0.061**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 20:20	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 20:20	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 20:20	1
Calcium	**142**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 20:20	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 20:20	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 20:20	1
Copper	**0.0020**	**J**	0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 20:20	1
Iron	**0.050**		0.050	0.019	mg/L		05/13/21 10:48	05/15/21 01:25	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 20:20	1
Magnesium	**61.4**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 20:20	1
Manganese	ND		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 20:20	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 20:20	1
Potassium	**0.90**		0.50	0.10	mg/L		05/13/21 10:48	05/15/21 01:25	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 20:20	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 20:20	1
Sodium	**9.6**		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 20:20	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 20:20	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 20:20	1
Zinc	**0.0018**	**J**	0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 20:20	1

Client Sample ID: WG-11109668-050421-SG-NCR13S
Lab Sample ID: 480-184248-5

Date Collected: 05/04/21 07:55
Matrix: Water
Date Received: 05/05/21 15:30

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.5	1.4	mg/L			05/11/21 14:54	5
Sulfate	**93.7**		10.0	1.7	mg/L			05/11/21 14:54	5
Alkalinity, Bicarbonate	**616**		200	80.0	mg/L			05/10/21 18:55	20
Alkalinity, Carbonate	ND		200	80.0	mg/L			05/10/21 18:55	20
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:59	1
Nitrate Nitrite as N	**0.049**	**J**	0.050	0.020	mg/L			05/14/21 12:54	1

Client Sample ID: WG-11109668-050421-SG-EAST A
Lab Sample ID: 480-184248-6

Date Collected: 05/04/21 08:15
Matrix: Water
Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.2**		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:46	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:46	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:46	1
Barium	**0.45**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:46	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:46	1
Cadmium	**0.0014**		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:46	1
Calcium	**193**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/18/21 17:28	1
Chromium	**0.013**		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:46	1
Cobalt	**0.0029**	**J**	0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:46	1
Copper	**0.048**		0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:46	1
Iron	**64.3**	**B**	0.050	0.019	mg/L		05/13/21 10:48	05/15/21 02:57	1
Lead	**0.15**		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:46	1
Magnesium	**122**		0.20	0.043	mg/L		05/13/21 10:48	05/18/21 17:28	1
Manganese	**0.41**	**B**	0.0030	0.00040	mg/L		05/13/21 10:48	05/15/21 02:57	1
Nickel	**0.018**		0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:46	1
Potassium	**17.7**	**B**	0.50	0.10	mg/L		05/13/21 10:48	05/15/21 02:57	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:46	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:46	1
Sodium	**70.3**	**B**	1.0	0.32	mg/L		05/13/21 10:48	05/14/21 00:46	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:46	1
Vanadium	**0.0049**	**J**	0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:46	1
Zinc	**0.16**	**B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**230**		2.5	1.4	mg/L			05/11/21 15:08	5
Sulfate	**85.7**		10.0	1.7	mg/L			05/11/21 15:08	5
Alkalinity, Bicarbonate	**666**		200	80.0	mg/L			05/10/21 18:56	20
Alkalinity, Carbonate	ND		200	80.0	mg/L			05/10/21 18:56	20

Client Sample ID: WG-11109668-050421-SG-EAST C
Lab Sample ID: 480-184248-7

Date Collected: 05/04/21 08:30
Matrix: Water
Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7.4**		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:50	1
Antimony	ND		0.10	0.034	mg/L		05/13/21 10:48	05/18/21 17:32	5

Client Sample ID: WG-11109668-050421-SG-EAST C
Lab Sample ID: 480-184248-7
Date Collected: 05/04/21 08:30
Matrix: Water
Date Received: 05/05/21 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.057		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:50	1
Barium	0.19		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:50	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:50	1
Cadmium	0.010		0.0050	0.0025	mg/L		05/13/21 10:48	05/18/21 17:32	5
Calcium	2820	B	2.5	0.50	mg/L		05/13/21 10:48	05/18/21 17:32	5
Chromium	0.24		0.020	0.0050	mg/L		05/13/21 10:48	05/18/21 17:32	5
Cobalt	0.20		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:50	1
Copper	ND		0.050	0.0080	mg/L		05/13/21 10:48	05/15/21 03:36	5
Iron	1490	B	0.25	0.097	mg/L		05/13/21 10:48	05/18/21 17:32	5
Lead	0.60		0.025	0.015	mg/L		05/13/21 10:48	05/18/21 17:32	5
Magnesium	1380		1.0	0.22	mg/L		05/13/21 10:48	05/18/21 17:32	5
Manganese	18.2		0.015	0.0020	mg/L		05/13/21 10:48	05/18/21 17:32	5
Nickel	1.1		0.050	0.0063	mg/L		05/13/21 10:48	05/18/21 17:32	5
Potassium	889	B	1.0	0.20	mg/L		05/13/21 10:48	05/15/21 03:01	2
Selenium	ND		0.075	0.044	mg/L		05/13/21 10:48	05/18/21 17:32	5
Silver	ND		0.015	0.0085	mg/L		05/13/21 10:48	05/18/21 17:32	5
Sodium	2370	B	5.0	1.6	mg/L		05/13/21 10:48	05/15/21 03:36	5
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:50	1
Vanadium	0.026		0.025	0.0075	mg/L		05/13/21 10:48	05/15/21 03:36	5
Zinc	27.9	B	0.020	0.0030	mg/L		05/13/21 10:48	05/15/21 03:01	2

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6.8		0.20	0.060	mg/L		05/13/21 10:48	05/13/21 20:23	1
Antimony	ND		0.10	0.034	mg/L		05/13/21 10:48	05/19/21 16:08	5
Arsenic	0.044		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 20:23	1
Barium	0.18		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 20:23	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 20:23	1
Cadmium	0.0083	J	0.010	0.0025	mg/L		05/13/21 10:48	05/19/21 16:08	5
Calcium	2650		2.5	0.50	mg/L		05/13/21 10:48	05/19/21 16:08	5
Chromium	0.23		0.020	0.0050	mg/L		05/13/21 10:48	05/19/21 16:08	5
Cobalt	0.19		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 20:23	1
Copper	ND		0.050	0.0080	mg/L		05/13/21 10:48	05/19/21 16:08	5
Iron	1410		0.25	0.097	mg/L		05/13/21 10:48	05/19/21 16:08	5
Lead	0.46		0.050	0.015	mg/L		05/13/21 10:48	05/19/21 16:08	5
Magnesium	1370		1.0	0.22	mg/L		05/13/21 10:48	05/19/21 16:08	5
Manganese	17.3		0.015	0.0020	mg/L		05/13/21 10:48	05/19/21 16:08	5
Nickel	1.0		0.050	0.0063	mg/L		05/13/21 10:48	05/19/21 16:08	5
Potassium	830		1.0	0.20	mg/L		05/13/21 10:48	05/15/21 01:29	2
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 20:23	1
Silver	ND		0.030	0.0085	mg/L		05/13/21 10:48	05/19/21 16:08	5
Sodium	2220		5.0	1.6	mg/L		05/13/21 10:48	05/15/21 02:04	5
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 20:23	1
Vanadium	0.016	J	0.025	0.0075	mg/L		05/13/21 10:48	05/19/21 16:08	5
Zinc	26.5		0.020	0.0030	mg/L		05/13/21 10:48	05/15/21 01:29	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3010		50.0	28.2	mg/L			05/11/21 15:23	100
Sulfate	1920		200	34.9	mg/L			05/11/21 15:23	100

Client Sample ID: WG-11109668-050421-SG-EAST C

Lab Sample ID: 480-184248-7

Date Collected: 05/04/21 08:30

Matrix: Water

Date Received: 05/05/21 15:30

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate	**19900**		2000	800	mg/L			05/10/21 19:19	200
Alkalinity, Carbonate	ND		2000	800	mg/L			05/10/21 19:19	200
Ammonia	**1360**	**B**	20.0	9.0	mg/L			05/12/21 13:56	1000
Nitrate Nitrite as N	ND		0.050	0.020	mg/L			05/14/21 12:55	1

Client Sample ID: WG-11109668-050421-SG-EAST D

Lab Sample ID: 480-184248-8

Date Collected: 05/04/21 08:50

Matrix: Water

Date Received: 05/05/21 15:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.5**		0.20	0.060	mg/L		05/13/21 10:48	05/14/21 00:54	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/14/21 00:54	1
Arsenic	**0.015**		0.010	0.0056	mg/L		05/13/21 10:48	05/14/21 00:54	1
Barium	**0.62**		0.0020	0.00070	mg/L		05/13/21 10:48	05/14/21 00:54	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/14/21 00:54	1
Cadmium	**0.0029**		0.0010	0.00050	mg/L		05/13/21 10:48	05/14/21 00:54	1
Calcium	**135**	**^+ B**	0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:54	1
Chromium	**0.084**		0.0040	0.0010	mg/L		05/13/21 10:48	05/14/21 00:54	1
Cobalt	**0.023**		0.0040	0.00063	mg/L		05/13/21 10:48	05/14/21 00:54	1
Copper	**0.028**		0.010	0.0016	mg/L		05/13/21 10:48	05/14/21 00:54	1
Iron	**77.6**	**^+ B ^2**	0.050	0.019	mg/L		05/13/21 10:48	05/14/21 00:54	1
Lead	**0.28**		0.0050	0.0030	mg/L		05/13/21 10:48	05/14/21 00:54	1
Magnesium	**414**	**^+**	0.20	0.043	mg/L		05/13/21 10:48	05/14/21 00:54	1
Manganese	**0.12**	**^+**	0.0030	0.00040	mg/L		05/13/21 10:48	05/14/21 00:54	1
Nickel	**0.22**		0.010	0.0013	mg/L		05/13/21 10:48	05/14/21 00:54	1
Potassium	**372**	**^+ B**	0.50	0.10	mg/L		05/13/21 10:48	05/14/21 00:54	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/14/21 00:54	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/14/21 00:54	1
Sodium	**743**	**B**	1.0	0.32	mg/L		05/13/21 10:48	05/15/21 03:48	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/14/21 00:54	1
Vanadium	**0.011**		0.0050	0.0015	mg/L		05/13/21 10:48	05/14/21 00:54	1
Zinc	**0.59**	**B**	0.010	0.0015	mg/L		05/13/21 10:48	05/14/21 00:54	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.5**		0.20	0.060	mg/L		05/13/21 10:48	05/13/21 20:28	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 20:28	1
Arsenic	**0.017**		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 20:28	1
Barium	**0.62**		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 20:28	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 20:28	1
Cadmium	**0.0041**		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 20:28	1
Calcium	**122**		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 20:28	1
Chromium	**0.083**		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 20:28	1
Cobalt	**0.027**		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 20:28	1
Copper	**0.025**		0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 20:28	1
Iron	**98.5**	**^2**	0.050	0.019	mg/L		05/13/21 10:48	05/13/21 20:28	1
Lead	**0.23**		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 20:28	1
Magnesium	**446**		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 20:28	1
Manganese	**0.14**		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 20:28	1

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-EAST D
Lab Sample ID: 480-184248-8
Date Collected: 05/04/21 08:50
Matrix: Water
Date Received: 05/05/21 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	0.22		0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 20:28	1
Potassium	379	^+	0.50	0.10	mg/L		05/13/21 10:48	05/13/21 20:28	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 20:28	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 20:28	1
Sodium	1580		2.0	0.65	mg/L		05/13/21 10:48	05/15/21 02:16	2
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 20:28	1
Vanadium	0.014		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 20:28	1
Zinc	0.73		0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 20:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1480		25.0	14.1	mg/L			05/11/21 15:37	50
Sulfate	17.6	J	100	17.5	mg/L			05/11/21 15:37	50
Alkalinity, Bicarbonate	6780		800	320	mg/L			05/10/21 19:20	80
Alkalinity, Carbonate	ND		800	320	mg/L			05/10/21 19:20	80
Ammonia	0.62	B	0.020	0.0090	mg/L			05/12/21 13:57	1
Nitrate Nitrite as N	0.22		0.050	0.020	mg/L			05/14/21 12:56	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-580583/1-A
Matrix: Water
Analysis Batch: 580972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 580583

