

2005 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
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

SUBMITTED BY:

Niagara County Refuse District and PRP Group

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February 2006

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

Submitted To:

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

and

United States Environmental Protection Agency

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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 PRP Group performed a remedial action at the Niagara County Refuse Site (Site), Wheatfield, New York. The PRP Group is currently providing operations, maintenance, and monitoring (OM&M). This fifth Annual Monitoring Report summarizes monitoring activities from January through December 2005.

The Site is a former municipal landfill comprised of approximately 60 acres, 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 (PCS) and a perimeter barrier system are used to prevent offsite migration of contamination. These systems began operation in November of 2000.

1.2 PROCEDURES

1.2.1 Groundwater Sampling Procedure

Based on the OM&M Manual (CRA, 2000), groundwater sample collection was completed quarterly from the four monitoring wells at the Site for the first two years after PCS startup. The four wells are screened in the shallow overburden materials. Groundwater sampling on a quarterly schedule was completed in 2002, two years post-PCS startup. Semi-annual groundwater sampling was begun in 2003. Samples were collected from wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S in May and December 2005. In accordance with the OM&M Manual, groundwater sampling has continued at a semi-annual schedule through 2005, completing the three years of semi-annual groundwater sampling as defined in the OM&M Manual. Annual groundwater sampling will begin in 2006, assuming that water level conditions permit collection of groundwater samples.

Each groundwater monitoring well was purged prior to sample collection by pumping five volumes of groundwater from the well using a dedicated bladder pump. Physical parameters including pH, temperature, conductivity, and turbidity of the purge water were periodically measured and recorded. In the event that a well could not supply enough water to complete the purging of five well volumes, the well was pumped dry on three consecutive days prior to sampling. All purge water was placed in an onsite wet-well.

Groundwater sampling was begun immediately at the completion of purging. A dedicated bladder pump was used to collect the groundwater samples. The discharge rate was first adjusted to approximately 100 milliliters per minute. The sample was then collected directly into the sample containers.

Groundwater samples were collected and analyzed for:

- Select volatile organic compounds (VOCs) using EPA method 624 and method SW-8260;
- Select semi-volatile organic compounds (SVOCs) using EPA method 625 and method SW-8270;
- Mercury using EPA method 245.1 and method SW-7470; and
- Inorganics using EPA method 200.7 and method SW-6010.

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

As noted in previous reports, due to slow recovery times and low water levels in the wells to be sampled after purging, collection of the required groundwater volume for all groundwater and quality assurance samples is often not possible. During this reporting period, some of the quality assurance samples could not be completely collected. During the May 2005 sampling event, no duplicate sample was collected and the matrix spike and matrix spike duplicate (MS/MSD) samples were limited to VOCs because of low groundwater volume. During the December 2005 sampling event, the duplicate sample and the MS/MSD samples were limited to VOCs only due to a lack of water in the well.

A request was submitted to the USEPA and NYSDEC in 2005 to reduce the analytical parameters in each of the groundwater samples collected. The request proposed reducing analysis of groundwater to five metals that have historically been identified as exceeding standards in the shallow groundwater at the Site. The elimination of analysis for VOCs and SVOCs was also proposed. The USEPA agreed, after discussions with the NYSDEC and input from NYSDOH, to reduce the collection of volatile and semi-volatiles to every two years beginning in 2006 (every other groundwater sampling event). The USEPA requested that all inorganics continue to be analyzed for each groundwater sampling round. The basis for this decision was stated to be the significant residential growth around the site in recent years.

1.2.2 Effluent Sampling Procedure

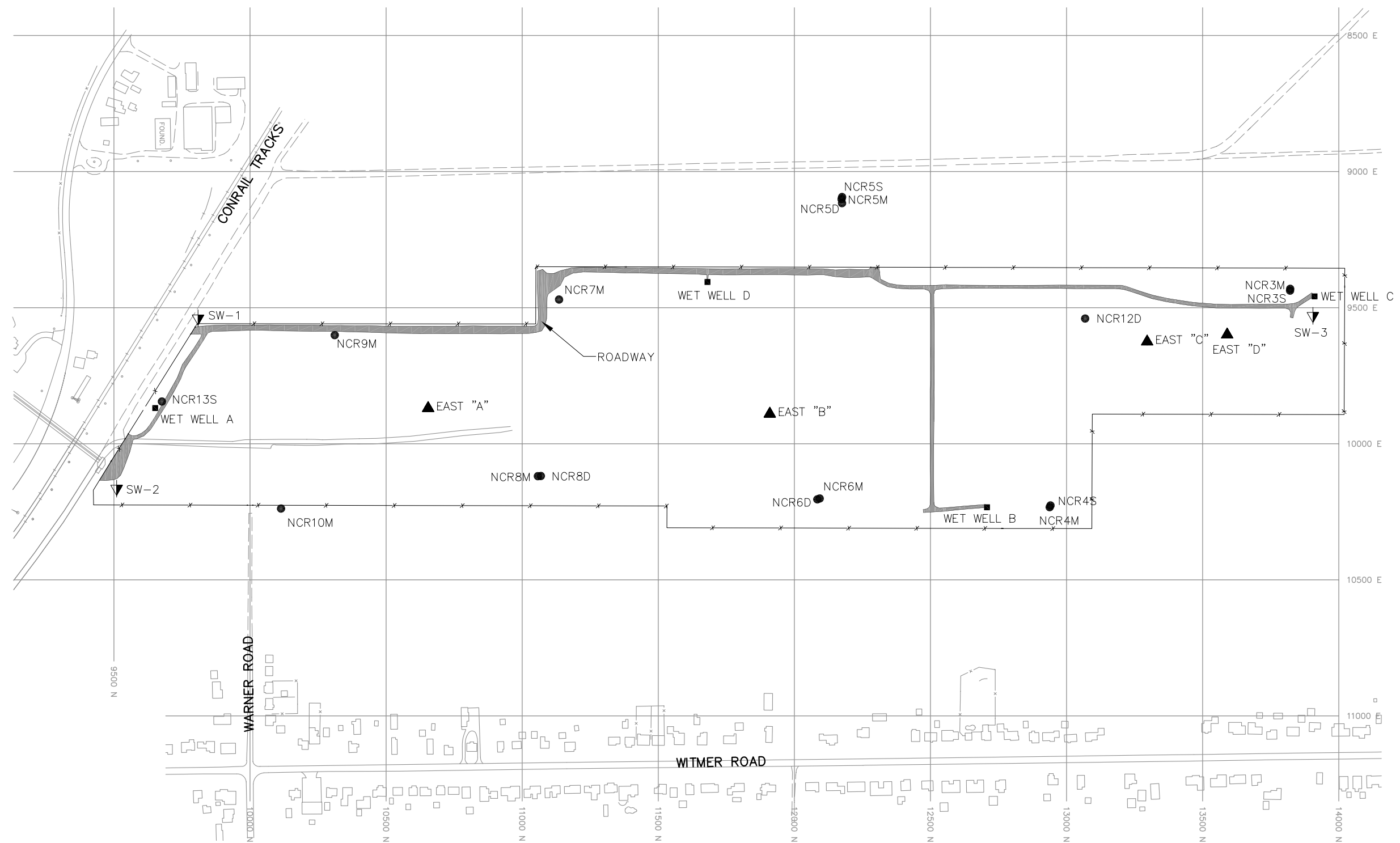
Groundwater from the perimeter collection system is discharged to the City of North Tonawanda treatment system without pretreatment. A monitoring station in Wet Well A allows both the effluent water quality and the volume of effluent to be verified by the City of North Tonawanda. In compliance with the City of North Tonawanda Industrial Wastewater Discharge Permit, the effluent is sampled monthly. The effluent samples are collected in compliance with the OM&M Manual (CRA, 2000) and are analyzed by the City of North Tonawanda. The sole purpose of these analyses is for compliance with the Industrial Wastewater Discharge Permit.

1.2.3 Water Levels

Water levels were measured in four monitoring well locations inside the limits of the landfill and four effluent monitoring locations. Water level measurements were collected ten times during 2005. The water levels were measured with an electronic water level indicator and reported as an elevation above mean sea level. Figure 1.1 shows the locations of the water level monitoring points.

1.2.4 Site Inspections

The Site was inspected by O&M Enterprises, Inc. on a monthly basis, in accordance with procedures in the OM&M Manual. The perimeter collection system, offsite force main, wetlands, perimeter fence, drainage ditches, swale outlets, culverts, gas vents, wells, and landfill cap were visually inspected.



LEGEND

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



SCALE: 1"=400'

FIGURE 1.1

NIAGARA COUNTY REFUSE SITE
WHEATFIELD, NEW YORK
SITE PLAN

PARSONS

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

SECTION 2 RESULTS

2.1 ANALYTICAL RESULTS

2.1.1 Effluent Samples

Effluent samples were collected monthly during 2005 by O&M Enterprises, Inc. and analyzed by the City of North Tonawanda. The analytical results from these samples were used by the City to confirm that the effluent received from the Site met the criteria for acceptance by the City treatment system. The April 2005 metals sample was apparently misplaced at the City of North Tonawanda Wastewater Treatment Plant laboratory, and therefore could not be analyzed. All analytical results were found to be compliant with the discharge permit for the site. Effluent analytical results are presented in Appendix A.

2.1.2 Groundwater Analytical Results

Analytical results for the two sampling events during this reporting period are summarized in Table 2.1. The analytical 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 51 to 62, since the startup 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 (CRA, 2000). Beginning in 2006, annual groundwater samples will be collected.

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

May 2005 Event

Monitoring wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S were sampled on May 3, 2005. The locations of the monitoring wells are provided in Figure 1.1. No VOCs were detected in the groundwater samples above the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs. The analytical results for acetone and 2-butanone were rejected due to poor calibration linearity. No SVOCs were detected. The data validation reports are presented in Appendix C.

Fourteen metals were identified in one or more of the groundwater samples. Typically, an average of approximately thirteen metals are detected. Detected values were within ranges observed in previous sampling events. Aluminum exceeded the NYSDEC AWQS in

each of the samples. Copper exceeded NYSDEC AWQS in three samples and was below the analytical detection limits in the fourth. Iron was identified in all of the samples and exceeded standards (NYSDEC AWQS and NYSDOH MCL) in all samples. The Record of Decision (USEPA, 1993) identifies iron as typically exceeding MCLs in the regional groundwater. Lead was identified in one sample (NCR-4S) exceeding the standards (NYSDEC AWQS, NYSDOH MCL, and USEPA MCL) but was below analytical detection limits in the other three samples. Magnesium exceeded the AWQS guidance value (not a standard) in each of the samples. Manganese was detected in each of the samples, and exceeded the NYSDEC AWQS and NYSDOH MCL standard in NCR-3S and NCR-4S. Sodium was found above the NYSDEC AWQS and the NYSDOH MCL in all of the samples. The Record of Decision (USEPA, 1993) identifies sodium as typically exceeding MCLs in the regional groundwater.