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/13/21 10:48	05/13/21 22:48	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 22:48	1
Arsenic	ND		0.010	0.0056	mg/L		05/13/21 10:48	05/13/21 22:48	1
Barium	ND		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 22:48	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 22:48	1
Cadmium	ND		0.0010	0.00050	mg/L		05/13/21 10:48	05/13/21 22:48	1
Calcium	ND		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 22:48	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 22:48	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 22:48	1
Copper	ND		0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 22:48	1
Iron	0.0233	J	0.050	0.019	mg/L		05/13/21 10:48	05/13/21 22:48	1
Lead	ND		0.0050	0.0030	mg/L		05/13/21 10:48	05/13/21 22:48	1
Magnesium	ND		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 22:48	1
Manganese	ND		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 22:48	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 22:48	1
Potassium	ND		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 22:48	1
Selenium	ND		0.015	0.0087	mg/L		05/13/21 10:48	05/13/21 22:48	1
Silver	ND		0.0030	0.0017	mg/L		05/13/21 10:48	05/13/21 22:48	1
Sodium	ND		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 22:48	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 22:48	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 22:48	1
Zinc	0.00159	J	0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 22:48	1

Lab Sample ID: LCS 480-580583/2-A
Matrix: Water
Analysis Batch: 580972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 580583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	10.29		mg/L		103	80 - 120
Antimony	0.200	0.207		mg/L		104	80 - 120
Arsenic	0.200	0.209		mg/L		105	80 - 120
Barium	0.200	0.227		mg/L		113	80 - 120
Beryllium	0.200	0.212		mg/L		106	80 - 120
Cadmium	0.200	0.207		mg/L		103	80 - 120
Calcium	10.0	10.12		mg/L		101	80 - 120
Chromium	0.200	0.206		mg/L		103	80 - 120
Cobalt	0.200	0.198		mg/L		99	80 - 120
Copper	0.200	0.206		mg/L		103	80 - 120
Iron	10.0	9.98		mg/L		100	80 - 120
Lead	0.200	0.203		mg/L		101	80 - 120
Magnesium	10.0	10.06		mg/L		101	80 - 120
Manganese	0.200	0.210		mg/L		105	80 - 120
Nickel	0.200	0.198		mg/L		99	80 - 120
Potassium	10.0	10.63		mg/L		106	80 - 120
Selenium	0.200	0.206		mg/L		103	80 - 120
Silver	0.0500	0.0527		mg/L		105	80 - 120
Sodium	10.0	10.66		mg/L		106	80 - 120
Thallium	0.200	0.207		mg/L		103	80 - 120
Vanadium	0.200	0.208		mg/L		104	80 - 120

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

Lab Sample ID: LCS 480-580583/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580972
Prep Batch: 580583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	0.200	0.207		mg/L		104	80 - 120

Lab Sample ID: 480-184248-3 MS
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580972
Prep Batch: 580583

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.18	J	10.0	9.93		mg/L		98	75 - 125
Antimony	ND		0.200	0.217		mg/L		109	75 - 125
Arsenic	ND		0.200	0.215		mg/L		108	75 - 125
Barium	0.14		0.200	0.346		mg/L		103	75 - 125
Beryllium	ND		0.200	0.213		mg/L		106	75 - 125
Cadmium	ND		0.200	0.207		mg/L		104	75 - 125
Calcium	86.0		10.0	96.89	4	mg/L		109	75 - 125
Chromium	0.0042		0.200	0.207		mg/L		101	75 - 125
Cobalt	ND		0.200	0.196		mg/L		98	75 - 125
Copper	0.0031	J	0.200	0.209		mg/L		103	75 - 125
Iron	0.15	B	10.0	9.86		mg/L		97	75 - 125
Lead	ND		0.200	0.201		mg/L		101	75 - 125
Magnesium	39.9		10.0	50.14		mg/L		103	75 - 125
Manganese	0.0033		0.200	0.206		mg/L		101	75 - 125
Nickel	0.0026	J	0.200	0.202		mg/L		99	75 - 125
Potassium	0.28	J	10.0	10.94		mg/L		107	75 - 125
Selenium	ND		0.200	0.211		mg/L		106	75 - 125
Silver	ND		0.0500	0.0505		mg/L		101	75 - 125
Sodium	8.0		10.0	18.41		mg/L		104	75 - 125
Thallium	ND		0.200	0.207		mg/L		103	75 - 125
Vanadium	ND		0.200	0.205		mg/L		103	75 - 125
Zinc	0.0024	J B	0.200	0.196		mg/L		97	75 - 125

Lab Sample ID: 480-184248-3 MSD
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580972
Prep Batch: 580583

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.18	J	10.0	9.45		mg/L		93	75 - 125	5	20
Antimony	ND		0.200	0.210		mg/L		105	75 - 125	3	20
Arsenic	ND		0.200	0.207		mg/L		103	75 - 125	4	20
Barium	0.14		0.200	0.328		mg/L		94	75 - 125	5	20
Beryllium	ND		0.200	0.201		mg/L		101	75 - 125	5	20
Cadmium	ND		0.200	0.199		mg/L		99	75 - 125	4	20
Calcium	86.0		10.0	93.40	4	mg/L		74	75 - 125	4	20
Chromium	0.0042		0.200	0.199		mg/L		97	75 - 125	4	20
Cobalt	ND		0.200	0.190		mg/L		95	75 - 125	4	20
Copper	0.0031	J	0.200	0.202		mg/L		99	75 - 125	3	20
Iron	0.15	B	10.0	9.54		mg/L		94	75 - 125	3	20
Lead	ND		0.200	0.195		mg/L		98	75 - 125	3	20
Magnesium	39.9		10.0	47.67		mg/L		78	75 - 125	5	20
Manganese	0.0033		0.200	0.200		mg/L		98	75 - 125	3	20

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

Lab Sample ID: 480-184248-3 MSD
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580972
Prep Batch: 580583

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	0.0026	J	0.200	0.195		mg/L		96	75 - 125	3	20
Potassium	0.28	J	10.0	10.57		mg/L		103	75 - 125	3	20
Selenium	ND		0.200	0.203		mg/L		101	75 - 125	4	20
Silver	ND		0.0500	0.0481		mg/L		96	75 - 125	5	20
Sodium	8.0		10.0	17.12		mg/L		91	75 - 125	7	20
Thallium	ND		0.200	0.200		mg/L		100	75 - 125	3	20
Vanadium	ND		0.200	0.197		mg/L		98	75 - 125	4	20
Zinc	0.0024	J B	0.200	0.190		mg/L		94	75 - 125	3	20

Lab Sample ID: MB 480-580406/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 580970
Prep Batch: 580406

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/13/21 10:48	05/13/21 18:17	1
Antimony	ND		0.020	0.0068	mg/L		05/13/21 10:48	05/13/21 18:17	1
Arsenic	ND		0.015	0.0056	mg/L		05/13/21 10:48	05/13/21 18:17	1
Barium	ND		0.0020	0.00070	mg/L		05/13/21 10:48	05/13/21 18:17	1
Beryllium	ND		0.0020	0.00030	mg/L		05/13/21 10:48	05/13/21 18:17	1
Cadmium	ND		0.0020	0.00050	mg/L		05/13/21 10:48	05/13/21 18:17	1
Calcium	ND		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 18:17	1
Chromium	ND		0.0040	0.0010	mg/L		05/13/21 10:48	05/13/21 18:17	1
Cobalt	ND		0.0040	0.00063	mg/L		05/13/21 10:48	05/13/21 18:17	1
Copper	ND		0.010	0.0016	mg/L		05/13/21 10:48	05/13/21 18:17	1
Iron	ND		0.050	0.019	mg/L		05/13/21 10:48	05/13/21 18:17	1
Lead	ND		0.010	0.0030	mg/L		05/13/21 10:48	05/13/21 18:17	1
Magnesium	ND		0.20	0.043	mg/L		05/13/21 10:48	05/13/21 18:17	1
Manganese	ND		0.0030	0.00040	mg/L		05/13/21 10:48	05/13/21 18:17	1
Nickel	ND		0.010	0.0013	mg/L		05/13/21 10:48	05/13/21 18:17	1
Potassium	ND		0.50	0.10	mg/L		05/13/21 10:48	05/13/21 18:17	1
Selenium	ND		0.025	0.0087	mg/L		05/13/21 10:48	05/13/21 18:17	1
Silver	ND		0.0060	0.0017	mg/L		05/13/21 10:48	05/13/21 18:17	1
Sodium	ND		1.0	0.32	mg/L		05/13/21 10:48	05/13/21 18:17	1
Thallium	ND		0.020	0.010	mg/L		05/13/21 10:48	05/13/21 18:17	1
Vanadium	ND		0.0050	0.0015	mg/L		05/13/21 10:48	05/13/21 18:17	1
Zinc	ND		0.010	0.0015	mg/L		05/13/21 10:48	05/13/21 18:17	1

Lab Sample ID: LCS 480-580406/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 580970
Prep Batch: 580406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	9.96		mg/L		100	80 - 120
Antimony	0.200	0.206		mg/L		103	80 - 120
Arsenic	0.200	0.208		mg/L		104	80 - 120
Barium	0.200	0.220		mg/L		110	80 - 120
Beryllium	0.200	0.204		mg/L		102	80 - 120
Cadmium	0.200	0.206		mg/L		103	80 - 120
Calcium	10.0	9.95		mg/L		100	80 - 120

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

Lab Sample ID: LCS 480-580406/2-A
Matrix: Water
Analysis Batch: 580970

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 580406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.200		mg/L		100	80 - 120
Cobalt	0.200	0.198		mg/L		99	80 - 120
Copper	0.200	0.205		mg/L		103	80 - 120
Iron	10.0	9.93		mg/L		99	80 - 120
Lead	0.200	0.200		mg/L		100	80 - 120
Magnesium	10.0	10.02		mg/L		100	80 - 120
Manganese	0.200	0.208		mg/L		104	80 - 120
Nickel	0.200	0.197		mg/L		98	80 - 120
Potassium	10.0	10.34		mg/L		103	80 - 120
Selenium	0.200	0.206		mg/L		103	80 - 120
Silver	0.0500	0.0514		mg/L		103	80 - 120
Sodium	10.0	10.42		mg/L		104	80 - 120
Thallium	0.200	0.206		mg/L		103	80 - 120
Vanadium	0.200	0.200		mg/L		100	80 - 120
Zinc	0.200	0.200		mg/L		100	80 - 120

Lab Sample ID: 480-184248-3 MS
Matrix: Water
Analysis Batch: 580970

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved
Prep Batch: 580406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.070	J	10.0	10.37		mg/L		103	75 - 125
Antimony	ND		0.200	0.208		mg/L		104	75 - 125
Arsenic	ND		0.200	0.216		mg/L		108	75 - 125
Barium	0.14		0.200	0.365		mg/L		113	75 - 125
Beryllium	ND		0.200	0.207		mg/L		104	75 - 125
Cadmium	ND		0.200	0.211		mg/L		105	75 - 125
Calcium	77.0		10.0	90.10	4	mg/L		131	75 - 125
Chromium	0.0012	J	0.200	0.203		mg/L		101	75 - 125
Cobalt	ND		0.200	0.203		mg/L		102	75 - 125
Copper	0.0024	J	0.200	0.213		mg/L		105	75 - 125
Lead	ND		0.200	0.206		mg/L		103	75 - 125
Magnesium	41.9		10.0	55.74	4	mg/L		139	75 - 125
Manganese	0.0016	J	0.200	0.213		mg/L		106	75 - 125
Nickel	0.0019	J	0.200	0.204		mg/L		101	75 - 125
Selenium	ND		0.200	0.208		mg/L		104	75 - 125
Silver	ND		0.0500	0.0536		mg/L		107	75 - 125
Sodium	9.1		10.0	20.20		mg/L		111	75 - 125
Thallium	ND		0.200	0.206		mg/L		103	75 - 125
Vanadium	ND		0.200	0.206		mg/L		103	75 - 125
Zinc	0.0015	J	0.200	0.205		mg/L		103	75 - 125

Lab Sample ID: 480-184248-3 MS
Matrix: Water
Analysis Batch: 581103

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved
Prep Batch: 580406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.068		10.0	10.53		mg/L		105	75 - 125
Potassium	0.32	J	10.0	11.31		mg/L		110	75 - 125

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

Lab Sample ID: 480-184248-3 MSD
Matrix: Water
Analysis Batch: 580970

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved
Prep Batch: 580406

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.070	J	10.0	9.79		mg/L		97	75 - 125	6	20
Antimony	ND		0.200	0.202		mg/L		101	75 - 125	3	20
Arsenic	ND		0.200	0.207		mg/L		104	75 - 125	4	20
Barium	0.14		0.200	0.352		mg/L		106	75 - 125	4	20
Beryllium	ND		0.200	0.199		mg/L		100	75 - 125	4	20
Cadmium	ND		0.200	0.204		mg/L		102	75 - 125	3	20
Calcium	77.0		10.0	88.47	4	mg/L		115	75 - 125	2	20
Chromium	0.0012	J	0.200	0.197		mg/L		98	75 - 125	3	20
Cobalt	ND		0.200	0.197		mg/L		98	75 - 125	3	20
Copper	0.0024	J	0.200	0.204		mg/L		101	75 - 125	4	20
Lead	ND		0.200	0.200		mg/L		100	75 - 125	3	20
Magnesium	41.9		10.0	51.28	4	mg/L		94	75 - 125	8	20
Manganese	0.0016	J	0.200	0.203		mg/L		101	75 - 125	5	20
Nickel	0.0019	J	0.200	0.196		mg/L		97	75 - 125	4	20
Selenium	ND		0.200	0.199		mg/L		99	75 - 125	4	20
Silver	ND		0.0500	0.0522		mg/L		104	75 - 125	3	20
Sodium	9.1		10.0	18.06		mg/L		90	75 - 125	11	20
Thallium	ND		0.200	0.202		mg/L		101	75 - 125	2	20
Vanadium	ND		0.200	0.198		mg/L		99	75 - 125	4	20
Zinc	0.0015	J	0.200	0.201		mg/L		101	75 - 125	2	20

Lab Sample ID: 480-184248-3 MSD
Matrix: Water
Analysis Batch: 581103

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved
Prep Batch: 580406

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.068		10.0	10.03		mg/L		100	75 - 125	5	20
Potassium	0.32	J	10.0	10.69		mg/L		104	75 - 125	6	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-580303/4
Matrix: Water
Analysis Batch: 580303

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/11/21 12:18	1
Sulfate	ND		2.0	0.35	mg/L			05/11/21 12:18	1

Lab Sample ID: LCS 480-580303/3
Matrix: Water
Analysis Batch: 580303

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	48.59		mg/L		97	90 - 110		
Sulfate			50.0	46.43		mg/L		93	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 480-184248-3 MS
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 580303

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1.1		100	100.3		mg/L		99	81 - 120		
Sulfate	5.1		100	99.77		mg/L		95	80 - 120		

Lab Sample ID: 480-184248-3 MSD
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 580303

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.1		100	99.69		mg/L		99	81 - 120	1	15
Sulfate	5.1		100	99.38		mg/L		94	80 - 120	0	15

Method: 310.2 - Alkalinity

Lab Sample ID: MB 480-580228/164
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate	5.28	J	10.0	4.0	mg/L			05/10/21 18:36	1
Alkalinity, Carbonate	ND		10.0	4.0	mg/L			05/10/21 18:36	1

Lab Sample ID: MB 480-580228/196
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate	ND		10.0	4.0	mg/L			05/10/21 18:49	1
Alkalinity, Carbonate	ND		10.0	4.0	mg/L			05/10/21 18:49	1

Lab Sample ID: MB 480-580228/205
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate	ND		10.0	4.0	mg/L			05/10/21 19:18	1
Alkalinity, Carbonate	ND		10.0	4.0	mg/L			05/10/21 19:18	1

Lab Sample ID: LCS 480-580228/162
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580228

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity, Bicarbonate			50.0	50.06		mg/L		100	90 - 110		

Lab Sample ID: LCS 480-580228/194
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 580228

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity, Bicarbonate			50.0	48.89		mg/L		98	90 - 110		

Method: 310.2 - Alkalinity (Continued)

Lab Sample ID: LCS 480-580228/203
Matrix: Water
Analysis Batch: 580228

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Bicarbonate	50.0	52.02		mg/L		104	90 - 110

Lab Sample ID: 480-184248-3 MS
Matrix: Water
Analysis Batch: 580228

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Bicarbonate	400	B F1	20.0	420.3	4	mg/L		99	60 - 140

Lab Sample ID: 480-184248-3 MSD
Matrix: Water
Analysis Batch: 580228

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity, Bicarbonate	400	B F1	20.0	403.5	4	mg/L		16	60 - 140	4	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-579877/27
Matrix: Water
Analysis Batch: 579877

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:26	1

Lab Sample ID: LCS 480-579877/28
Matrix: Water
Analysis Batch: 579877

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.07		mg/L		107	90 - 110
Ammonia as NH3	1.22	1.30		mg/L		107	90 - 110

Lab Sample ID: MB 480-579881/3
Matrix: Water
Analysis Batch: 579881

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/07/21 11:54	1

Lab Sample ID: LCS 480-579881/4
Matrix: Water
Analysis Batch: 579881

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.997		mg/L		100	90 - 110
Ammonia as NH3	1.22	1.21		mg/L		100	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: MB 480-580563/43
Matrix: Water
Analysis Batch: 580563

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.00997	J	0.020	0.0090	mg/L			05/12/21 13:42	1

Lab Sample ID: LCS 480-580563/44
Matrix: Water
Analysis Batch: 580563

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.987		mg/L		99	90 - 110
Ammonia as NH3	1.22	1.20		mg/L		99	90 - 110

Lab Sample ID: 480-184248-3 MS
Matrix: Water
Analysis Batch: 579881

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	F1	0.200	0.187		mg/L		94	90 - 110
Ammonia as NH3	ND	F1	0.243	0.228		mg/L		94	90 - 110

Lab Sample ID: 480-184248-3 MSD
Matrix: Water
Analysis Batch: 579881

Client Sample ID: WG-11109668-050421-SG-NCR5S
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	F1	0.200	0.161	F1	mg/L		81	90 - 110	15	20
Ammonia as NH3	ND	F1	0.243	0.196	F1	mg/L		81	90 - 110	15	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 480-581029/28
Matrix: Water
Analysis Batch: 581029

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.050	0.020	mg/L			05/14/21 12:33	1

Lab Sample ID: MB 480-581029/4
Matrix: Water
Analysis Batch: 581029

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.050	0.020	mg/L			05/14/21 12:06	1

Lab Sample ID: LCS 480-581029/29
Matrix: Water
Analysis Batch: 581029

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.50	1.49		mg/L		99	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 480-581029/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 581029

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			1.50	1.49		mg/L		99	90 - 110		

Lab Sample ID: 480-184248-3 MS
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 581029

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	0.033	J	1.00	1.02		mg/L		99	90 - 110		

Lab Sample ID: 480-184248-3 MSD
Client Sample ID: WG-11109668-050421-SG-NCR5S
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 581029

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.033	J	1.00	1.03		mg/L		100	90 - 110	1	20

Metals

Prep Batch: 580406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	3005A	
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	3005A	
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	3005A	
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	3005A	
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	3005A	
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	3005A	
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	3005A	
MB 480-580406/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 480-580406/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	3005A	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	3005A	

Prep Batch: 580583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Total/NA	Water	3005A	
480-184248-2	WG-11109668-050421-SG-NCR4S	Total/NA	Water	3005A	
480-184248-3	WG-11109668-050421-SG-NCR5S	Total/NA	Water	3005A	
480-184248-4	WG-11109668-050421-SG-NCR6S	Total/NA	Water	3005A	
480-184248-5	WG-11109668-050421-SG-NCR13S	Total/NA	Water	3005A	
480-184248-6	WG-11109668-050421-SG-EAST A	Total/NA	Water	3005A	
480-184248-7	WG-11109668-050421-SG-EAST C	Total/NA	Water	3005A	
480-184248-8	WG-11109668-050421-SG-EAST D	Total/NA	Water	3005A	
MB 480-580583/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-580583/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Total/NA	Water	3005A	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Total/NA	Water	3005A	

Analysis Batch: 580970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	6010C	580406
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	6010C	580406
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	6010C	580406
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	6010C	580406
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	6010C	580406
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	6010C	580406
MB 480-580406/1-A	Method Blank	Total Recoverable	Water	6010C	580406
LCS 480-580406/2-A	Lab Control Sample	Total Recoverable	Water	6010C	580406
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406

Analysis Batch: 580972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Total/NA	Water	6010C	580583
480-184248-2	WG-11109668-050421-SG-NCR4S	Total/NA	Water	6010C	580583
480-184248-3	WG-11109668-050421-SG-NCR5S	Total/NA	Water	6010C	580583
480-184248-4	WG-11109668-050421-SG-NCR6S	Total/NA	Water	6010C	580583
480-184248-5	WG-11109668-050421-SG-NCR13S	Total/NA	Water	6010C	580583
480-184248-6	WG-11109668-050421-SG-EAST A	Total/NA	Water	6010C	580583
480-184248-7	WG-11109668-050421-SG-EAST C	Total/NA	Water	6010C	580583
480-184248-8	WG-11109668-050421-SG-EAST D	Total/NA	Water	6010C	580583

Metals (Continued)

Analysis Batch: 580972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-580583/1-A	Method Blank	Total/NA	Water	6010C	580583
LCS 480-580583/2-A	Lab Control Sample	Total/NA	Water	6010C	580583
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Total/NA	Water	6010C	580583
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Total/NA	Water	6010C	580583

Analysis Batch: 581094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-4	WG-11109668-050421-SG-NCR6S	Total/NA	Water	6010C	580583
480-184248-5	WG-11109668-050421-SG-NCR13S	Total/NA	Water	6010C	580583
480-184248-6	WG-11109668-050421-SG-EAST A	Total/NA	Water	6010C	580583
480-184248-7	WG-11109668-050421-SG-EAST C	Total/NA	Water	6010C	580583
480-184248-7	WG-11109668-050421-SG-EAST C	Total/NA	Water	6010C	580583
480-184248-8	WG-11109668-050421-SG-EAST D	Total/NA	Water	6010C	580583

Analysis Batch: 581103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	6010C	580406
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	6010C	580406
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	6010C	580406
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	6010C	580406
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	6010C	580406
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	6010C	580406

Analysis Batch: 581633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-4	WG-11109668-050421-SG-NCR6S	Total/NA	Water	6010C	580583
480-184248-5	WG-11109668-050421-SG-NCR13S	Total/NA	Water	6010C	580583
480-184248-6	WG-11109668-050421-SG-EAST A	Total/NA	Water	6010C	580583
480-184248-7	WG-11109668-050421-SG-EAST C	Total/NA	Water	6010C	580583

Analysis Batch: 581724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	6010C	580406

General Chemistry

Analysis Batch: 579877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	350.1	
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	350.1	
MB 480-579877/27	Method Blank	Total/NA	Water	350.1	
LCS 480-579877/28	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 579881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	350.1	
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	350.1	
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	350.1	
MB 480-579881/3	Method Blank	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 579881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-579881/4	Lab Control Sample	Total/NA	Water	350.1	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	350.1	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	350.1	

Analysis Batch: 580228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	310.2	
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	310.2	
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	310.2	
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	310.2	
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	310.2	
480-184248-6	WG-11109668-050421-SG-EAST A	Dissolved	Water	310.2	
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	310.2	
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	310.2	
MB 480-580228/164	Method Blank	Total/NA	Water	310.2	
MB 480-580228/196	Method Blank	Total/NA	Water	310.2	
MB 480-580228/205	Method Blank	Total/NA	Water	310.2	
LCS 480-580228/162	Lab Control Sample	Total/NA	Water	310.2	
LCS 480-580228/194	Lab Control Sample	Total/NA	Water	310.2	
LCS 480-580228/203	Lab Control Sample	Total/NA	Water	310.2	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	310.2	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	310.2	