Groundwater analytical results were validated and reviewed by Parsons for usability (see Appendix C 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. It was noted that a trip blank for VOC analysis was not submitted with the groundwater samples due to the low volume of groundwater that could be collected. VOC sample results were considered usable following data validation, with the exception of the non-detected acetone and 2-butanone results for all samples, due to poor calibration linearity. All acetone sample results were qualified with an "R". The VOC results were 94.3% complete. The rejection of the acetone and 2-butanone data precluded the data set from being 100% complete.

The SVOC and metals samples did not require qualification resulting from data validation. All analytical results were 100% usable for the SVOC and metals groundwater data.

December 2005 Event

All of the monitoring wells (NCR-3S, NCR-4S, NCR-5S, and NCR-13S) were sampled on December 23, 2005. No VOCs or SVOCs were detected in the groundwater samples. The data validation reports are presented in Appendix C.

Fifteen metals were identified in one or more of the groundwater samples collected on December 23, 2005. Typically, an average of approximately thirteen metals are detected. As with the May 2005 event, detected values were consistent with historical observations. Aluminum and copper were found in each of the samples at a level above the NYSDEC AWQS. Iron was identified and exceeded standards (NYSDEC AWQS and NYSDOH MCL) in all of the samples. Magnesium exceeded the AWQS guidance value (not a standard) in three of the four samples. Manganese was detected in each of the samples and exceeded NYSDEC AWQS and NYSDOH MCL in NCR-3S and NCR-4S. Sodium was found above the NYSDEC AWQS and the NYSDOH MCL in all of the samples. As mentioned, the Record of Decision (USEPA, 1993) identifies iron and sodium as typically exceeding MCLs in the regional groundwater.

Groundwater analytical results were validated and reviewed by Parsons for usability (see Appendix C 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. One VOC, chloroethane, did not have a compliant continuing calibration. All chloroethane results were non-detect but were considered estimates and qualified "UJ". All sample results were considered usable following data validation. The VOC, SVOC, and metals groundwater results were 100% complete.

Summary of Groundwater Analytical Results

In May 2005, no VOCs were identified above any of the applicable standards, and no SVOCs were detected. In December 2005, no VOCs or SVOCs were detected. The analytical results for acetone and 2-butanone were rejected during data validation for the May 2005 sampling round.

The analytical results for metals were fairly similar between the two rounds. Fourteen metals were detected in the May 2005 sampling round and fifteen were detected in the December 2005 sampling round. Cadmium was not detected in the May 2005 round but was detected in one sample in the December 2005 round. Aluminum, copper, magnesium, and manganese exceeded standards in both groundwater sampling rounds. Iron and sodium, both identified in the ROD (USEPA, 1993) as typically exceeding MCLs in the regional groundwater, also exceeded standards in analytical results from both sampling rounds. Lead exceeded standards in the May 2005, round but was below standards in December 2005.

2.2 SITE INSPECTIONS

Monthly Site inspections were conducted between January 2005 and December 2005. 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 findings of the inspections is included in Table 2.2. Copies of the Monthly Inspection Logs have been included in Appendix D.

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. 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. Minor surface erosion was observed in a few small areas within the cap limits, but does not threaten the cap. These areas do not appear to be expanding or deepening, and will continue to be monitored for change. The erosion has not damaged the landfill cap integrity. No leachate seeps were identified. All aspects of the access roads that were examined were deemed acceptable (when not covered with snow and/or ice).

Minor repairs to eroded areas in the vicinity of the drainage on the east side of the site (outside the limits of the cap) were completed in June 2005. Additionally, fabric was removed from the inlets of surface water drainage pipes in the area, to enhance inflow to the drainage. The fabric was initially used to keep sediments from entering the drainage pipe through the inlets during landfill construction, and until vegetation was established. Now that the vegetation is well established, there is no longer a concern with excessive sediment entering the drainage pipes. The repaired areas near the drainage pipes are not within the limits of the landfill cap. These areas will continue to be monitored for any changes.

The wetlands were examined visually 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.

Post-construction monitoring of the wetland replacement has been performed annually since 2001. The wetland monitoring report, including photographs, is provided in Appendix E. The wetlands monitoring was completed August 12, 2005. Monitoring results indicate that the wetland creation was successful. The measurable criteria of percent coverage is provided with 10% error in the O&M Manual. The measured coverage (75%) during the 2005 monitoring falls within the range of the provided measurable criteria (80% +/- 10%). The 75% measured coverage may be the result of lower than normal water levels in the wetlands created by lack of rainfall prior to the inspection. The monthly visual inspection of the wetlands noted below normal water levels during June, July, and August. The wetlands monitoring report stated that the wetland area is expected to refill and stay full under normal conditions. The Wetland Frequency Indicator for the 2005 inspection was 1.36, exceeding the fifth year wetland goal of 2.00. Wetland wildlife, and hydrophytic vegetation and hydrology, occur throughout the wetland creation area. Purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*) were two invasive weed species identified during the inspection. Water levels in the wetlands appeared slightly higher during January, February, April, May, November, and December 2005 and slightly lower during June, July, August, and September 2005. This report presents the final annual wetlands inspection results, meeting the goals outlined in the OM&M Manual (CRA, 2000). Monthly visual inspection of the wetlands during the growing season will continue to document general conditions.

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

2.3 MAINTENANCE

Scheduled maintenance during this reporting period included:

- Periodic pulling, cleaning, and reinstalling the pumps in the wet wells.
- Float switch repairs were completed at wet well B to prevent future malfunctions.
- Weeds and tall grass were trimmed around wells and manholes.

- On August 26, 2005, a truckload of stone was placed in the driveway and used to fill low areas and a few minor potholes.
- On September 1, 2, and 3, 2005, the grass was cut at the landfill using a tractor and brush hog.

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

- On January 5, 2005, the pump in wet well C failed and was replaced, and a hole in the perimeter fence was repaired.
- On March 3 and 5, and August 23, 2005, a faulty float valve was repaired at wet well B.
- A spare pump was placed in wet well A on March 18, 2005. This pump may be placed into service in the event of pump failure.
- A latch on the man-gate near wet well D was repaired on April 9, 2005.
- On May 14, 2005, a fitting between the riser pipe and pump was replaced in wet well C.
- The float switch at wet well B was repaired on May 17 and again on June 8, 2005.
- On June 2, 2005, minor erosion repair was completed near drainage inlets on the east side of the site.
- On October 7, 2005, minor repair to the perimeter fence was completed.
- A failed lock was replaced on the back gate to the site on December 8, 2005.
- New hinge pins were installed in the gate near the control shed on December 17, 2005.

Maintenance Record Logs are included in Appendix F.

2.4 WATER LEVELS

Water level measurements were collected to ensure that water levels inside the landfill are reduced by the operation of the perimeter collection system (Table 2.3). 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 generally collected during the monthly inspections and recorded on water level records (Appendix G). During 2005, water levels were collected from the monitoring wells on ten occasions. Water levels generally varied between 1 and 5 feet over the course of the year. Monthly collection of water level data from the monitoring wells allowed planning for groundwater sampling dates, when the maximum number of wells could be sampled. Low groundwater levels in the wells, or no water in the wells often restricts the ability to sample. Sampling events were conducted, but not all chemical parameters for quality assurance samples could be collected, due to lack of sufficient volume and recharge rates in certain wells.

SECTION 3

SUMMARY AND CONCLUSIONS

The following summary and conclusions were developed based on the data collected during this reporting period (January through December 2005):

- The tenth and eleventh sets of analytical groundwater data have been collected and validated.
- Analytical groundwater results indicate that no VOCs or SVOCs have impacted the groundwater in the immediate vicinity of the landfill. No VOCs or SVOCs exceeded NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs. SVOCs were not detected in any samples.
- Six inorganic chemicals (aluminum, copper, iron, lead, manganese, and sodium) have been identified above standards, some of which may naturally be present in the silts and clays of the native geologic material. Magnesium also was found above the NYSDEC AWQS guidance value. The Record of Decision (USEPA, 1993) identifies iron and sodium as typically exceeding the MCLs in the regional groundwater. Detected inorganic chemical values are consistent with historical observations.
- Analytical results from this reporting period, including organic and inorganic parameters, are consistent with the previous reporting period, and historical observations.
- The objectives of the groundwater monitoring program (to monitor the effectiveness of the perimeter collection system and the perimeter barrier system) have been met. The groundwater monitoring program provides data for demonstration of the effectiveness of the hydraulic containment, collection, and extraction of Site-related groundwater.
- Semi-annual groundwater sample collection was conducted during this reporting period. Future groundwater sampling will be conducted on an annual basis, as indicated in the OM&M Manual (CRA, 2000) for the site. As indicated in the November 21, 2005 letter from USEPA, groundwater sample analytical parameters will be reduced to inorganic parameters only in 2006. Volatile and semivolatile analyses will be completed every two years, beginning in 2007.
- The landfill was inspected monthly and was appropriately maintained.
- Water levels were collected from the wet wells, monitoring wells, and the locations on top of the landfill on ten occasions during 2005. Water levels generally varied between 1 and 5 feet over the course of the year.
- The fifth and final wetlands inspection was completed in 2005, as required in the OM&M Manual. Wetlands are well established, and target species have shown

substantial growth and propagation. The measurable criteria of percent coverage is provided with 10% error in the O&M Manual. The measured coverage (75%) during the 2005 monitoring falls within the range of the provided measurable criteria (80% +/- 10%). It is likely that below normal rainfall amounts prior to the wetlands inspection affected the coverage percentage. The wetland frequency indicator value of 1.36 exceeds the expected value of 1.67.

SECTION 4 REFERENCES

1. USEPA, 1993, Record of Decision, Niagara County Refuse Site, Wheatfield, Niagara County, New York; United States Environmental Protection Agency, September 1993.
2. USA, 1995, Consent Decree, Docket 946-849; United States Environmental Protection Agency, February 3, 1995.
3. 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.