Analysis Batch: 580303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	300.0	
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	300.0	
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	300.0	
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	300.0	
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	300.0	
480-184248-6	WG-11109668-050421-SG-EAST A	Dissolved	Water	300.0	
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	300.0	
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	300.0	
MB 480-580303/4	Method Blank	Total/NA	Water	300.0	
LCS 480-580303/3	Lab Control Sample	Total/NA	Water	300.0	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	300.0	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	300.0	

Analysis Batch: 580563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	350.1	
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	350.1	
MB 480-580563/43	Method Blank	Total/NA	Water	350.1	
LCS 480-580563/44	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 581029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-1	WG-11109668-050421-SG-NCR3S	Dissolved	Water	353.2	
480-184248-2	WG-11109668-050421-SG-NCR4S	Dissolved	Water	353.2	
480-184248-3	WG-11109668-050421-SG-NCR5S	Dissolved	Water	353.2	
480-184248-4	WG-11109668-050421-SG-NCR6S	Dissolved	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 581029 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-184248-5	WG-11109668-050421-SG-NCR13S	Dissolved	Water	353.2	
480-184248-7	WG-11109668-050421-SG-EAST C	Dissolved	Water	353.2	
480-184248-8	WG-11109668-050421-SG-EAST D	Dissolved	Water	353.2	
MB 480-581029/28	Method Blank	Total/NA	Water	353.2	
MB 480-581029/4	Method Blank	Total/NA	Water	353.2	
LCS 480-581029/29	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-581029/5	Lab Control Sample	Total/NA	Water	353.2	
480-184248-3 MS	WG-11109668-050421-SG-NCR5S	Dissolved	Water	353.2	
480-184248-3 MSD	WG-11109668-050421-SG-NCR5S	Dissolved	Water	353.2	

Lab Chronicle

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR3S
Lab Sample ID: 480-184248-1

Date Collected: 05/04/21 09:05
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 19:38	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:01	AMH	TAL BUF
Dissolved	Analysis	300.0		5	580303	05/11/21 13:01	IMZ	TAL BUF
Dissolved	Analysis	310.2		5	580228	05/10/21 18:39	SRW	TAL BUF
Dissolved	Analysis	350.1		1	579877	05/07/21 11:43	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:50	ALT	TAL BUF

Client Sample ID: WG-11109668-050421-SG-NCR4S
Lab Sample ID: 480-184248-2

Date Collected: 05/04/21 09:20
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 19:42	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:05	AMH	TAL BUF
Dissolved	Analysis	300.0		2	580303	05/11/21 13:15	IMZ	TAL BUF
Dissolved	Analysis	310.2		5	580228	05/10/21 19:19	SRW	TAL BUF
Dissolved	Analysis	350.1		1	579877	05/07/21 11:44	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:52	ALT	TAL BUF

Client Sample ID: WG-11109668-050421-SG-NCR5S
Lab Sample ID: 480-184248-3

Date Collected: 05/04/21 09:45
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 19:46	AMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	581103	05/15/21 00:51	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:08	AMH	TAL BUF
Dissolved	Analysis	300.0		2	580303	05/11/21 13:44	IMZ	TAL BUF
Dissolved	Analysis	310.2		5	580228	05/10/21 18:37	SRW	TAL BUF
Dissolved	Analysis	350.1		1	579881	05/07/21 11:55	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:47	ALT	TAL BUF

Lab Chronicle

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-NCR6S
Lab Sample ID: 480-184248-4
Date Collected: 05/04/21 07:55
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 20:16	AMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	581103	05/15/21 01:21	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:38	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581094	05/15/21 02:50	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581633	05/18/21 17:20	LMH	TAL BUF
Dissolved	Analysis	300.0		5	580303	05/11/21 13:29	IMZ	TAL BUF
Dissolved	Analysis	310.2		20	580228	05/10/21 18:53	SRW	TAL BUF
Dissolved	Analysis	350.1		1	579881	05/07/21 11:58	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:53	ALT	TAL BUF

Client Sample ID: WG-11109668-050421-SG-NCR13S
Lab Sample ID: 480-184248-5
Date Collected: 05/04/21 07:55
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 20:20	AMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	581103	05/15/21 01:25	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:42	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581094	05/15/21 02:53	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581633	05/18/21 17:24	LMH	TAL BUF
Dissolved	Analysis	300.0		5	580303	05/11/21 14:54	IMZ	TAL BUF
Dissolved	Analysis	310.2		20	580228	05/10/21 18:55	SRW	TAL BUF
Dissolved	Analysis	350.1		1	579881	05/07/21 11:59	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:54	ALT	TAL BUF

Client Sample ID: WG-11109668-050421-SG-EAST A
Lab Sample ID: 480-184248-6
Date Collected: 05/04/21 08:15
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:46	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581094	05/15/21 02:57	LMH	TAL BUF

Client Sample ID: WG-11109668-050421-SG-EAST A
Lab Sample ID: 480-184248-6

Date Collected: 05/04/21 08:15
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581633	05/18/21 17:28	LMH	TAL BUF
Dissolved	Analysis	300.0		5	580303	05/11/21 15:08	IMZ	TAL BUF
Dissolved	Analysis	310.2		20	580228	05/10/21 18:56	SRW	TAL BUF

Client Sample ID: WG-11109668-050421-SG-EAST C
Lab Sample ID: 480-184248-7

Date Collected: 05/04/21 08:30
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 20:23	AMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		2	581103	05/15/21 01:29	LMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		5	581103	05/15/21 02:04	LMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		5	581724	05/19/21 16:08	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:50	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		2	581094	05/15/21 03:01	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		5	581094	05/15/21 03:36	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		5	581633	05/18/21 17:32	LMH	TAL BUF
Dissolved	Analysis	300.0		100	580303	05/11/21 15:23	IMZ	TAL BUF
Dissolved	Analysis	310.2		200	580228	05/10/21 19:19	SRW	TAL BUF
Dissolved	Analysis	350.1		1000	580563	05/12/21 13:56	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:55	ALT	TAL BUF

Client Sample ID: WG-11109668-050421-SG-EAST D
Lab Sample ID: 480-184248-8

Date Collected: 05/04/21 08:50
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		1	580970	05/13/21 20:28	AMH	TAL BUF
Dissolved	Prep	3005A			580406	05/13/21 10:48	ADM	TAL BUF
Dissolved	Analysis	6010C		2	581103	05/15/21 02:16	LMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	580972	05/14/21 00:54	AMH	TAL BUF
Total/NA	Prep	3005A			580583	05/13/21 10:48	KMP	TAL BUF
Total/NA	Analysis	6010C		1	581094	05/15/21 03:48	LMH	TAL BUF

Lab Chronicle

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Client Sample ID: WG-11109668-050421-SG-EAST D
Lab Sample ID: 480-184248-8

Date Collected: 05/04/21 08:50
Matrix: Water
Date Received: 05/05/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	300.0		50	580303	05/11/21 15:37	IMZ	TAL BUF
Dissolved	Analysis	310.2		80	580228	05/10/21 19:20	SRW	TAL BUF
Dissolved	Analysis	350.1		1	580563	05/12/21 13:57	CLT	TAL BUF
Dissolved	Analysis	353.2		1	581029	05/14/21 12:56	ALT	TAL BUF

Laboratory References:

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

Accreditation/Certification Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
310.2		Water	Alkalinity, Bicarbonate
310.2		Water	Alkalinity, Carbonate

Method Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
310.2	Alkalinity	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL BUF

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

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

Sample Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-184248-1	WG-11109668-050421-SG-NCR3S	Water	05/04/21 09:05	05/05/21 15:30	
480-184248-2	WG-11109668-050421-SG-NCR4S	Water	05/04/21 09:20	05/05/21 15:30	
480-184248-3	WG-11109668-050421-SG-NCR5S	Water	05/04/21 09:45	05/05/21 15:30	
480-184248-4	WG-11109668-050421-SG-NCR6S	Water	05/04/21 07:55	05/05/21 15:30	
480-184248-5	WG-11109668-050421-SG-NCR13S	Water	05/04/21 07:55	05/05/21 15:30	
480-184248-6	WG-11109668-050421-SG-EAST A	Water	05/04/21 08:15	05/05/21 15:30	
480-184248-7	WG-11109668-050421-SG-EAST C	Water	05/04/21 08:30	05/05/21 15:30	
480-184248-8	WG-11109668-050421-SG-EAST D	Water	05/04/21 08:50	05/05/21 15:30	

Quantitation Limit Exceptions Summary

Client: N Tonawanda Water Works
Job ID: 480-184248-1
Project/Site: City of North Tonawanda - NCRS

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	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
6010C	Arsenic	Water	Total/NA	mg/L	0.010	0.015
6010C	Cadmium	Water	Total/NA	mg/L	0.0010	0.002
6010C	Lead	Water	Total/NA	mg/L	0.0050	0.01
6010C	Selenium	Water	Total/NA	mg/L	0.015	0.025
6010C	Silver	Water	Total/NA	mg/L	0.0030	0.006

CHAIN OF CUSTODY RECORD

COC NO.: 60260

PAGE 1 OF 1

Address: Niagara Falls Office

Phone: _____ **Fax:** _____

Project No/ Phase/Task Code: 11109668-01	**Laboratory Name:** Eurofins TestAmerica	**Lab Location:**	**SSOW ID:**
Project Name: NCR Landfill Annual GW Sampling	**Lab Contact:** Judy Stone	Amherst NY	**Cooler No:**
Project Location: Witmer Rd North Tonawanda			**Carrier:** Hand Delivered
GHD Chemistry Contact:			**Airbill No:**
Sampler(s): D. Tyran / S. Gardner			**Total # of Containers:** 48

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	TAL Metals	Diss TAL Metals	Diss Cl, SO4	Diss N-nitr/nitrite	Diss Ammonia	Diss Alkalinity	Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)						HN	HN		HZ	HZ				
1	WG-11109668-050421-SG-NCR 3S	5-4-21	0905	WG	G	Y	X	X	X	X	X	X	5		
2	WG-11109668-050421-SG-NCR 4S	5-4-21	0920	WG	G	Y	X	X	X	X	X	X	5		
3	WG-11109668-050421-SG-NCR 5S	5-4-21	0945	WG	G	Y	X	X	X	X	X	X	15	X	
4	WG-11109668-050421-SG-NCR 6S	5-4-21	0755	WG	G	Y	X	X	X	X	X	X	5		
5	WG-11109668-050421-SG-NCR 13S	5-4-21	0755	WG	G	Y	X	X	X	X	X	X	~~15~~ 5	~~X~~	Partial Sample (Well Dry)
6	WG-11109668-050421-SG-EAST A	5-4-21	0815	WG	G	Y	X		X			X	3		
7	WG-11109668-050421-SG-EAST C	5-4-21	0830	WG	G	Y	X	X	X	X	X	X	5		
8	WG-11109668-050421-SG-EAST D	5-4-21	0850	WG	G	Y	X	X	X	X	X	X	5		DJT
9															
10															
11															
12															

480-184248 Chain of Custody

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

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

Notes/ Special Requirements:

Temp 3.5 #1 ICE

	Relinquished By	Company	Date	Time		Received By	Company	Date	Time
1.	Dave Tyran	GHD	5/5/21	1504	1.	[signature]	TA	5/5/21	1536
					2.				
					3.				

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

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

CRA Form: COC-10B (20110804)

Login Sample Receipt Checklist

Client: N Tonawanda Water Works

Job Number: 480-184248-1

Login Number: 184248

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Sabuda, Brendan D

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	3.3 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

NCR ANNUAL GW SAMPLING

DAILY LOG

5/3/2021 YSI PRO SERIES # G5H06212 CALABRATION USING PH 4.00 AUTO CAL LOT# 20250092 EXP. 8/28/21 (WHITE OAK)

PH 4.00 BEFORE 4.22 AFTER 4.00

COND 4.49 BEFORE 4.46 AFTER 4.49

0749 ONSITE SG/DJT WEATHER - SUN/CLOUDS 52-60°F WINDS E 5-10MPH, CHANCE OF RAIN

SET UP ON WELL EAST A DRY WELL OUT

0814 WELL EAST B OBSTRUCTED CAN'T GET PURGE OR SAMPLE FROM WELL

0819 SET UP ON EAST C PURGE WELL, WELL PURGE WATER VERY TURBID, LET SIT TO NEXT DAY THEN SAMPLE

0849 SET UP ON EAST D PURGE WELL, PURGE WATER VERY TURBID, LET SIT TO NEXT DAY THEN SAMPLE

1005 SET UP ON NCR-3S PURGE WELL DRY

1018 SET UP ON NCR-4S PURGE WELL DRY

1028 SET UP ON NCR-5S PURGE WELL DRY

1041 SET UP ON NCR-13S PURGE WELL DRY

1057 OFFSITE (DST)

1110968-01

Dan J Tyson

NCR

DAILY LOG

5/4/2021 0738 ONSITE SG/DJT WEATHER- CLOUDY, FOGGY, CHANCE OF RAIN 48-66° F WINDS WNW 0-5MPH SET UP ON NCR-13S SAMPLE WELL AFTER DRIED OUT DAY BEFORE, BLIND DUPLICATE- NCR-6S
0801 SET UP ON EAST A SAMPLE WELL AFTER DRIED OUT DAY BEFORE; SAMPLED TOTAL METALS BEFORE WENT DRY NEED ALL OTHER PERAMETERS
0824 SET UP ON EAST C SAMPLE WELL
0840 SET UP ON EAST D SAMPLE WELL
0859 SET UP ON NCR-3S SAMPLE WELL
0914 SET UP ON NCR-4S SAMPLE WELL
0933 SET UP ON NCR-5S SAMPLE WELL (MS/MSD) DJT
1010 OFFSITE

1110966 8-01

Dave J Tyran

Field Data Record Form
Meter, Turbidity (Portable) Hach 2100P and 2100Q

(QSF-421D)

Control number: NF08319
Date (mm/dd/yyyy): 05/03/2021
User (print name): S Gardner

Project number: 11109668-01
Project name: NCR Landfill Annual GW Sampling
Location: Witmer Road North Tonawanda

Additional equipment control numbers and descriptions:

10 NTU LOT # A0160 exp 9/2021
100 NTU LOT # A0163 exp 9/2021
800 NTU LOT # A0163 exp 9/2021

Field procedure before use:

Do not calibrate in the field.

	Check when completed
Check kit contents; • Meter • STABLCAL standards (2100Q) • Low 0-10, medium 0-100, high standards (2 100P) • Extra AA batteries • Sample vials	☑ ☑ ☑ ☑ ☑
Test and record standards:	☑

Gelex (2100P)/STABLCAL (2100Q) Standard	*Meter Reading*
10	9.81
100	97.5
800	780

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

Filing: Field file

Signature: Dave Tyson

This completed form is a quality record

11109668-01

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

SAMPLING CREW MEMBERS: D. Tyran / S. Gardner

DATE OF SAMPLE COLLECTION: 0 5 0 4 2 1 (M M D D Y Y)

Sample I.D. Number	Well Number	Well Volume (Gallons)	Volume Purged (Gallons)	Sample Time	Sample Description	Analysis Required	Chain-of-Custody Number	Shipping Manifest Number
* *	East A ~~NCR 3S~~	0.32	0.64	0815	CLOUDY BROWN	(1)	60260	
* *	East C ~~NCR 4S~~	4.2	12.6	0830	CLEAR LT BROWN TINT	(1)	60260	
* *	East D ~~NCR 5S~~	3.4	10.2	0850	CLOUDY BLACK	(1)	60260	
	NCR 13S							
	(MS/MSD) *							
	(Duplicate) *							
	(Rinse Blank) *							

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

Additional Comments: ** WG-11109668-050421-SG - then the well number

(1) TAL Metals, Diss TAL Metals, Cl, SO_4, Nitrate/Nitrite, Ammonia, Alkalinity

FP-5A

CRA 5723 (17)

Dave J Tyran

1110668-01

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

SAMPLING CREW MEMBERS: D Tyran / S. Gardner

DATE OF SAMPLE COLLECTION: 05/04/11 (M M D D Y Y)

Sample I.D. Number	*Well Number*	*Well Volume (Gallons)*	*Volume Purged (Gallons)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*	*Shipping Manifest Number*
**	NCR 3S	0.31	0.25	0905	CLEAR COLORLESS	(1)	60260	
**	NCR 4S	0.36	0.30	0920	CLEAR COLORLESS	(1)	60260	
**	NCR 5S	0.70	1.0	0945	CLEAR COLORLESS	(1)	60260	
**	NCR 13S	0.40	0.60	0755	CLEAR COLORLESS	(1)	60260	
**	(MS/MSD) * NCR-5S	0.70	1.0	0945	CLEAR COLORLESS	(1)	60260	
**	(Duplicate) * NCR6S	0.40	0.60	0755	CLEAR COLORLESS	(1)	60260	
	(Rinse Blank) *							

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

Additional Comments: ** WG-1110668-050421-SG- then the well Number
Blind Duplicate taken on well NCR-13S
(1) TAL Metals, Diss TAL Metals, Cl, SO4, Nitrate/Nitrite, Ammonia, Alkalinity

FP-5A

CRA 5723 (17)

Dave J Tyran

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER D TYRAN

PURGING METHOD: DEDICATED BAILER

WELL NUMBER: EAST A

ONE WELL VOLUME: 0.32 gallons

FIVE WELL VOLUMES: gallons

SOUNDED DEPTH - 29.35
INITIAL W/L - 27.32

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

WELL DRY @ 0.04

WELL VOLUME	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total)	0.32	0.04				0.04
pH	6.72	7.26				6.99
TEMPERATURE	11.4	10.7				11.0
CONDUCTIVITY	2.08	2.02				2.05
TURBIDITY	9.65	525				267
COLOR	CLEAR COLORLESS	CLOUDY BROWN				
ODOR	NONE	NONE				NONE
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 David Tyran

DATE PRINT NAME SIGNATURE

FP-4C 29.35 - 27.32 = 2.03 x .16 = 0.32 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: DEDICATED BAILER

SOUNDED DEPTH - 47.4

WELL NUMBER: EAST C

INITIAL W/L - 20.86

ONE WELL VOLUME: 4.2 gallons

FIVE WELL VOLUMES: 21.0 gallons

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

WELL VOLUME	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total)	4.2	8.4	12.6			12.6/4.2
pH	6.69	6.63	6.60			19.92/6.64
TEMPERATURE	11.8	11.5	11.8			35.1/11.7
CONDUCTIVITY	26.79	27.39	26.96			81.14/27.05
TURBIDITY	244	212	128			584/194.7
COLOR	DARK BROWN	SAME	SAME			
ODOR	LEACHATE LIKE ODOR	SAME	SAME			
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 David Tyran

DATE PRINT NAME SIGNATURE

FP-4C 47.4 - 20.86 = 26.54 x .16 = 4.2 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER D TYRAN

PURGING METHOD: WATERRA FOOT VALVE DEDICATED BAILER (SS)

SOUNDED DEPTH - 37.85

INITIAL W/L - 16.49

WELL NUMBER: EAST D

ONE WELL VOLUME: 3.4 gallons

FIVE WELL VOLUMES: 17 gallons

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

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	3.4	6.8	10.2			10.2/3.4
pH	6.70	6.88	6.92			20.5/6.83
TEMPERATURE	15.9	13.9	13.6			43.4/14.5
CONDUCTIVITY	15.01	14.72	14.63			44.36/14.79
TURBIDITY	>1000	>1000	>1000			>1000
COLOR	CLOUDY BLACK	SAME	SAME			
ODOR	PETROLEUM LIKE ODOR	SAME	SAME			
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 — DATE

David Tyran — PRINT NAME

David Tyran — SIGNATURE

FP-4C 37.85 - 16.49 = 21.36 x .16 = 3.4 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: DEDICATED BAILER

SOUNDED DEPTH - 6.08
INITIAL W/L - 4.11

WELL NUMBER: NCR-3S

ONE WELL VOLUME: 0.31 gallons

FIVE WELL VOLUMES: gallons

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

WELL DRY @ 0.25 GAL

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	0.31					0.31
pH	7.87					7.87
TEMPERATURE	9.7					9.7
CONDUCTIVITY	1.18					1.18
TURBIDITY	20.4					20.4
COLOR	CLEAR COLORLESS					
ODOR	NONE					
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 — DATE

David Tyran — PRINT NAME

David Tyran — SIGNATURE

FP-4C 6.08 - 4.11 = 1.97 x .16 = 0.31 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 05/03/21 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: DEDICATED BAILER

SOUNDED DEPTH - 5.18
INITIAL W/L - 2.93

WELL NUMBER: NCR-4S

ONE WELL VOLUME: 0.36 gallons

FIVE WELL VOLUMES: 1.8 gallons

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

WELL DRY @ 0.36 GAL

WELL VOLUME	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total)	0.36					0.36
pH	7.90					7.90
TEMPERATURE	11.6					11.6
CONDUCTIVITY	0.88					0.88
TURBIDITY	40.0					40.0
COLOR	CLEAR, COLORLESS					
ODOR	NONE					
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 — DATE

David Tyran — PRINT NAME

David Tyran — SIGNATURE

FP-4C 5.18 - 2.93 = 2.25 x .16 = 0.36 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: DEDICATED BAILER

SOUNDED DEPTH- 11.30
INITIAL W/L - 6.89

WELL NUMBER: NCR-5S

ONE WELL VOLUME: 0.70 gallons

FIVE WELL VOLUMES: 3.5 gallons

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

WELL DRY @ 1 GAL

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	0.70					0.70
pH	8.05					8.05
TEMPERATURE	9.8					9.8
CONDUCTIVITY	0.73					0.73
TURBIDITY	32.1					32.1
COLOR	CLEAR COLORLESS					
ODOR	NONE					
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 — DATE

David Tyran — PRINT NAME

David Tyran — SIGNATURE

FP-4C 11.30 - 6.89 = 4.41 x .16 = 0.70 GAL

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 5 0 3 2 1 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: DEDICATED BAILER

SOUNDED DEPTH - 7.98
INITIAL W/L - 5.47

WELL NUMBER: NCR-13S

ONE WELL VOLUME: 0.40 gallons

FIVE WELL VOLUMES: 2 gallons

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

WELL DRY @ 0.60 GAL

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	0.40					0.40
pH	7.67					7.67
TEMPERATURE	9.5					9.5
CONDUCTIVITY	1.10					1.10
TURBIDITY	11.0					11.0
COLOR	CLEAR COLORLESS					
ODOR	NONE					
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/2021 — DATE

David Tyran — PRINT NAME

David Tyran — SIGNATURE

FP-4C 7.98 - 5.47 = 2.51 x 1.16 = 0.40 GAL

CHAIN OF CUSTODY RECORD

COC NO.: 60260

PAGE 1 OF 1

Address: Niagara Falls Office

Phone: _____ **Fax:** _____

Project No/ Phase/Task Code: 11131668-01	**Laboratory Name:** Executive TestAmerica	**Lab Location:** Amherst NY	**SSOW ID:**
Project Name: Niagara Landfill Annual GW Sampling	**Lab Contact:** Judy Stone		**Cooler No:**
Project Location: Witmer Rd North Tonawanda			**Carrier:** Hand Delivered
GHD Chemistry Contact:			**Airbill No:**
Sampler(s): B. Tyran / S. Gardner			**Total # of Containers:** 48

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	TAL Metals	Diss TAL Metals	Diss Cl SO4	Diss NH3	Diss Alkalinity	Alkalinity							Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)						HN	HN		HP	HP										
1	WG-1113166-050421-SG-NCR53	5-4-21	0905	WG	G	Y	X	X	X	X	X	X							7		
2	WG-1113166-050421-SG-NCR43	5-4-21	0920	WG	G	Y	X	X	X	X	X	X							5		
3	WG-1113166-050421-SG-NCR53	5-4-21	0945	WG	G	Y	X	X	X	X	X	X							15	X	
4	WG-1113166-050421-SG-NCR65	5-4-21	0755	WG	G	Y	X	X	X	X	X	X							5		
5	WG-1113166-050421-SG-NCR133	5-4-21	0755	WG	G	Y	X	X	X	X	X	X							15	X	MS/MSD
6	WG-1113166-050421-SG-EAST A	5-4-21	0845	WG	G	Y	X		X			X							3		Trip Blank (Yes)
7	WG-1113166-050421-SG-EAST C	5-4-21	0930	WG	G	Y	X	X	X	X	X	X							5		
8	WG-1113166-050421-SG-EAST D	5-4-21	0850	WG	G	Y	X	X	X	X	X	X							5		
9																					
10																					
11																					
12																					

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

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

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	GHD	5/5/21	1504	1.			
2.				2.			
3.				3.			