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

														NCR-13S	
City of N. Tonawanda WWTP 830 River Road North Tonawanda, NY C/O Niagara Co. Refuse Site Validated Groundwater Sampling Results		Sample ID:				NCR-3S	NCR-4S	NCR-5S	NCR-13S	NCR-3S	NCR-4S	NCR-5S	NCR-13S	Duplicate	TRIP
		Lab ID:				A541102	A541103	A541104	A541101	A5E62302	A5E62303	A5E62304	A5E62301	A5E62305	A5E62306
		Source:				STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo	STL-Buffalo
		SDG:	NYS	NYS	US	A05-4411	A05-4411	A05-4411	A05-4411	A05-E623	A05-E623	A05-E623	A05-E623	A05-E623	A05-E623
		Matrix:	DEC	DOH	EPA	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	AWQS*	MCL	MCL	5/3/2005	5/3/2005	5/3/2005	5/3/2005	12/23/2005	12/23/2005	12/23/2005	12/23/2005	12/23/2005	12/23/2005
		Validated:				6/20/2005	6/20/2005	6/20/2005	6/20/2005	1/18/2006	1/18/2006	1/18/2006	1/18/2006	1/18/2006	1/18/2006
CAS NO.	COMPOUND	UNITS:													
	VOLATILES														
71-43-2	Benzene	ug/L	1	5	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
108-88-3	Toluene	ug/L	5	5	100	1.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1330-20-7	Total Xylenes	ug/L	5	5	10000	1.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
	METALS														
7429-90-5	Aluminum	ug/L	100	-	-	1260	17000	3880	563	360	4170	6380	3380		
7440-39-3	Barium	ug/L	1000	2000	2000	51.7	134	148	63.4	65.9	92.4	151	63.2		
7440-43-9	Cadmium	ug/L	5	5	5	ND	ND	ND	ND	ND	1.1	ND	ND		
7440-70-2	Calcium	ug/L	-	-	-	151000	130000	106000	186000	196000	106000	104000	162000		
7440-47-3	Chromium	ug/L	50	100	100	30.6	14.9	26.4	11	21.4	4.8	34.5	23.2		
7440-50-8	Copper	ug/L	5	-	-	23.6	33.1	19	ND	11.6	11.4	24.5	13.6		
7439-89-6	Iron	ug/L	300 [~]	300 [~]	-	6590	59600	3190	1310	13600	22400	7840	6870		
7439-92-1	Lead	ug/L	25	25	15	ND	27.2	ND	ND	ND	11.5	8.5	ND		
7439-95-4	Magnesium	ug/L	35000 ⁺	-	-	87200	39600	74700	86100	110000	33600	63800	75700		
7439-96-5	Manganese	ug/L	300 [~]	300 [~]	-	564	441	115	103	1870	329	210	34.4		
7440-02-0	Nickel	ug/L	100	-	-	44.7	15.3	26	14.4	55.5	ND	36.2	16.9		
7440-09-7	Potassium	ug/L	-	-	-	2470	12900	1690	2290	2660	18800	2570	2800		
7440-23-5	Sodium	ug/L	20000	20000	-	22800	24700	38700	54500	26900	29300	52800	68700		
7440-62-2	Vanadium	ug/L	14	-	-	ND	9	5.4	ND	ND	ND	12.2	10.3		
7440-66-6	Zinc	ug/L	2000 ⁺	5000	-	23.2	1590	30.2	ND	ND	465	61	ND		

* = NYSDEC Ambient Water Quality Standards.

+ = Guidance value. ND = Not detected.

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

J = Estimated value. - = No standard identified.

Boxed values exceed NYSDEC ambient water quality standrads.

Bold values exceed NYSDOH maximum contaminant levels.

Shaded value exceeds USEPA maximum contaminant level.

Table 2.2 Monthly Site Inspection Results

Inspection Item	Acceptable	Not Acceptable	Comments
Manholes	X		
Wet Wells	X		Water levels were measured ten times in 2005.
Wetlands	X		Continued growth of target vegetation. A slightly higher than normal water level was noted during the January, February, April, May, November, and December inspections. A slightly lower water level was noted during the June, July, August, and September inspections.
Perimeter Fence	X		Minor repairs were required to the fence and gates in 2005.
Condition of Roads	X		No erosion or other problems. Snow covered in winter months. Minor potholes and low areas were repaired in 2005.
Integrity of the Cap	X		Minor erosion noted. Snow covered February and March.
Drainage Ditches/Swales	X		Snow covered in February and March.
Gas Venting System	X		
Wells	X		
Culverts	X		Snow covered in February and March.
Vegetative Cover	X		Height of vegetation on cap noted high on 7/6/05, 8/4/05 and 9/3/05 and low on 1/4/05, 4/2/05, 5/2/05, 10/7/05, 11/6/05, and 12/10/05. Mowed in September 2005. Snow covered 2/3/05, and 3/9/05. Knee high 6/4/05.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	12/5/2000		1/8/2001		2/1/2001		3/8/2001		4/4/2001		5/8/2001		6/5/2001		7/2/2001		8/1/2001		9/5/2001	
		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	22.05	576.88	-	-	-	-	21.34	577.59	-	-	22.21	576.72	21.98	576.95	-	-	22.51	576.42	22.63	576.30
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
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
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
WW A	-	2.50	-	2.67	-	2.33	-	1.13	-	2.29	-	1.83	-	2.17	-	1.58	-	1.83	-	-	-
WW B	-	2.20	-	2.42	-	1.96	-	1.09	-	1.79	-	2.17	-	1.92	-	1.50	-	2.00	-	1.92	-
WW C	-	1.50	-	2.42	-	1.70	-	0.92	-	2.04	-	2.00	-	1.67	-	1.33	-	2.08	-	2.33	-
WW D	-	1.70	-	-	-	1.50	-	0.99	-	1.08	-	1.50	-	1.33	-	2.0	-	1.25	-	2.25	-
NCR-3S	579.60	-	-	-	-	-	-	-	-	-	-	-	-	3.71	575.89	-	-	dry	-	dry	-
NCR-4S	577.88	-	-	-	-	-	-	-	-	-	-	-	-	4.28	573.60	-	-	dry	-	dry	-
NCR-5S	579.34	-	-	-	-	-	-	-	-	-	-	-	-	9.10	570.24	-	-	dry	-	dry	-
NCR-13S	577.15	-	-	-	-	-	-	-	-	-	-	-	-	7.05	570.10	-	-	7.85	569.30	7.80	569.35

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation	10/4/2001		11/5/2001		12/11/2001		1/2/2002		2/4/2002		3/4/2002		4/1/2002		5/3/2002		6/4/2002		7/2/2002	
	Top of Casing (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	22.61	576.32	22.74	576.19	22.88	576.05	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
East "B"	596.23	19.22	577.01	19.36	576.87	19.44	576.79	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
East "C"	598.69	18.20	580.49	18.80	579.89	18.75	579.94	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
East "D"	593.20	12.24	580.96	12.74	580.46	12.94	580.26	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
WW A	-	1.83	-	2.33	-	2.08	-	1.17	-	2.17	-	1.67	-	2.00	-	2.00	-	2.17	-	1.50	-
WW B	-	1.58	-	1.50	-	2.08	-	1.00	-	2.00	-	1.25	-	1.33	-	1.67	-	2.00	-	1.58	-
WW C	-	1.25	-	2.00	-	1.58	-	1.50	-	1.42	-	1.58	-	1.50	-	1.83	-	1.25	-	1.67	-
WW D	-	2.00	-	2.08	-	1.33	-	1.50	-	1.00	-	1.42	-	1.17	-	1.58	-	1.50	-	1.92	-
NCR-3S	579.60	dry	-	5.10	574.50	4.64	574.96	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
NCR-4S	577.88	dry	-	4.51	573.37	3.92	573.96	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
NCR-5S	579.34	dry	-	dry	-	dry	-	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
NCR-13S	577.15	7.70	569.45	6.65	570.50	6.11	571.04	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

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation	8/7/2002		9/6/2002		10/3/2002		11/7/2002		12/3/2002		1/6/2003		2/5/2003		3/6/2003		4/2/2003		5/5/2003	
	Top of Casing (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	22.65	576.28	22.78	576.15	28.48	570.45	23.25	575.68	23.36	575.57	23.48	575.45	23.51	575.42	23.65	575.28	23.75	575.18	23.81	575.12
East "B"	596.23	19.40	576.83	19.40	576.83	19.46	576.77	19.35	576.88	-	-	19.53	576.70	19.40	576.83	19.59	576.64	19.61	576.62	19.70	576.53
East "C"	598.69	18.95	579.74	18.92	579.77	18.99	579.70	19.30	579.39	19.35	579.34	18.82	579.87	19.11	579.58	18.99	579.70	19.07	579.62	18.98	579.71
East "D"	593.20	13.81	579.39	13.58	579.62	14.01	579.19	13.2	580.00	13.54	579.66	13.24	579.96	13.52	579.68	13.7	579.50	13.88	579.32	14.15	579.05
WW A	-	2.50	-	1.83	-	1.50	-	1.42	-	2.00	-	1.42	-	1.25	-	1.50	-	1.42	-	1.58	-
WW B	-	1.67	-	1.42	-	1.33	-	1.17	-	1.25	-	1.08	-	1.17	-	1.67	-	1.17	-	0.75	-
WW C	-	2.17	-	1.50	-	1.33	-	1.25	-	1.50	-	1.33	-	1.50	-	1.25	-	1.33	-	1.50	-
WW D	-	2.00	-	1.67	-	2.00	-	1.33	-	1.50	-	1.42	-	1.67	-	1.08	-	1.25	-	1.50	-
NCR-3S	579.60	5.90	573.70	dry	-	5.91	573.69	dry	-	4.46	575.14	3.84	575.76	4.06	575.54	4.55	575.05	4.39	575.21	4.39	575.21
NCR-4S	577.88	dry	-	dry	-	dry	-	dry	-	3.95	573.93	2.91	574.97	-	-	-	-	3.65	574.23	3.60	574.28
NCR-5S	579.34	dry	-	dry	-	dry	-	dry	-	dry	-	7.95	571.39	8.69	570.65	8.11	571.23	7.66	571.68	8.58	570.76
NCR-13S	577.15	7.57	569.58	dry	-	7.78	569.37	dry	-	6.40	570.75	5.89	571.26	5.54	571.61	6.16	570.99	6.05	571.10	6.13	571.02

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation	6/5/2003		7/1/2003		8/11/2003		9/2/2003		10/8/2003		11/12/2003		12/6/2003		1/2/2004		2/5/2004		3/1/2004	
	Top of Casing (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	23.25	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	23.90	575.03	23.93	575.00	24.00	574.93
East "B"	596.23	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	NA	19.83	NA	NA	NA	NA	NA
East "C"	598.69	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	19.12	579.57	19.79	578.90	19.22	579.47
East "D"	593.20	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	13.9	579.30	14.52	578.68	14.11	579.09
WW A	-	1.33	-	1.33	-	1.17	-	1.42	-	1.33	-	2.00	-	1.33	-	1.58	-	1.17	-	2.17	-
WW B	-	1.25	-	1.42	-	1.50	-	1.50	-	1.17	-	1.42	-	1.67	-	1.33	-	NA	-	1.50	-
WW C	-	1.42	-	1.00	-	1.08	-	1.08	-	1.08	-	1.00	-	1.67	-	1.08	-	1.00	-	1.17	-
WW D	-	1.50	-	1.25	-	1.58	-	1.33	-	1.50	-	1.58	-	1.50	-	1.17	-	1.08	-	1.67	-
NCR-3S	579.60	4.41	575.19	5.80	573.80	5.92	573.68	dry	NA	dry	NA	4.45	575.15	4.24	575.36	4.11	575.49	4.21	575.39	3.19	576.41
NCR-4S	577.88	2.65	575.23	4.05	573.83	3.98	573.90	dry	NA	4.37	573.51	2.93	574.95	2.88	575.00	2.65	575.23	2.72	575.16	2.42	575.46
NCR-5S	579.34	8.08	571.26	9.26	570.08	10.12	569.22	10.95	568.39	dry	NA	10.40	568.94	8.11	571.23	7.53	571.81	8.34	571.00	7.01	572.33
NCR-13S	577.15	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	5.72	571.43	5.95	571.20	5.88	571.27

Notes:

- = measurement not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation	4/5/2004		5/4/2004		6/11/2004		7/10/2004		8/9/2004		9/8/2004		10/2/2004		11/4/2004		12/3/2004		1/5/2005	
	Top of Casing (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	23.26	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	24.20	574.73
East "B"	596.23	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	19.68	576.55
East "C"	598.69	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	19.60	579.09
East "D"	593.20	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	14.2	579.00
WW A	-	0.75	-	1.25	-	1.50	-	1.25	-	1.25	-	1.33	-	1.25	-	1.42	-	1.67	-	0.58	-
WW B	-	1.30	-	1.17	-	1.17	-	1.17	-	1.25	-	1.00	-	1.00	-	1.17	-	0.42	-	1.50	-
WW C	-	1.17	-	1.00	-	1.08	-	1.17	-	1.08	-	1.17	-	1.17	-	1.58	-	0.25	-	0.67	-
WW D	-	0.65	-	1.50	-	1.33	-	1.00	-	1.00	-	1.25	-	1.00	-	1.17	-	0.25	-	1.25	-
NCR-3S	579.60	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	1.82	577.78
NCR-4S	577.88	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	2.60	575.28
NCR-5S	579.34	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	5.46	573.88
NCR-13S	577.15	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	3.60	573.55

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation	2/3/2005		3/9/2005		4/2/2005		6/4/2005		7/6/2005		8/4/2005		9/3/2005		10/7/2005		12/10/2005	
	Top of Casing (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	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	19.52	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	19.42	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	14.35	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	-	1.08	-	0.50	-	1.00	-	1.00	-	1.00	-	1.25	-	1.17	-	1.33	-	1.50	-
WW B	-	1.17	-	0.83	-	1.25	-	1.17	-	1.50	-	1.42	-	0.92	-	1.17	-	1.17	-
WW C	-	1.00	-	1.00	-	1.00	-	1.25	-	0.92	-	1.25	-	1.00	-	1.00	-	0.83	-
WW D	-	1.25	-	1.00	-	1.17	-	1.33	-	0.92	-	1.50	-	1.00	-	1.08	-	1.08	-
NCR-3S	579.60	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	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	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	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

Notes:

- = measurment not collected.

dry = no water in well.

APPENDIX A
CITY OF NORTH TONAWANDA INDUSTRIAL WASTEWATER
DISCHARGE PERMIT COMPLIANCE SAMPLING RESULTS

ANALYTICAL RESULTS : NIAGARA COUNTY REFUSE SITE: Jan - Dec 2005

PARAMETER	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	RESULT mg/l	COMP.
pH (COMP.)	6.90	7.49	7.57	7.32	7.05	7.01	6.92	7.33	6.97	6.87	7.30	7.24	YES
COD	32	65	70	68	15	157	369	287	218	148	31	22	YES
SUSPENDED SOLIDS	12	10	20	30	10	42	56	66	78	46	6	4	YES
BOD	8	7	4	17	14	23	15	17	18	18	16	21	YES
PO4	0.14	0.15	0.59	0.28	0.18	0.12	0.3	1.03	0.22	0.18	0.24	0.110	YES
PHENOLS	< 0.006	< 0.012	< 0.010	< 0.014	< 0.012	< 0.009	< 0.009	< 0.007	< 0.010	< 0.010	< 0.006	< 0.008	YES
ALUMINUM	< 0.58	< 0.58	< 0.58	***	< 0.55	< 0.55	< 0.55	< 0.50	0.412	0.137	1.024	0.058	YES
CHROMIUM	< 0.05	< 0.05	< 0.05	***	< 0.06	< 0.06	< 0.06	< 0.05	< 0.028	< 0.028	< 0.029	< 0.027	YES
LEAD	0.0798	0.0798	< 0.11	***	< 0.09	0.0942	0.1355	0.1511	< 0.025	< 0.025	< 0.028	< 0.025	YES
NICKEL	< 0.03	< 0.03	0.0506	***	< 0.05	0.0519	0.0519	0.0750	< 0.028	< 0.028	< 0.029	< 0.027	YES
ZINC	0.0894	0.0590	0.0514	***	< 0.02	0.0855	0.1020	0.0951	0.128	0.055	0.059	0.035	YES
IRON	1.8907	1.9603	1.3482	***	< 0.51	14.8636	15.9297	18.5704	14.690	11.730	1.439	0.812	YES
MAGNESIUM	124.00	158.00	156.00	9.80	94.20	172.00	193.00	201.00	184.00	133.00	105.00	130.00	YES
MANGANESE	0.61	0.32	0.32	0.20	0.27	1.20	0.77	0.98	0.72	0.78	0.41	0.29	YES
SODIUM	89.10	223.00	198.00	9.70	55.20	357.00	488.00	626.00	455.00	255.00	87.50	99.50	YES
Benzene	< 0.004	< 0.010	< 0.012	< 0.007	< 0.009	< 0.005	< 0.003	< 0.005	< 0.009	< 0.010	< 0.010	< 0.009	YES
Toluene	< 0.005	< 0.010	< 0.011	< 0.010	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.010	< 0.010	< 0.010	YES
Chlorobenzene	< 0.005	< 0.010	< 0.011	< 0.010	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.010	< 0.010	< 0.010	YES
Ethylbenzene	< 0.005	< 0.010	< 0.011	< 0.010	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.010	< 0.009	< 0.009	YES
Total Xylenes	< 0.010	< 0.020	< 0.022	****	< 0.019	< 0.010	< 0.008	< 0.010	< 0.017	< 0.020	< 0.019	< 0.019	YES
1,3 - Dichlorobenzene	< 0.005	< 0.010	< 0.009	< 0.012	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.010	< 0.010	< 0.010	YES
1,4-Dichlorobenzene	< 0.005	< 0.010	< 0.008	< 0.014	< 0.010	< 0.005	< 0.003	< 0.005	< 0.008	< 0.010	< 0.010	< 0.010	YES
1,2 - Dichlorobenzene	< 0.005	< 0.010	< 0.011	< 0.010	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.010	< 0.10	< 0.010	YES
Vinyl Chloride	0.028	< 0.010	< 0.011	0.009	0.018	< 0.005	0.036	< 0.005	< 0.007	< 0.009	< 0.007	< 0.010	YES
1,1-Dichloroethene	< 0.003	< 0.010	< 0.009	< 0.010	< 0.008	< 0.005	< 0.005	< 0.005	< 0.009	< 0.010	< 0.008	< 0.010	YES
Methylene chloride	< 0.003	< 0.010	< 0.008	< 0.011	< 0.008	< 0.005	< 0.006	< 0.005	< 0.009	< 0.010	< 0.008	< 0.011	YES
trans-1,2 Dichlorobenzene	< 0.004	< 0.010	< 0.009	*****	*****	*****	*****	< 0.005	< 0.009	< 0.010	< 0.009	< 0.010	YES
1,1-Dichloroethane	< 0.003	< 0.010	< 0.010	< 0.011	< 0.008	< 0.005	< 0.005	< 0.005	< 0.009	< 0.010	< 0.009	< 0.010	YES
Chloroform	< 0.003	< 0.010	< 0.010	< 0.012	< 0.008	< 0.005	< 0.005	< 0.005	< 0.009	< 0.010	< 0.009	< 0.010	YES
1,1,1-Trichloroethane	< 0.004	< 0.010	< 0.009	< 0.024	< 0.010	< 0.005	< 0.005	< 0.005	< 0.009	< 0.010	< 0.009	< 0.010	YES
3 Cl - ethylene	0.005	< 0.010	< 0.012	0.124	< 0.010	< 0.005	< 0.004	< 0.005	< 0.009	< 0.011	< 0.009	< 0.010	YES
TOTAL FLOW (gallons)	48,100	8,300	13,600	9,200	31,305	2,300	1,800	1,200	1,300	4,000	2,470	14,530	
SAMPLE DATE	1/7/2005	2/3/2005	3/3/2005	4/22/2005	5/6/2005	6/10/2005	7/8/2005	8/5/2005	9/9/2005	10/7/2005	11/11/2005	12/9/2005	

*** Lost 4/22/05 metals sample. **** poor QC for total Xylenes - cannot report. Started using ICP for Total Metals analysis in September 2005.