The Chain Of Custody is a Legal Document – All Fields Must Be Completed Accurately

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

CRA Form: COC-10B (20110804)

APPENDIX C

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

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

DEC 11 2018

Mr. Eric Felter
Project Coordinator
Parsons Engineering Science, Inc.
40 LaRiviere Drive, Suite 350
Buffalo, New York 14202

Re: Request for OM&M Plan Modifications; Niagara County Refuse Site, Wheatfield, New York.

Dear Mr. Felter:

This letter is in response to your letter dated August 20, 2018 to the U.S. Environmental Protection Agency (EPA) requesting modifications to the Operations, Maintenance, and Monitoring (OM& M) Plan, dated December 2000, for the Niagara County Refuse Superfund site in Wheatfield, New York. The request is made on behalf of the potentially responsible parties for the site, and seeks EPA approval for the following changes:

- Reduce the analytical suite associated with the OM&M responsibilities;
- Remove the data validation requirement; and
- Change monitoring report requirement from quarterly to annually.

Specifically, your letter presents documentation to support the elimination of sampling for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and mercury from groundwater sample analysis based on these compounds and element being consistently below New York State Department of Environmental Conservation (NYSDEC) ambient water quality standards and New York State Department of Health (NYSDOH) and EPA maximum contaminant levels, and generally below detection limits, since 2005. Additionally, your letter cites that data validation has been completed on groundwater analytical results since the initiation of OM&M sampling in 2001, initially performed quarterly, currently collected annually, and that the substantial volume of validated data collected supports the elimination of the data validation requirement. Finally, you note that reporting has been performed quarterly since the OM&M Plan became effective in 2001 and since groundwater monitoring is performed annually, it would be more economical to provide annual reports, which in addition to providing the groundwater analytical results, would summarize the monthly inspections as well and any other relevant information collected throughout the year.

EPA has consulted with NYSDEC and agrees with all these proposals save for the data validation requirement. Reporting should be done annually within two to three months of groundwater sampling in order to provide current results and VOCs, SVOCs, and mercury can be eliminated from

analysis. Following an evaluation by EPA's Division of Environmental Science and Assessment, Monitoring and Assessment Branch, it has been determined that continued validated groundwater monitoring data is required only for metals in order to support the data summaries in EPA's five-year reviews.

Additionally, based on comments provided by NYSDEC, EPA and NYSDEC provide the following observations on the OM&M reports:

- Concentration versus time graphs for the naturally occurring metals (i.e., aluminum, calcium, iron, magnesium, manganese, potassium, and sodium) can be omitted. Concentration versus time graphs should only be completed for consistently occurring toxic metals.
- Tables only showing water level elevations do not demonstrate the effectiveness of the perimeter collection system (PCS). Future reports should clarify how water level data can be utilized with other data to demonstrate the effectiveness of the PCS. Additionally, past reports have indicated that water level monitoring point East "B" has collapsed. If water level monitoring is to be continued to be used to demonstrate PCS effectiveness, this point should be repaired or replaced.
- The PCS is not shown on any of the figures in the OM&M reports. Figure 1.1 should be modified to include the PCS as well as the location of site access roads.
- There is no NYSDEC groundwater standard for aluminum. The standard of 100 ug/L included in the OM&M reports is for surface water and should be removed from the appropriate table.
- The NYSDEC groundwater standard for copper is 200 ug/L, not 5 ug/L as shown in the OM&M reports. The table should be corrected accordingly.
- There is no NYSDEC groundwater standard for vanadium. The standard of 14 ug/L included in the OM&M reports is for surface water and should be removed from the appropriate table.

If you have any questions regarding this matter, please contact me at (212) 637-4278 or email me at negrelli.mike@epa.gov.

Sincerely yours,

Michael Negrelli, Remedial Project Manager
New York Remediation Branch

cc: John Frankenthal – BP/Atlantic Richfield Company
B. Sadowski - NYSDEC
Michael Mintzer – EPA/ORC

APPENDIX D
DATA VALIDATION REPORT

DATA USABILITY SUMMARY REPORT

2021 ANNUAL GROUNDWATER SAMPLING

NIAGARA COUNTY REFUSE SITE

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212

JUNE 2021

TABLE OF CONTENTS

LIST OF ATTACHMENTS

SECTION 1 DATA USABILITY SUMMARY

Groundwater samples were collected from the Niagara County Refuse site in North Tonawanda, New York on May 4, 2021. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

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

The analytical laboratory for this project was Eurofins – Environment Testing America in Amherst, New York. This laboratory is certified to conduct project analyses through New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) and 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 15 days for the groundwater samples.

The data packages received from Eurofins 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 Eurofins within one day of sampling. All samples were received intact and in good condition at Eurofins.

1.3 Laboratory Analytical Methods

Groundwater samples were collected from the site and analyzed for total and dissolved metals, dissolved chloride, dissolved sulfate, dissolved carbonate and bicarbonate alkalinity, dissolved nitrate-nitrite, and dissolved ammonia. Summaries of issues concerning this laboratory analysis are presented in Subsections 1.3.1 and 1.3.2. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) are discussed in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,
"UJ" - estimated and not detected at the value given,
"J" - estimated at the value given,
"J+" - estimated biased high at the value given,
"J-" - estimated biased low at the value given,
"N" - presumptive evidence at the value given, and
"R" - unusable value.

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

1.3.1 Metals Analysis

Groundwater samples collected from the site were analyzed for total and dissolved metals using the USEPA SW-846 6010C analytical method. Certain metals results were qualified as estimated based upon instrument calibrations and field duplicate precision; and qualified as not detected based upon blank contamination. All of the metals data were considered usable and 100% complete for the groundwater data presented by Eurofins. PARCCS requirements were met.

1.3.2 General Chemistry Analysis

Groundwater samples collected from the site were analyzed for dissolved chloride and sulfate using the USEPA 300.0 analytical method; dissolved carbonate and bicarbonate alkalinity using the USEPA 310.2 analytical method; dissolved nitrate-nitrite using the USEPA 353.2 analytical method; and dissolved ammonia using the USEPA 350.1 analytical method. Certain metals results were qualified as estimated based upon matrix spike recoveries. All of the general chemistry data were considered usable and 100% complete for the groundwater data presented by Eurofins. PARCCS requirements were met.

SECTION 2 DATA VALIDATION REPORT

2.1 Groundwater Data

Data review has been completed for data packages generated by Eurofins containing groundwater samples collected from the Niagara County Refuse site. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The samples were contained within sample delivery group (SDG) 480-184248-1. The validated laboratory data are presented in Attachment A.

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

2.1.1 Total and Dissolved 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 blank, and laboratory preparation blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries
- Laboratory duplicate precision
- Laboratory control sample (LCS) 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, continuing calibration verifications, and field duplicate precision as discussed below.

Blank Contamination

The laboratory preparation blank associated with the project samples contained total iron and total zinc below the reporting limits at concentrations of 0.0233 and 0.00159 mg/L, respectively. Therefore, results for these analytes less than validation action concentrations were considered not detected and qualified “U” for the affected samples.

Continuing Calibration Verifications

All continuing calibration verifications were analyzed at the appropriate frequency with recoveries within QC limits. All low reference standard verifications were analyzed at the appropriate frequency with recoveries within the 70-130%R QC limit with the exception of the high verification recoveries for total calcium (142%R), total iron (291%R), total manganese (149%R), and total potassium (147%R) associated with sample EAST D. Therefore, positive results for these analytes were considered estimated, possibly biased high, and qualified “J+” for the affected sample.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the precision for total sodium (49.3%RPD) associated with sample NCR-13S and its field duplicate sample NCR-6S. Therefore, results for these analytes were considered estimated and qualified "J" for the affected parent sample and field duplicate.

Usability

All metals sample results were considered usable following data validation.

Summary

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

2.1.2 General Chemistry

The following items were reviewed for compliancy in the general chemistry analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration blank, and laboratory preparation blank contamination
- MS/MSD recoveries
- Laboratory duplicate precision
- Laboratory control sample (LCS) recoveries
- 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 and MS/MSD recoveries as discussed below.

Blank Contamination

The laboratory preparation blank associated with samples NCR-3S and NCR-5S contained bicarbonate alkalinity below the reporting limit at a concentration of 5.28 mg/L; the laboratory preparation blanks associated with samples EAST C and EAST D contained ammonia below the reporting limit at concentrations ranging 0.00997-0.0121 mg/L; and the continuing calibration blanks associated with the project samples contained ammonia below the reporting limit at concentrations ranging 0.0104-0.0138 mg/L. Validation qualification was not required for the affected samples.

MS/MSD Recoveries

All MS/MSD recoveries were considered acceptable and within QC limits with the exception of the low MSD recovery for ammonia (81%R; QC limit 90-110%R) associated with sample NCR-5S. Therefore, the nondetected ammonia result was considered estimated and qualified "UJ" for the affected sample.

Usability

All general chemistry sample results were considered usable following data validation.