***** Ran trans-1,2 DCB on three month "trial" basis (Jan -Mar). Started analyzing on a "permanent" basis in Aug. 2005.

APPENDIX B

ANALYTICAL DATA

STL Buffalo

10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A05-4411

STL Project#: NY1A8791

Site Name: City of North Tonawanda

Task: Niagara County Refuse Site

Paul Drof
City of North Tonawanda
830 River Road
North Tonawanda, NY 14120

CC: Eric Felzer

STL Buffalo


Amy Lynn Haag
Project Manager

05/17/2005

STL Buffalo Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/BB-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NYD44
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NYD44
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

<u>LAB SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLED</u>		<u>RECEIVED</u>	
			<u>DATE</u>	<u>TIME</u>	<u>DATE</u>	<u>TIME</u>
A5441101	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441101MS	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441101SD	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441102	NCR 3S	GW	05/03/2005	13:10	05/03/2005	15:15
A5441103	NCR 4S	GW	05/03/2005	13:45	05/03/2005	15:15
A5441104	NCR 5S	GW	05/03/2005	14:30	05/03/2005	15:15

METHODS SUMMARY

Job#: A05-4411STL Project#: NY1A8791Site Name: City of North Tonawanda

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - SELECT VOLATILE ORGANICS	SW8463 8260
8270 - SELECT SEMI-VOLATILE ORGANICS	SW8463 8270
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7470
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-4411STL Project#: NY1A8791Site Name: City of North TonawandaGeneral Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-4411

Sample Cooler(s) were received at the following temperature(s); 9.0 °C

Samples were received at a temperature of 9°C. These samples were analyzed as per instructions from the client. Based on EPA data validation guidelines, there is no impact on data usability.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

Initial calibration standard curve A5I0001493-1 exhibited the %RSD of several compounds as greater than 15%. However, the mean RSD of all compounds is 11.25%.

GC/MS Semivolatile Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

The recovery of sample NCR 13S Post Spike exceeded quality control limits for Calcium, Magnesium, and Sodium. However, the LFB (A5B0641401) was acceptable, therefore, no corrective action was necessary.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

- ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.
- J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank, as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at the secondary dilution factor.
- N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
- P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- ¹ Indicates coelution.
- * Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

- ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.
- J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- N Indicates spike sample recovery is not within the quality control limits.
- K Indicates the post digestion spike recovery is not within the quality control limits.
- S Indicates value determined by the Method of Standard Addition.
- M Indicates duplicate injection results exceeded quality control limits.
- W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interferences.
- * Indicates analysis is not within the quality control limits.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

8/437

Client No.

NCR 13S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441101

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: L7962.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 05/12/2005

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	25	U
71-43-2-----	Benzene	0.70	U
75-27-4-----	Bromodichloromethane	1.0	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
78-93-3-----	2-Butanone	10	U
75-15-0-----	Carbon Disulfide	1.0	U
56-23-5-----	Carbon Tetrachloride	1.0	U
108-90-7-----	Chlorobenzene	5.0	U
124-48-1-----	Dibromochloromethane	1.0	U
75-00-3-----	Chloroethane	1.0	U
67-66-3-----	Chloroform	1.0	U
74-87-3-----	Chloromethane	1.0	U
75-34-3-----	1,1-Dichloroethane	1.0	U
107-06-2-----	1,2-Dichloroethane	1.0	U
75-35-4-----	1,1-Dichloroethene	1.0	U
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U
78-87-5-----	1,2-Dichloropropane	1.0	U
142-28-9-----	1,3-Dichloropropane	1.0	U
100-41-4-----	Ethylbenzene	5.0	U
591-78-6-----	2-Hexanone	5.0	U
75-09-2-----	Methylene chloride	5.0	U
108-10-1-----	4-Methyl-2-pentanone	5.0	U
100-42-5-----	Styrene	1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U
127-18-4-----	Tetrachloroethene	5.0	U
108-88-3-----	Toluene	5.0	U
71-55-6-----	1,1,1-Trichloroethane	1.0	U
79-00-5-----	1,1,2-Trichloroethane	1.0	U
79-01-6-----	Trichloroethene	5.0	U
75-01-4-----	Vinyl chloride	2.0	U
1330-20-7-----	Total Xylenes	5.0	U
10061-02-6----	trans-1,3-Dichloropropene	1.0	U
10061-01-5----	cis-1,3-Dichloropropene	1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

9/437

Client No.

NCR 3S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441102

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: L7965.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 05/13/2005

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1-----	Acetone	25	U	
71-43-2-----	Benzene	1.0		
75-27-4-----	Bromodichloromethane	1.0	U	
75-25-2-----	Bromoform	1.0	U	
74-83-9-----	Bromomethane	1.0	U	
78-93-3-----	2-Butanone	10	U	
75-15-0-----	Carbon Disulfide	1.0	U	
56-23-5-----	Carbon Tetrachloride	1.0	U	
108-90-7-----	Chlorobenzene	5.0	U	
124-48-1-----	Dibromochloromethane	1.0	U	
75-00-3-----	Chloroethane	1.0	U	
67-66-3-----	Chloroform	1.0	U	
74-87-3-----	Chloromethane	1.0	U	
75-34-3-----	1,1-Dichloroethane	1.0	U	
107-06-2-----	1,2-Dichloroethane	1.0	U	
75-35-4-----	1,1-Dichloroethene	1.0	U	
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U	
78-87-5-----	1,2-Dichloropropane	1.0	U	
142-28-9-----	1,3-Dichloropropane	1.0	U	
100-41-4-----	Ethylbenzene	5.0	U	
591-78-6-----	2-Hexanone	5.0	U	
75-09-2-----	Methylene chloride	5.0	U	
108-10-1-----	4-Methyl-2-pentanone	5.0	U	
100-42-5-----	Styrene	1.0	U	
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U	
127-18-4-----	Tetrachloroethene	5.0	U	
108-88-3-----	Toluene	1.8	J	
71-55-6-----	1,1,1-Trichloroethane	1.0	U	
79-00-5-----	1,1,2-Trichloroethane	1.0	U	
79-01-6-----	Trichloroethene	5.0	U	
75-01-4-----	Vinyl chloride	2.0	U	
1330-20-7-----	Total Xylenes	1.2	J	
10061-02-6----	trans-1,3-Dichloropropene	1.0	U	
10061-01-5----	cis-1,3-Dichloropropene	1.0	U	

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

10/437

Client No.

NCR 4S

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5441103

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: L7966.RR

Level: (low/med) LOW Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 05/13/2005

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	25	U
71-43-2-----	Benzene	0.70	U
75-27-4-----	Bromodichloromethane	1.0	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
78-93-3-----	2-Butanone	10	U
75-15-0-----	Carbon Disulfide	1.0	U
56-23-5-----	Carbon Tetrachloride	1.0	U
108-90-7-----	Chlorobenzene	5.0	U
124-48-1-----	Dibromochloromethane	1.0	U
75-00-3-----	Chloroethane	1.0	U
67-66-3-----	Chloroform	1.0	U
74-87-3-----	Chloromethane	1.0	U
75-34-3-----	1,1-Dichloroethane	1.0	U
107-06-2-----	1,2-Dichloroethane	1.0	U
75-35-4-----	1,1-Dichloroethene	1.0	U
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U
78-87-5-----	1,2-Dichloropropane	1.0	U
142-28-9-----	1,3-Dichloropropane	1.0	U
100-41-4-----	Ethylbenzene	5.0	U
591-78-6-----	2-Hexanone	5.0	U
75-09-2-----	Methylene chloride	5.0	U
108-10-1-----	4-Methyl-2-pentanone	5.0	U
100-42-5-----	Styrene	1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U
127-18-4-----	Tetrachloroethene	5.0	U
108-88-3-----	Toluene	5.0	U
71-55-6-----	1,1,1-Trichloroethane	1.0	U
79-00-5-----	1,1,2-Trichloroethane	1.0	U
79-01-6-----	Trichloroethene	5.0	U
75-01-4-----	Vinyl chloride	2.0	U
1330-20-7-----	Total Xylenes	5.0	U
10061-02-6----	trans-1,3-Dichloropropene	1.0	U
10061-01-5----	cis-1,3-Dichloropropene	1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

11/437

Client No.

NCR 5S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441104

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: L7967.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 05/13/2005

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1-----	Acetone		25	U
71-43-2-----	Benzene		0.70	U
75-27-4-----	Bromodichloromethane		1.0	U
75-25-2-----	Bromoform		1.0	U
74-83-9-----	Bromomethane		1.0	U
78-93-3-----	2-Butanone		10	U
75-15-0-----	Carbon Disulfide		1.0	U
56-23-5-----	Carbon Tetrachloride		1.0	U
108-90-7-----	Chlorobenzene		5.0	U
124-48-1-----	Dibromochloromethane		1.0	U
75-00-3-----	Chloroethane		1.0	U
67-66-3-----	Chloroform		1.0	U
74-87-3-----	Chloromethane		1.0	U
75-34-3-----	1,1-Dichloroethane		1.0	U
107-06-2-----	1,2-Dichloroethane		1.0	U
75-35-4-----	1,1-Dichloroethene		1.0	U
540-59-0-----	1,2-Dichloroethene (Total)		2.0	U
78-87-5-----	1,2-Dichloropropane		1.0	U
142-28-9-----	1,3-Dichloropropane		1.0	U
100-41-4-----	Ethylbenzene		5.0	U
591-78-6-----	2-Hexanone		5.0	U
75-09-2-----	Methylene chloride		5.0	U
108-10-1-----	4-Methyl-2-pentanone		5.0	U
100-42-5-----	Styrene		1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane		1.0	U
127-18-4-----	Tetrachloroethene		5.0	U
108-88-3-----	Toluene		5.0	U
71-55-6-----	1,1,1-Trichloroethane		1.0	U
79-00-5-----	1,1,2-Trichloroethane		1.0	U
79-01-6-----	Trichloroethene		5.0	U
75-01-4-----	Vinyl chloride		2.0	U
1330-20-7-----	Total Xylenes		5.0	U
10061-02-6----	trans-1,3-Dichloropropene		1.0	U
10061-01-5----	cis-1,3-Dichloropropene		1.0	U

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

12/437

Client No.

NCR 13S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441101

Sample wt/vol: 1060.0 (g/mL) ML

Lab File ID: W02937.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 05/03/2005

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/04/2005

Injection Volume: 1.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene	9	U	
541-73-1-----	1,3-Dichlorobenzene	9	U	
106-46-7-----	1,4-Dichlorobenzene	9	U	
108-95-2-----	Phenol	9	U	
95-48-7-----	2-Methylphenol	9	U	
108-39-4-----	3-Methylphenol	9	U	
106-44-5-----	4-Methylphenol	9	U	

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

13/437

Client No.

NCR 3S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441102

Sample wt/vol: 1060.0 (g/mL) ML

Lab File ID: W02938.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 05/03/2005

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/04/2005

Injection Volume: 1.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene	9	U	
541-73-1-----	1,3-Dichlorobenzene	9	U	
106-46-7-----	1,4-Dichlorobenzene	9	U	
108-95-2-----	Phenol	9	U	
95-48-7-----	2-Methylphenol	9	U	
108-39-4-----	3-Methylphenol	9	U	
106-44-5-----	4-Methylphenol	9	U	

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

14/437

Client No.

NCR 4S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5441103

Sample wt/vol: 1050.0 (g/mL) ML

Lab File ID: W02939.RR

Level: (low/med) LOW

Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 05/03/2005

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/04/2005

Injection Volume: 1.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene	10	U	
541-73-1-----	1,3-Dichlorobenzene	10	U	
106-46-7-----	1,4-Dichlorobenzene	10	U	
108-95-2-----	Phenol	10	U	
95-48-7-----	2-Methylphenol	10	U	
108-39-4-----	3-Methylphenol	10	U	
106-44-5-----	4-Methylphenol	10	U	

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

15/437

Client No.

NCR 5S

Lab Name: STL Buffalo Contract: _____

Lab Code: RECN Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5441104

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: W02940.RR

Level: (low/med) LOW Date Samp/Recv: 05/03/2005 05/03/2005

% Moisture: _____ decanted: (Y/N) N Date Extracted: 05/03/2005

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/04/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene	9	U
541-73-1-----	1,3-Dichlorobenzene	9	U
106-46-7-----	1,4-Dichlorobenzene	9	U
108-95-2-----	Phenol	9	U
95-48-7-----	2-Methylphenol	9	U
108-39-4-----	3-Methylphenol	9	U
106-44-5-----	4-Methylphenol	9	U

STL BUFFALO

City of North Tonawanda Waste H2O Treatment Plant

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 13S

Contract: NY01-078

Lab Code: STLBFO

Case No.:

SAS No.:

SDG NO.: A05-4411

Matrix (soil/water): WATER

Lab Sample ID: AD522062

Level (low/med): LOW

Date Received: 5/3/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	563			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	63.4			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	186000			P
7440-47-3	Chromium	11.0			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	1310			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	86100			P
7439-96-5	Manganese	103			P
7440-02-0	Nickel	14.4			P
7440-09-7	Potassium	2290			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	54500			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	5.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: NONE

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

STL BUFFALO

City of North Tonawanda Waste H2O Treatment Plant

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 3S

Contract: NY01-078

Lab Code: STLBFO

Case No.:

SAS No.:

SDG NO.: A05-4411

Matrix (soil/water): WATER

Lab Sample ID: AD522063

Level (low/med): LOW

Date Received: 5/3/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1260			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	51.7			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	151000			P
7440-47-3	Chromium	30.6			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	23.6			P
7439-89-6	Iron	6590			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	87200			P
7439-96-5	Manganese	564			P
7440-02-0	Nickel	44.7			P
7440-09-7	Potassium	2470			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	22800			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	5.0	U		P
7440-66-6	Zinc	23.2			P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: NONE

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

STL BUFFALO

City of North Tonawanda Waste H2O Treatment Plant

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 4S

Contract: NY01-078

Lab Code: STLBFO

Case No.:

SAS No.:

SDG NO.: A05-4411

Matrix (soil/water): WATER

Lab Sample ID: AD522064

Level (low/med): LOW

Date Received: 5/3/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17000			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	134			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	130000			P
7440-47-3	Chromium	14.9			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	33.1			P
7439-89-6	Iron	59600			P
7439-92-1	Lead	27.2			P
7439-95-4	Magnesium	39600			P
7439-96-5	Manganese	441			P
7440-02-0	Nickel	15.3			P
7440-09-7	Potassium	12900			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	24700			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	9.0			P
7440-66-6	Zinc	1590			P

Color Before: YELLOW

Clarity Before: CLOUDY

Texture: NONE

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:

STL BUFFALO

City of North Tonawanda Waste H2O Treatment Plant

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 5S

Contract: NY01-078

Lab Code: STLBFL0

Case No.:

SAS No.:

SDG NO.: A05-4411

Matrix (soil/water): WATER

Lab Sample ID: AD522065

Level (low/med): LOW

Date Received: 5/3/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3880			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	148			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	106000			P
7440-47-3	Chromium	26.4			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	19.0			P
7439-89-6	Iron	3190			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	74700			P
7439-96-5	Manganese	115			P
7440-02-0	Nickel	26.0			P
7440-09-7	Potassium	1690			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	38700			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	5.4			P
7440-66-6	Zinc	30.2			P

Color Before: COLORLESS

Clarity Before: CLOUDY

Texture: NONE

Color After: COLORLESS

Clarity After: CLOUDY

Artifacts:

Comments:

STL BUFFALO

City of North Tonawanda Waste H2O Treatment Plant
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

NCR 13SA

Contract: NY01-078Lab Code: STLBFLO

Case No.: _____

SAS No.: _____

SDG No.: A05-4411Matrix (soil/water): WATERLevel (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75 - 125	11918.22		563.45		10000.0	113.5		P
Antimony	75 - 125	211.41		20.00	U	200.0	105.7		P
Barium	75 - 125	287.93		63.44		200.0	112.2		P
Beryllium	75 - 125	199.22		2.00	U	200.0	99.6		P
Cadmium	75 - 125	197.08		1.00	U	200.0	98.5		P
Calcium	75 - 125	204217.80		185931.50		10000.0	182.9*		P
Chromium	75 - 125	209.50		11.05		200.0	99.2		P
Cobalt	75 - 125	197.68		4.00	U	200.0	98.8		P
Copper	75 - 125	215.24		10.00	U	200.0	107.6		P
Iron	75 - 125	11337.08		1312.41		10000.0	100.2		P
Lead	75 - 125	200.73		5.00	U	200.0	100.4		P
Magnesium	75 - 125	100448.80		86051.86		10000.0	144.0*		P
Manganese	75 - 125	308.34		102.96		200.0	102.7		P
Nickel	75 - 125	211.12		14.45		200.0	98.3		P
Potassium	75 - 125	14717.90		2287.12		10000.0	124.3		P
Selenium	75 - 125	205.32		15.00	U	200.0	102.7		P
Silver	75 - 125	54.12		3.00	U	50.0	108.2		P
Sodium	75 - 125	67908.06		54484.71		10000.0	134.2*		P
Thallium	75 - 125	206.20		20.00	U	200.0	103.1		P
Vanadium	75 - 125	207.77		5.00	U	200.0	103.9		P
Zinc	75 - 125	200.01		20.00	U	200.0	100.0		P

Comments:

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER SURROGATE RECOVERY

21/437

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

	Client Sample ID	Lab Sample ID	BFB %REC #	DCE %REC #	TOL %REC #						TOT OUT
1	MSB10	A5B0707101	92	97	96						0
2	NCR 13S	A5441101	86	92	89						0
3	NCR 13S	A5441101MS	84	95	87						0
4	NCR 13S	A5441101SD	81	100	89						0
5	NCR 3S	A5441102	83	99	92						0
6	NCR 4S	A5441103	84	99	90						0
7	NCR 5S	A5441104	80	102	94						0
8	VBLK10	A5B0707102	86	89	92						0

QC LIMITS

BFB = p-Bromofluorobenzene
DCE = 1,2-Dichloroethane-D4
TOL = Toluene-D8

(73-117)
(72-143)
(76-116)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

8270 - SELECT SEMI-VOLATILE ORGANICS
WATER SURROGATE RECOVERY

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

	Client Sample ID	Lab Sample ID	2FP %REC #	FBP %REC #	NBZ %REC #	PHL %REC #	TBP %REC #	TPH %REC #			TOT OUT
1	Matrix Spike Blank	A5B0640801	40	81	70	29	92	86			0
2	Method Blank	A5B0640802	45	87	78	32	99	92			0
3	NCR 13S	A5441101	37	76	68	25	93	73			0
4	NCR 3S	A5441102	32	70	59	22	92	70			0
5	NCR 4S	A5441103	40	68	65	29	83	55			0
6	NCR 5S	A5441104	40	79	71	27	92	77			0

QC LIMITS

2FP	=	2-Fluorophenol	(21-120)
FBP	=	2-Fluorobiphenyl	(21-120)
NBZ	=	Nitrobenzene-D5	(52-120)
PHL	=	Phenol-D5	(13-120)
TBP	=	2,4,6-Tribromophenol	(62-133)
TPH	=	p-Terphenyl-d14	(36-138)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER MATRIX SPIKE BLANK RECOVERY

23/437

Lab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5B0707102

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: VBLK10

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS REC.
1,1-Dichloroethene	10.0	8.51	85	65 - 138
Trichloroethene	10.0	9.41	94	71 - 120
Benzene	10.0	9.07	91	67 - 126
Toluene	10.0	9.31	93	71 - 120
Chlorobenzene	10.0	9.41	94	74 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike recovery: 0 out of 5 outside limits

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

24/437

Lab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5441101

Lab Code: REONY Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: NCR 13S

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	10.0	0	10.3	104	65 - 138
Trichloroethene	10.0	0	10.9	109	71 - 120
Benzene	10.0	0	10.4	105	67 - 126
Toluene	10.0	0	9.58	96	71 - 120
Chlorobenzene	10.0	0	9.32	93	74 - 120

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD REC.
1,1-Dichloroethene	10.0	10.6	106	2	16 65 - 138
Trichloroethene	10.0	11.3	113	4	14 71 - 120
Benzene	10.0	11.0	110	5	11 67 - 126
Toluene	10.0	10.1	101	5	15 71 - 120
Chlorobenzene	10.0	9.97	100	7	13 74 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike recovery: 0 out of 10 outside limits

Comments: _____

8270 - SELECT SEMI-VOLATILE ORGANICS
WATER MATRIX SPIKE BLANK RECOVERYLab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5B0640802Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: Method Blank

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====
Phenol_____	100	27.8	28	16 - 120
1,4-Dichlorobenzene_____	100	41.4	41	28 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike recovery: ____0 out of ____2 outside limits

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
METHOD BLANK SUMMARY

26/437
Client No.