Summary

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

ATTACHMENT A – VALIDATED LABORATORY DATA

		Location ID:	EAST-A		EAST-C		EAST-D		NCR-3S	
		Sample ID:	WG-11109668-050421-SG-EAST A		WG-11109668-050421-SG-EAST C		WG-11109668-050421-SG-EAST D		WG-11109668-050421-SG-NCR3S	
		Sample Type:	N		N		N		N	
		Matrix:	WG		WG		WG		WG	
		SDG:	4801842481		4801842481		4801842481		4801842481	
		Lab Sample ID:	480-184248-6		480-184248-7		480-184248-8		480-184248-1	
		Sampled:	5/4/2021		5/4/2021		5/4/2021		5/4/2021	
Method	CAS_RN	Chemical Name	Unit							
E300.0	16887-00-6	Chloride (As Cl)	mg/l	230		3010		1480		2.5	U
E300.0	14808-79-8	Sulfate (As SO4)	mg/l	85.7		1920		17.6	J	86.6	
E310.2	ALKB	Alkalinity, Bicarbonate (As CaCO3)	mg/l	666		19900		6780		488	
E310.2	ALKC	Alkalinity, Carbonate (As CaCO3)	mg/l	200	U	2000	U	800	U	50	U
E350.1	7664-41-7	Nitrogen, Ammonia (As N)	mg/l			1360		0.62		0.02	U
E353.2	NO3NO2N	Nitrogen, Nitrate-Nitrite	mg/l			0.05	U	0.22		0.51	
		TOTAL METALS									
SW6010C	7429-90-5	Aluminum	mg/l	2.2		7.4		1.5		0.2	U
SW6010C	7440-36-0	Antimony	mg/l	0.02	U	0.1	U	0.02	U	0.02	U
SW6010C	7440-38-2	Arsenic	mg/l	0.01	U	0.057		0.015		0.01	U
SW6010C	7440-39-3	Barium	mg/l	0.45		0.19		0.62		0.048	
SW6010C	7440-41-7	Beryllium	mg/l	0.002	U	0.002	U	0.002	U	0.002	U
SW6010C	7440-43-9	Cadmium	mg/l	0.0014		0.01		0.0029		0.001	U
SW6010C	7440-70-2	Calcium	mg/l	193		2820		135	J+	121	
SW6010C	7440-47-3	Chromium, Total	mg/l	0.013		0.24		0.084		0.004	U
SW6010C	7440-48-4	Cobalt	mg/l	0.0029	J	0.2		0.023		0.004	U
SW6010C	7440-50-8	Copper	mg/l	0.048		0.05	U	0.028		0.004	J
SW6010C	7439-89-6	Iron	mg/l	64.3		1490		77.6	J+	0.06	
SW6010C	7439-92-1	Lead	mg/l	0.15		0.6		0.28		0.005	U
SW6010C	7439-95-4	Magnesium	mg/l	122		1380		414		54.1	
SW6010C	7439-96-5	Manganese	mg/l	0.41		18.2		0.12	J+	0.0079	
SW6010C	7440-02-0	Nickel	mg/l	0.018		1.1		0.22		0.0029	J
SW6010C	7440-09-7	Potassium	mg/l	17.7		889		372	J+	1.4	
SW6010C	7782-49-2	Selenium	mg/l	0.015	U	0.075	U	0.015	U	0.015	U
SW6010C	7440-22-4	Silver	mg/l	0.003	U	0.015	U	0.003	U	0.003	U
SW6010C	7440-23-5	Sodium	mg/l	70.3		2370		743		6.4	
SW6010C	7440-28-0	Thallium	mg/l	0.02	U	0.02	U	0.02	U	0.02	U
SW6010C	7440-62-2	Vanadium	mg/l	0.0049	J	0.026		0.011		0.005	U
SW6010C	7440-66-6	Zinc	mg/l	0.16		27.9		0.59		0.0089	J
		DISSOLVED METALS									
SW6010C	7429-90-5	Aluminum	mg/l			6.8		1.5		0.2	U
SW6010C	7440-36-0	Antimony	mg/l			0.1	U	0.02	U	0.02	U
SW6010C	7440-38-2	Arsenic	mg/l			0.044		0.017		0.015	U
SW6010C	7440-39-3	Barium	mg/l			0.18		0.62		0.049	
SW6010C	7440-41-7	Beryllium	mg/l			0.002	U	0.002	U	0.002	U
SW6010C	7440-43-9	Cadmium	mg/l			0.0083	J	0.0041		0.002	U
SW6010C	7440-70-2	Calcium	mg/l			2650		122		117	
SW6010C	7440-47-3	Chromium, Total	mg/l			0.23		0.083		0.004	U
SW6010C	7440-48-4	Cobalt	mg/l			0.19		0.027		0.004	U
SW6010C	7440-50-8	Copper	mg/l			0.05	U	0.025		0.0031	J
SW6010C	7439-89-6	Iron	mg/l			1410		98.5		0.05	U
SW6010C	7439-92-1	Lead	mg/l			0.46		0.23		0.01	U
SW6010C	7439-95-4	Magnesium	mg/l			1370		446		57.4	
SW6010C	7439-96-5	Manganese	mg/l			17.3		0.14		0.0057	
SW6010C	7440-02-0	Nickel	mg/l			1		0.22		0.0034	J
SW6010C	7440-09-7	Potassium	mg/l			830		379		1.2	
SW6010C	7782-49-2	Selenium	mg/l			0.025	U	0.025	U	0.025	U
SW6010C	7440-22-4	Silver	mg/l			0.03	U	0.006	U	0.006	U
SW6010C	7440-23-5	Sodium	mg/l			2220		1580		6.4	
SW6010C	7440-28-0	Thallium	mg/l			0.02	U	0.02	U	0.02	U
SW6010C	7440-62-2	Vanadium	mg/l			0.016	J	0.014		0.005	U
SW6010C	7440-66-6	Zinc	mg/l			26.5		0.73		0.0085	J

		Location ID:	NCR-4S		NCR-5S		NCR-13S		NCR-13S	
		Sample ID:	WG-11109668-050421-SG-NCR4SN		WG-11109668-050421-SG-NCR5SN		WG-11109668-050421-SG-NCR13SN		WG-11109668-050421-SG-NCR6SFD	
		Sample Type:	WG		WG		WG		WG	
		Matrix:	4801842481		4801842481		4801842481		4801842481	
		SDG:	480-184248-2		480-184248-3		480-184248-5		480-184248-4	
		Lab Sample ID:	5/4/2021		5/4/2021		5/4/2021		5/4/2021	
		Sampled:								
Method	CAS_RN	Chemical Name	Unit							
E300.0	16887-00-6	Chloride (As Cl)	mg/l	1	U	1.1		2.5	U	2.5	U
E300.0	14808-79-8	Sulfate (As SO4)	mg/l	71.8		5.1		93.7		84.5	
E310.2	ALKB	Alkalinity, Bicarbonate (As CaCO3)	mg/l	425		400		616		687	
E310.2	ALKC	Alkalinity, Carbonate (As CaCO3)	mg/l	50	U	50	U	200	U	200	U
E350.1	7664-41-7	Nitrogen, Ammonia (As N)	mg/l	0.02	U	0.02	UJ	0.02	U	0.02	U
E353.2	NO3NO2N	Nitrogen, Nitrate-Nitrite	mg/l	0.043	J	0.033	J	0.049	J	0.045	J
		TOTAL METALS									
SW6010C	7429-90-5	Aluminum	mg/l	0.63		0.18	J	0.2	U	0.2	U
SW6010C	7440-36-0	Antimony	mg/l	0.02	U	0.02	U	0.02	U	0.02	U
SW6010C	7440-38-2	Arsenic	mg/l	0.01	U	0.01	U	0.01	U	0.01	U
SW6010C	7440-39-3	Barium	mg/l	0.055		0.14		0.063		0.051	
SW6010C	7440-41-7	Beryllium	mg/l	0.002	U	0.002	U	0.002	U	0.002	U
SW6010C	7440-43-9	Cadmium	mg/l	0.001	U	0.001	U	0.001	U	0.001	U
SW6010C	7440-70-2	Calcium	mg/l	116		86		151		151	
SW6010C	7440-47-3	Chromium, Total	mg/l	0.0011	J	0.0042		0.004	U	0.004	U
SW6010C	7440-48-4	Cobalt	mg/l	0.004	U	0.004	U	0.004	U	0.004	U
SW6010C	7440-50-8	Copper	mg/l	0.002	J	0.0031	J	0.0021	J	0.0025	J
SW6010C	7439-89-6	Iron	mg/l	1.1		0.15		0.046		0.032	
SW6010C	7439-92-1	Lead	mg/l	0.005	U	0.005	U	0.005	U	0.005	U
SW6010C	7439-95-4	Magnesium	mg/l	35		39.9		58.8		66.7	
SW6010C	7439-96-5	Manganese	mg/l	0.023		0.0033		0.003	U	0.00062	J
SW6010C	7440-02-0	Nickel	mg/l	0.01	U	0.0026	J	0.01	U	0.01	U
SW6010C	7440-09-7	Potassium	mg/l	9		0.28	J	1		0.85	
SW6010C	7782-49-2	Selenium	mg/l	0.015	U	0.015	U	0.015	U	0.015	U
SW6010C	7440-22-4	Silver	mg/l	0.003	U	0.003	U	0.003	U	0.003	U
SW6010C	7440-23-5	Sodium	mg/l	21.9		8		8.4	J	13.9	J
SW6010C	7440-28-0	Thallium	mg/l	0.02	U	0.02	U	0.02	U	0.02	U
SW6010C	7440-62-2	Vanadium	mg/l	0.005	U	0.005	U	0.005	U	0.005	U
SW6010C	7440-66-6	Zinc	mg/l	0.021		0.0024	J	0.01	U	0.0021	J
		DISSOLVED METALS									
SW6010C	7429-90-5	Aluminum	mg/l	1.2		0.07	J	0.2	U	0.2	U
SW6010C	7440-36-0	Antimony	mg/l	0.02	U	0.02	U	0.02	U	0.02	U
SW6010C	7440-38-2	Arsenic	mg/l	0.015	U	0.015	U	0.015	U	0.015	U
SW6010C	7440-39-3	Barium	mg/l	0.057		0.14		0.061		0.055	
SW6010C	7440-41-7	Beryllium	mg/l	0.002	U	0.002	U	0.002	U	0.002	U
SW6010C	7440-43-9	Cadmium	mg/l	0.002	U	0.002	U	0.002	U	0.002	U
SW6010C	7440-70-2	Calcium	mg/l	105		77		142		137	
SW6010C	7440-47-3	Chromium, Total	mg/l	0.0018	J	0.0012	J	0.004	U	0.004	U
SW6010C	7440-48-4	Cobalt	mg/l	0.004	U	0.004	U	0.004	U	0.004	U
SW6010C	7440-50-8	Copper	mg/l	0.0026	J	0.0024	J	0.002	J	0.0019	J
SW6010C	7439-89-6	Iron	mg/l	2.1		0.068		0.05		0.031	J
SW6010C	7439-92-1	Lead	mg/l	0.01	U	0.01	U	0.01	U	0.01	U
SW6010C	7439-95-4	Magnesium	mg/l	35.4		41.9		61.4		61.5	
SW6010C	7439-96-5	Manganese	mg/l	0.02		0.0016	J	0.003	U	0.00058	J
SW6010C	7440-02-0	Nickel	mg/l	0.0013	J	0.0019	J	0.01	U	0.0021	J
SW6010C	7440-09-7	Potassium	mg/l	8.4		0.32	J	0.9		0.82	
SW6010C	7782-49-2	Selenium	mg/l	0.025	U	0.025	U	0.025	U	0.025	U
SW6010C	7440-22-4	Silver	mg/l	0.006	U	0.006	U	0.006	U	0.006	U
SW6010C	7440-23-5	Sodium	mg/l	20.9		9.1		9.6		11.1	
SW6010C	7440-28-0	Thallium	mg/l	0.02	U	0.02	U	0.02	U	0.02	U
SW6010C	7440-62-2	Vanadium	mg/l	0.005	U	0.005	U	0.005	U	0.005	U
SW6010C	7440-66-6	Zinc	mg/l	0.03		0.0015	J	0.0018	J	0.0022	J

APPENDIX E
MONTHLY INSPECTION LOGS

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 06/24/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 06/24/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 06/24/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 07/23/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 07/23/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 07/23/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 08/19/20 (MM DD YY)

INSPECTOR(S): Britt Gebhardt

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 08/19/20 (MM DD YY)

INSPECTOR(S): Britt Gebhardt

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	None
4 Other Site Systems			
 Perimeter Fence	- integrity of fence	None	None
	- integrity of gates	None	None
	- integrity of locks	None	None
	- placement and condition of signs	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 08/19/20 (MM DD YY)

INSPECTOR(S): Britt Gebhardt

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	None
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	None
☒ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	None
	- flow obstructions	None	None
☒ Gas Vents ☒ Wells	- intact/damage	None	None
	- locks secure	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 09/23/20
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 09/23/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 09/23/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/21/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/21/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/21/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/19/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/19/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/19/20 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/22/20
(MM DD YY)

INSPECTOR(S): Britt Gebhardt

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/22/20 (MM DD YY)

INSPECTOR(S): Britt Gebhardt

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	None
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	None
☑	- integrity of gates	None	None
☑	- integrity of locks	None	None
☑	- placement and condition of signs	None	None

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/22/20 (MM DD YY)

INSPECTOR(S): Britt Gebhardt

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	None
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	None
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	None
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	None
☑ Wells	- locks secure	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 01/20/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 01/20/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 01/20/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 02/16/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 02/16/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 02/16/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 03/18/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 03/18/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 03/18/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 04/22/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 04/22/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 04/22/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 05/19/21
(MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 05/19/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 05/19/21 (MM DD YY)

INSPECTOR(S): Tony Manns

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

FORM 1

APPENDIX F
MAINTENANCE RECORD LOGS

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 07/23/20

   Time 1115

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Pulled WWD pump.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Pulled pump up out of well and reattached discharge hose.

Description of Material Removed: N/A

Problems/Comments: Hose came lose, pump was discharging back into well.
Everything is back up and running well.