Lab Name: STL Buffalo Contract: _____ VBLK10

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID: L7960.RR Lab Sample ID: A5B0707102

Date Analyzed: 05/12/2005 Time Analyzed: 21:34

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: I50L

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
1	MSB10	A5B0707101	L7959.RR	21:02
2	NCR 13S	A5441101	L7962.RR	22:41
3	NCR 13S	A5441101MS	L7963.RR	23:13
4	NCR 13S	A5441101SD	L7964.RR	23:45
5	NCR 3S	A5441102	L7965.RR	00:18
6	NCR 4S	A5441103	L7966.RR	00:50
7	NCR 5S	A5441104	L7967.RR	01:22

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

27/437

Client No.

VBLK10

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5B0707102

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: L7960.RR

Level: (low/med) LOW

Date Samp/Recv: _____

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 05/12/2005

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1	Acetone		25	U
71-43-2	Benzene		0.70	U
75-27-4	Bromodichloromethane		1.0	U
75-25-2	Bromoform		1.0	U
74-83-9	Bromomethane		1.0	U
78-93-3	2-Butanone		10	U
75-15-0	Carbon Disulfide		1.0	U
56-23-5	Carbon Tetrachloride		1.0	U
108-90-7	Chlorobenzene		5.0	U
124-48-1	Dibromochloromethane		1.0	U
75-00-3	Chloroethane		1.0	U
67-66-3	Chloroform		1.0	U
74-87-3	Chloromethane		1.0	U
75-34-3	1,1-Dichloroethane		1.0	U
107-06-2	1,2-Dichloroethane		1.0	U
75-35-4	1,1-Dichloroethene		1.0	U
540-59-0	1,2-Dichloroethene (Total)		2.0	U
78-87-5	1,2-Dichloropropane		1.0	U
142-28-9	1,3-Dichloropropane		1.0	U
100-41-4	Ethylbenzene		5.0	U
591-78-6	2-Hexanone		5.0	U
75-09-2	Methylene chloride		5.0	U
108-10-1	4-Methyl-2-pentanone		5.0	U
100-42-5	Styrene		1.0	U
630-20-6	1,1,1,2-Tetrachloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
108-88-3	Toluene		5.0	U
71-55-6	1,1,1-Trichloroethane		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
79-01-6	Trichloroethene		5.0	U
75-01-4	Vinyl chloride		2.0	U
1330-20-7	Total Xylenes		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U

8270 - SELECT SEMI-VOLATILE ORGANICS
METHOD BLANK SUMMARY

28/437

Client No.

Lab Name: STL Buffalo

Contract: _____

Method Blank

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID: W02935.RR

Lab Sample ID: A5B0640802

Instrument ID: HP5973W

Date Extracted: 05/03/2005

Matrix: (soil/water) WATER

Date Analyzed: 05/04/2005

Level: (low/med) LOW

Time Analyzed: 18:08

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
1	Matrix Spike Blank	A5B0640801	W02934.RR	05/04/2005
2	NCR 13S	A5441101	W02937.RR	05/04/2005
3	NCR 3S	A5441102	W02938.RR	05/04/2005
4	NCR 4S	A5441103	W02939.RR	05/04/2005
5	NCR 5S	A5441104	W02940.RR	05/04/2005

Comments: _____

29/437

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

Client No.

Method Blank

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: A5B0640802Sample wt/vol: 1000.0 (g/mL) MLLab File ID: W02935.RRLevel: (low/med) LOW

Date Samp/Recv: _____

% Moisture: _____ decanted: (Y/N) NDate Extracted: 05/03/2005Concentrated Extract Volume: 1000 (uL)Date Analyzed: 05/04/2005Injection Volume: 1.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 5.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		10	U
541-73-1-----	1,3-Dichlorobenzene		10	U
106-46-7-----	1,4-Dichlorobenzene		10	U
108-95-2-----	Phenol		10	U
95-48-7-----	2-Methylphenol		10	U
108-39-4-----	3-Methylphenol		10	U
106-44-5-----	4-Methylphenol		10	U

STL BUFFALO**City of North Tonawanda Waste H2O Treatment Plant**

-3-

BLANKSContract: NY01-078Lab Code: STLBFL0

Case No.: _____

SAS No.: _____

SDG NO.: A05-4411Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Aluminum	200.0 U	200.0 U		200.0 U		200.0 U		200.000 U		P
Antimony	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P
Barium	2.0 U	2.0 U		2.0 U		2.0 U		2.000 U		P
Beryllium	2.0 U	2.0 U		2.0 U		2.0 U		2.000 U		P
Cadmium	1.0 U	1.0 U		1.0 U		1.0 U		1.000 U		P
Calcium	500.0 U	500.0 U		500.0 U		500.0 U		500.000 U		P
Chromium	4.0 U	4.0 U		4.0 U		4.0 U		4.000 U		P
Cobalt	4.0 U	4.0 U		4.0 U		4.0 U		4.000 U		P
Copper	10.0 U	10.0 U		10.0 U		10.0 U		10.000 U		P
Iron	50.0 U	50.0 U		50.0 U		50.0 U		50.000 U		P
Lead	5.0 U	5.0 U		5.0 U		5.0 U		5.000 U		P
Magnesium	200.0 U	200.0 U		200.0 U		200.0 U		200.000 U		P
Manganese	3.0 U	3.0 U		3.0 U		3.0 U		3.000 U		P
Nickel	10.0 U	10.0 U		10.0 U		10.0 U		10.000 U		P
Potassium	500.0 U	500.0 U		500.0 U		500.0 U		500.000 U		P
Selenium	15.0 U	15.0 U		15.0 U		15.0 U		15.000 U		P
Silver	3.0 U	3.0 U		3.0 U		3.0 U		3.000 U		P
Sodium	1000.0 U	1000.0 U		1000.0 U		1000.0 U		1000.000 U		P
Thallium	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P
Vanadium	5.0 U	5.0 U		5.0 U		5.0 U		5.000 U		P
Zinc	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P

Comments:

STL BUFFALO**City of North Tonawanda Waste H2O Treatment Plant**

-3-

BLANKSContract: NY01-078Lab Code: STLBFLO

Case No.: _____

SAS No.: _____

SDG NO.: A05-4411Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M	
		1	2	3							
		C	C	C	C	C	C	C			
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.200	U	CV

Comments:

STL BUFFALO**City of North Tonawanda Waste H2O Treatment Plant**

-3-

BLANKSContract: NY01-078Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A05-4411Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Mercury		0.1	U	0.1	U					CV

Comments:

METHOD 8260 - SELECT VOLATILE ORGANICS
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

33/437

Lab Name: STL Buffalo

Contract: _____

Labsampid: A5C0003673

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID (Standard): L7957.RR

Date Analyzed: 05/12/2005

Instrument ID: 150L

Time Analyzed: 19:47

GC Column(1): DB-624 ID: 0.530(mm)

Heated Purge: (Y/N) N

		IS1 (CBZ)		IS2 (DCB)		IS3 (DFB)	
		AREA	#	AREA	#	AREA	#
12 HOUR STD		1475591	16.26	787511	19.91	1932371	11.03
UPPER LIMIT		2951182	16.76	1575022	20.41	3864742	11.53
LOWER LIMIT		737796	15.76	393756	19.41	966186	10.53
CLIENT SAMPLE	Lab Sample ID						
1 MSB10	A5B0707101	1380244	16.28	744727	19.93	1844171	11.06
2 NCR 13S	A5441101	1323641	16.29	647144	19.94	1687553	11.08
3 NCR 13S	A5441101MS	1330661	16.29	637476	19.94	1673762	11.09
4 NCR 13S	A5441101SD	1290114	16.30	605844	19.95	1625911	11.08
5 NCR 3S	A5441102	1242011	16.30	609023	19.95	1604297	11.08
6 NCR 4S	A5441103	1195564	16.30	587388	19.95	1560658	11.09
7 NCR 5S	A5441104	1150839	16.29	533734	19.95	1514642	11.09
8 VBLK10	A5B0707102	1300280	16.28	621958	19.93	1774860	11.06

AREA UNIT RT
QC LIMITS QC LIMITS

IS1 (CBZ) = Chlorobenzene-D5
IS2 (DCB) = 1,4-Dichlorobenzene-D4
IS3 (DFB) = 1,4-Difluorobenzene

(50-200) -0.50 / +0.50 min
(50-200) -0.50 / +0.50 min
(50-200) -0.50 / +0.50 min

Column to be used to flag recovery values
* Values outside of contract required QC limits

8270 - SELECT SEMI-VOLATILE ORGANICS
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003579
 Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): W02925.RR Date Analyzed: 05/04/2005
 Instrument ID: HP5973W Time Analyzed: 13:48

		IS1 (ANT)		IS2 (CRY)		IS3 (DCB)	
		AREA	#	AREA	#	AREA	#
=====		=====		=====		=====	
12 HOUR STD		271025	11.02	508917	15.70	125058	6.55
UPPER LIMIT		542050	11.52	1017834	16.20	250116	7.05
LOWER LIMIT		135513	10.52	254459	15.20	62529	6.05
=====		=====		=====		=====	
CLIENT SAMPLE	Lab Sample ID						
=====		=====		=====		=====	
1 Matrix Spike Blank	A580640801	237058	11.02	460517	15.70	110314	6.55
2 Method Blank	A580640802	250075	11.02	477880	15.70	118666	6.55
3 NCR 13S	A5441101	246052	11.02	467998	15.70	112239	6.55
4 NCR 3S	A5441102	247634	11.02	477365	15.70	113849	6.55
5 NCR 4S	A5441103	268167	11.02	526009	15.70	121463	6.55
6 NCR 5S	A5441104	256457	11.02	484172	15.70	118609	6.55

AREA UNIT RT
QC LIMITS QC LIMITS

IS1 (ANT) = Acenaphthene-D10 (50-200) -0.50 / +0.50 min
 IS2 (CRY) = Chrysene-D12 (50-200) -0.50 / +0.50 min
 IS3 (DCB) = 1,4-Dichlorobenzene-D4 (50-200) -0.50 / +0.50 min

Column to be used to flag recovery values

* Values outside of contract required QC limits

8270 - SELECT SEMI-VOLATILE ORGANICS
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003579
 Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): W02925.RR Date Analyzed: 05/04/2005
 Instrument ID: HP5973W Time Analyzed: 13:48