DATE 07/23/2020 INSPECTOR INSPECTOR'S SIGNATURE

FORM 2 Tony Manns

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 08/27/20

   Time 0930

   Scheduled/Unscheduled: Scheduled

   Type of Maintenance Performed: PM on Wet Well A

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Removed submersible pump, and performed PM.

Description of Material Removed: N/A

Problems/Comments: WWA is functioning normally.

08/27/20	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 10/07/20

Time 0900

Scheduled/Unscheduled: Unscheduled

Type of Maintenance Performed: Replaced float switch on Wet Well A

2. Company Performing Maintenance GHD

Name: Tony Manns

Address: 2055 Niagara Falls blvd

Niagara Falls, NY 14304

Contact Name: (716) 818-6241

3. Methods Used: Removed faulty unit. Replaced with new.

Description of Material Removed: Faulty float switch

Problems/Comments: Mice chewed through wiring on existing unit. WWA functioning normal after replacement.

10/07/20	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 11/19/20

   Time 0930

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Remove downed trees on main road coming onto site.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Cut trees into manageable pieces. Move them off to the side of the road.

Description of Material Removed: N/A

Problems/Comments: Trees must have toppled over during the last wind storm.

DATE 11/19/2020 INSPECTOR Tony Manns INSPECTOR'S SIGNATURE Tony

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 12/23/20

Time 0730

Scheduled/Unscheduled: Unscheduled

Type of Maintenance Performed: Replaced 2" nipple on pump in WWD

2. Company Performing Maintenance GHD

Name: Tony Manns

Address: 2055 Niagara Falls blvd

Niagara Falls, NY 14304

Contact Name: (716) 818-6241

3. Methods Used: Removed busted nipple. Replaced with new.

Description of Material Removed: Bad 2" nipple on pump.

Problems/Comments: Unit was leaking throgh galvanized 2" nipple.

12/23/20	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 01/20/21

   Time 1030

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Removed fallen tree from South West corner of property.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Threw the broken pieces back over the fence into the woods.

Description of Material Removed: N/A

Problems/Comments: Dead tree toppled over. No damage to the fence, tree was rotted.

01/20/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 01/27/21

   Time 1030

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Cut down small trees that were starting to block the main gate..

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Recriprocating saw.

Description of Material Removed: N/A

Problems/Comments: Main gate to enter property was starting to get overrun with branches.

01/27/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 03/11/21

   Time 1000

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Removed downed tree from amin driveway.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Recriprocating saw.

Description of Material Removed: N/A

Problems/Comments: Back to normal..

03/11/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 3/18/202021

   Time 0945

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Removed garbage that blew on to the site over the winter..

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Walked around with a garbage bag and picked up garbage.

Description of Material Removed: Garbage that blew on to site.

Problems/Comments: Site looks much cleaner.

03/18/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 03/24/21

   Time 1030

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Replaced broken pump in WWC.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Removed broken pump, rewired new pump..

Description of Material Removed: Broken pump.

Problems/Comments: Back to normal..

03/24/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 5/11/2021

   Time 0915

   Scheduled/Unscheduled: Unscheduled

   Type of Maintenance Performed: Replaced broken pump in WWC.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Removed broken pump, rewired new pump..

Description of Material Removed: Broken pump.

Problems/Comments: Looked over pump, can't find anything wrong. Going to send unit to manufacturer for possible warranty work, or replacement.

05/11/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 5/11/2021

   Time 0915

   Scheduled/Unscheduled: scheduled

   Type of Maintenance Performed: Replaced totalizer.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Replaced the totailzer in WWA.

Description of Material Removed: Original totalizer

Problems/Comments: Want to make sure the unit is reading correctly.

5/11/2021	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 5/19/2021

   Time 1000

   Scheduled/Unscheduled: Scheduled

   Type of Maintenance Performed: Trim around all wet wells, monitoring wells, pizometers, etc.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Gas powered weed wacker.

Description of Material Removed: N/A

Problems/Comments: Trying to keep the grass very short around all wells, and building. Hoping it helps with the ticks.

05/19/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: Tony Manns

1. Date 06/02/21

   Time 1000

   Scheduled/Unscheduled: Scheduled

   Type of Maintenance Performed: Yearly maintenaance on Wet Well B.

2. Company Performing Maintenance GHD

   Name: Tony Manns

   Address: 2055 Niagara Falls blvd

   Niagara Falls, NY 14304

   Contact Name: (716) 818-6241

3. Methods Used: Pulled pump, cleaned pump, checked connections.

Description of Material Removed: N/A

Problems/Comments: Unit running well.

06/02/21	Tony Manns	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

APPENDIX G
WATER LEVEL RECORDS

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 06/24/20 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1252	598.93	27.63	571.30
EAST "B"	1305	596.23	Dry	596.23
EAST "C"	1226	598.69	21.50	577.19
EAST "D"	1218	593.20	16.74	576.46
NCR-3S	1153	579.60	Dry	579.60
NCR-4S	1235	577.80	4.61	573.19
NCR-5S	1325	579.34	Dry	579.34
NCR-13S	1117	577.15	7.71	569.44

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1041		2' 11"
WW B	1242		3' 4"
WW C	1157		2' 9"
WW D	1121		3' 2"

Total System Flow	Time of Measurement
21674	1043

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 07/23/20 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1201	598.93	27.32	571.61
EAST "B"	1152	596.23	Dry	596.23
EAST "C"	1113	598.69	21.72	576.97
EAST "D"	1100	593.20	17.61	575.59
NCR-3S	1033	579.60	6.39	573.21
NCR-4S	1144	577.80	Dry	577.80
NCR-5S	0953	579.34	Dry	579.34
NCR-13S	1016	577.15	7.87	569.28

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1011		3' 1"
WW B	1127		2' 10"
WW C	1039		3' 1"
WW D	1027		3' 8"

Total System Flow	Time of Measurement
021704	1012

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 8/19/20 (MM DD YY)

CREW MEMBERS: Britt Gebhardt

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1216	598.93	27.07	571.86
EAST "B"	1223	596.23	Dry	596.23
EAST "C"	1312	598.69	21.70	576.99
EAST "D"	1258	593.20	17.35	575.85
NCR-3S	1253	579.60	6.38	573.22
NCR-4S	1243	577.80	Dry	577.80
NCR-5S	1105	579.34	dry	579.34
NCR-13S	1209	577.15	7.92	569.23

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1202		3.4
WW B	1230		2.7
WW C	1250		1.7
WW D	1238		2.5

Total System Flow	Time of Measurement
021721	1200

x 1000 Gallons

Water Level Meter: NF08276

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 09/23/20 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1126	598.93	27.08	571.85
EAST "B"	1122	596.23	Dry	596.23
EAST "C"	1055	598.69	21.58	577.11
EAST "D"	1050	593.20	17.40	575.80
NCR-3S	1045	579.60	Dry	573.21
NCR-4S	1104	577.80	Dry	577.80
NCR-5S	1016	579.34	Dry	579.34
NCR-13S	1031	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1027		3' 1"
WW B	1111		3' 3"
WW C	1047		3' 4"
WW D	1037		3' 7"

Total System Flow	Time of Measurement
021738	1022

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 10/14/20 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1022	598.93	27.21	571.72
EAST "B"	1012	596.23	Dry	596.23
EAST "C"	0955	598.69	21.64	577.05
EAST "D"	0950	593.20	17.34	575.86
NCR-3S	0944	579.60	Dry	579.60
NCR-4S	1001	577.80	Dry	577.80
NCR-5S	0912	579.34	Dry	579.34
NCR-13S	0927	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0921		3' 2"
WW B	1007		3' 5"
WW C	0946		2' 11"
WW D	0933		3' 4"

Total System Flow	Time of Measurement
021747	0922

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 11/19/20 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1206	598.93	27.20	571.73
EAST "B"	1155	596.23	Dry	596.23
EAST "C"	1133	598.69	21.72	576.97
EAST "D"	1122	593.20	17.32	575.88
NCR-3S	1112	579.60	Dry	579.60
NCR-4S	1139	577.80	Dry	577.80
NCR-5S	1047	579.34	Dry	579.34
NCR-13S	1101	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1056		3' 1"
WW B	1148		3' 2"
WW C	1114		2' 11"
WW D	1107		3' 4"

Total System Flow	Time of Measurement
021760	1057

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 12/16/2020 (MM DD YY)

CREW MEMBERS: Britt Gebhardt

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1052	598.93	27.3	571.63
EAST "B"	1058	596.23	Dry	596.23
EAST "C"	1142	598.69	21.8	576.89
EAST "D"	1131	593.20	17.36	575.84
NCR-3S	1123	579.60	4.41	575.19
NCR-4S	1110	577.88	3.84	574.04
NCR-5S	1028	579.34	Dry	579.34
NCR-13S	1044	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1040		3' 4"
WW B	1106		3' 0"
WW C	1121		2' 10"
WW D	1115		3' 2"

Total System Flow	Time of Measurement
22066	1039

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 01/13/21 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1136	598.93	27.33	571.60
EAST "B"	1120	596.23	Dry	596.23
EAST "C"	1058	598.69	21.55	577.14
EAST "D"	1054	593.20	16.89	576.31
NCR-3S	1040	579.60	4.55	575.05
NCR-4S	1104	577.80	3.41	574.39
NCR-5S	1149	579.34	Dry	579.34
NCR-13S	1024	577.15	5.14	572.01

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1012		3' 1"
WW B	1112		2' 10"
WW C	1046		2' 10"
WW D	1028		3' 3"

Total System Flow	Time of Measurement
022829	1015

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 02/10/21 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1056	598.93	27.35	571.58
EAST "B"	1048	596.23	Dry	596.23
EAST "C"	1029	598.69	22.08	576.61
EAST "D"	1023	593.20	17.70	575.50
NCR-3S	1000	579.60	4.90	574.70
NCR-4S	1039	577.80	3.66	574.14
NCR-5S	0920	579.34	10.94	568.40
NCR-13S	0948	577.15	5.85	571.30

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0935		2' 7"
WW B	10955		2' 11"
WW C	1017		2' 10"
WW D	1044		3' 1"

Total System Flow	Time of Measurement
23044	0937

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 03/11/21 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1129	598.93	27.39	571.54
EAST "B"	1113	596.23	Dry	596.23
EAST "C"	1053	598.69	21.70	576.99
EAST "D"	1045	593.20	17.20	576.00
NCR-3S	1036	579.60	4.12	575.48
NCR-4S	1101	577.80	3.22	574.58
NCR-5S	1006	579.34	6.62	572.72
NCR-13S	1024	577.15	4.03	573.12

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1020		3' 3"
WW B	1108		3' 1"
WW C	1039		3' 4"
WW D	1030		3' 3"

Total System Flow	Time of Measurement
23539	1019

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 04/14/21 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1029	598.93	27.42	571.51
EAST "B"	1021	596.23	Dry	596.23
EAST "C"	0954	598.69	21.77	576.92
EAST "D"	0948	593.20	17.36	575.84
NCR-3S	0940	579.60	4.45	575.15
NCR-4S	1007	577.80	3.41	574.39
NCR-5S	1017	579.34	6.99	572.35
NCR-13S	0931	577.15	5.50	571.65

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0914		3' 4"
WW B	1011		3'
WW C	0943		3' 2"
WW D	0936		3' 1"

Total System Flow	Time of Measurement
024033	0916

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 05/19/21 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet		feet
EAST "A"	1228	598.93	26.08	572.85
EAST "B"	1212	596.23	Dry	596.23
EAST "C"	1139	598.69	22.07	576.62
EAST "D"	1126	593.20	17.93	575.27
NCR-3S	1111	579.60	5.43	574.17
NCR-4S	1148	577.80	4.09	573.71
NCR-5S	1018	579.34	7.88	571.46
NCR-13S	1055	577.15	6.50	570.65

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1048		3' 3"
WW B	1159		3' 3"
WW C	1116		3' 5"
WW D	1105		3' 1"

Total System Flow	Time of Measurement
003575	1050

x 1000 Gallons

Water Level Meter: NF07181

FP-3D

APPENDIX H
COMPACT DISC CONTAINING REPORT