		IS4 (NPT)		IS5 (PHN)		IS6 (PRY)	
		AREA	#	AREA	#	AREA	#
=====		=====		=====		=====	
12 HOUR STD		505805	8.42	476409	13.06	553625	16.94
UPPER LIMIT		1011610	8.92	952818	13.56	1107250	17.44
LOWER LIMIT		252903	7.92	238205	12.56	276813	16.44
=====		=====		=====		=====	
CLIENT SAMPLE	Lab Sample ID	=====		=====		=====	
=====	=====	=====		=====		=====	
1 Matrix Spike Blank	A5B0640801	445921	8.42	428361	13.06	528713	16.93
2 Method Blank	A5B0640802	473182	8.42	444349	13.06	559214	16.93
3 NCR 13S	A5441101	457849	8.42	440669	13.06	555273	16.93
4 NCR 3S	A5441102	465904	8.42	445378	13.06	556053	16.93
5 NCR 4S	A5441103	490027	8.42	481467	13.06	601918	16.93
6 NCR 5S	A5441104	481069	8.42	467530	13.06	581044	16.93

AREA UNIT RT
QC LIMITS QC LIMITS

IS4 (NPT) = Naphthalene-D8
 IS5 (PHN) = Phenanthrene-D10
 IS6 (PRY) = Perylene-D12

(50-200) -0.50 / +0.50 min
 (50-200) -0.50 / +0.50 min
 (50-200) -0.50 / +0.50 min

Column to be used to flag recovery values
 * Values outside of contract required QC limits

SAMPLE DATA PACKAGE

SDG NARRATIVE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED		RECEIVED	
			DATE	TIME	DATE	TIME
A5441101	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441101MS	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441101SD	NCR 13S	GW	05/03/2005	12:30	05/03/2005	15:15
A5441102	NCR 3S	GW	05/03/2005	13:10	05/03/2005	15:15
A5441103	NCR 4S	GW	05/03/2005	13:45	05/03/2005	15:15
A5441104	NCR 5S	GW	05/03/2005	14:30	05/03/2005	15:15

METHODS SUMMARY

Job#: A05-4411STL Project#: NY1A8791Site Name: City of North Tonawanda

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - SELECT VOLATILE ORGANICS	SW8463 8260
8270 - SELECT SEMI-VOLATILE ORGANICS	SW8463 8270
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7470
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-4411STL Project#: NY1A8791Site Name: City of North TonawandaGeneral Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-4411

Sample Cooler(s) were received at the following temperature(s); 9.0 °C

Samples were received at a temperature of 9°C. These samples were analyzed as per instructions from the client. Based on EPA data validation guidelines, there is no impact on data usability.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

Initial calibration standard curve A5I0001493-1 exhibited the %RSD of several compounds as greater than 15%. However, the mean RSD of all compounds is 11.25%.

GC/MS Semivolatile Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

The recovery of sample NCR 13S Post Spike exceeded quality control limits for Calcium, Magnesium, and Sodium. However, the LFB (A5B0641401) was acceptable, therefore, no corrective action was necessary.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

CHAIN OF CUSTODY

**Chain of
Custody Record**

**SEVERN
TRENT**

STL

Severn Trent Laboratories, Inc.

FL-4124 (0901)

Client NT WWT		Project Manager Bill Davignon		Date 5/3/05	Chain of Custody Number 194631
Address Rive Rd		Telephone Number (Area Code)/Fax Number (716) 695-8560		Lab Number	Page 1 of 2

City North Tonawanda	State NY	Zip Code 14120	Site Contact Rick Becken	Lab Contact Amy Huang	Analysis (Attach list if more space is needed)
Project Name and Location (State) Niagara County Refuse Site			Carrier/Waybill Number Dam Enterprises Inc.		Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description Containers for each sample may be combined on one line	Date	Time	Matrix					Containers & Preservatives								8260	8270	T. Metals										
			Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH														
NCR 3S	5/3/05	1310	✓									✓				✓												
NCR 3S		"	✓					✓								✓												
NCR 3S		"	✓							✓						✓												
NCR 4S		1345	✓								✓					✓												
NCR 4S		1345	✓					✓								✓												
NCR 4S		1345	✓							✓						✓												
NCR 5S		1430	✓								✓					✓												
NCR 5S		1430	✓					✓								✓												
NCR 5S		143	✓							✓						✓												
NCR 13S		1230	✓								✓					✓												
NCR 13S		1230	✓					✓								✓												
NCR 13S		1230	✓							✓						✓												

Possible Hazard Identification			Sample Disposal			(A fee may be assessed if samples are retained longer than 1 month)		
☐ Non-Hazard	☐ Flammable	☐ Skin Irritant	☐ Poison B	☒ Unknown	☐ Return To Client	☒ Disposal By Lab	☐ Archive For _____ Months	

Turn Around Time Required			QC Requirements (Specify)		
☐ 24 Hours	☐ 48 Hours	☐ 7 Days	☒ 14 Days	☐ 21 Days	☐ Other _____

1. Relinquished By Rick Becken	Date 5/3/05	Time 1515	1. Received By [Signature]	Date 05/03/05	Time 1515
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments **9/0"**

L-4124 (0901)

- 'lient

Contract/Purchase Order/Quote No.

Don Enterprises Inc

Severn Trent Laboratories, Inc.

Page 2 of 2

Analysis (Attach list if more space is needed)

Special Instructions/
Conditions of Receipt

Sample I.D. No. and Description

Containers for each sample may be combined on one line)

Date _____

Time

Matrix

Containers & Preservatives

SCR 135 MS

5	3	05
---	---	----

1230

CR 135 MSD

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other.

QC Requirements (Specify)

Relinquished By V. L. C. Becker

Date	Time
5/3/05	1515

1. Received By O S Q

Date 05/03/05 Time 1515

Relinquished By

Date	Time
------	------

2. Received By

Date _____ Time _____

Relinquished By

Date	Time
------	------

3. Received By

Date	Time
------	------

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

43/43/

ANALYTICAL REPORT

Job#: A05-E623

STL Project#: NY1A8791

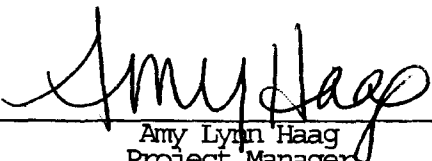
Site Name: City of North Tonawanda

Task: Niagara County Refuse Site

Paul Drof
City of North Tonawanda
830 River Road
North Tonawanda, NY 14120

CC: Eric Felzer

STL Buffalo



Amy Lynn Haag
Project Manager

01/05/2006

STL Buffalo Current Certifications

As of 12/28/2005

STATE	Program	Cert # / Lab ID
AFCEE	AFCEE	
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP CWA, RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA, CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	02970
USACE	USACE	
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington	CWA, RCRA	C254
West Virginia	CWA, RCRA	252
Wisconsin	CWA	998310390

Sample Data Summary Package

SAMPLE SUMMARY

<u>LAB SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLED</u>		<u>RECEIVED</u>	
			<u>DATE</u>	<u>TIME</u>	<u>DATE</u>	<u>TIME</u>
A5E62305	FIELD DUP # 1	GW	12/23/2005		12/23/2005	15:10
A5E62301	NCR 13S	GW	12/23/2005	14:45	12/23/2005	15:10
A5E62302	NCR 3S	GW	12/23/2005	11:35	12/23/2005	15:10
A5E62303	NCR 4S	GW	12/23/2005	13:30	12/23/2005	15:10
A5E62304	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62304MS	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62304SD	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62306	TRIP BLANK	WATER	12/23/2005		12/23/2005	15:10

METHODS SUMMARY

Job#: A05-E623STL Project#: NY1A8791Site Name: City of North Tonawanda

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - SELECT VOLATILE ORGANICS	SW8463 8260
8270 - SELECT SEMI-VOLATILE ORGANICS	SW8463 8270
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7470
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-E623STL Project#: NY1A8791Site Name: City of North TonawandaGeneral Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-E623

Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

Initial calibration standard curve ASI0002442-1 exhibited the %RSD of the compounds Bromomethane, Chloroethane, Methylene Chloride, and Bromoform as greater than 15%. However, the mean RSD of all compounds is 8.04%.

GC/MS Semivolatile Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.



DATA QUALIFIER PAGE

These definitions are provided in the event the data in this report requires the use of one or more of the qualifiers. Not all qualifiers defined below are necessarily used in the accompanying data package.

ORGANIC DATA QUALIFIERS

- ND or U Indicates compound was analyzed for, but not detected.
- J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank, as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at the secondary dilution factor.
- N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
- P This flag is used for CLP methodology only. For Pesticide/Aroclor target analytes, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- 1 Indicates coelution.
- * Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

- ND or U Indicates element was analyzed for, but not detected. Report with the detection limit value.
- J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- N Indicates spike sample recovery is not within the quality control limits.
- S Indicates value determined by the Method of Standard Addition.
- E Indicates a value estimated or not reported due to the presence of interferences.
- H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
- * Indicates the spike or duplicate analysis is not within the quality control limits.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

8/412

Client No.

FIELD DUP # 1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5E62305

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S9706.RR

Level: (low/med) LOW Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1-----	Acetone		25	U
71-43-2-----	Benzene		0.70	U
75-27-4-----	Bromodichloromethane		1.0	U
75-25-2-----	Bromoform		1.0	U
74-83-9-----	Bromomethane		1.0	U
78-93-3-----	2-Butanone		10	U
75-15-0-----	Carbon Disulfide		1.0	U
56-23-5-----	Carbon Tetrachloride		1.0	U
108-90-7-----	Chlorobenzene		5.0	U
124-48-1-----	Dibromochloromethane		1.0	U
75-00-3-----	Chloroethane		1.0	U
67-66-3-----	Chloroform		1.0	U
74-87-3-----	Chloromethane		1.0	U
75-34-3-----	1,1-Dichloroethane		1.0	U
107-06-2-----	1,2-Dichloroethane		1.0	U
75-35-4-----	1,1-Dichloroethene		1.0	U
540-59-0-----	1,2-Dichloroethene (Total)		2.0	U
78-87-5-----	1,2-Dichloropropane		1.0	U
142-28-9-----	1,3-Dichloropropane		1.0	U
100-41-4-----	Ethylbenzene		5.0	U
591-78-6-----	2-Hexanone		5.0	U
75-09-2-----	Methylene chloride		5.0	U
108-10-1-----	4-Methyl-2-pentanone		5.0	U
100-42-5-----	Styrene		1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane		1.0	U
127-18-4-----	Tetrachloroethene		5.0	U
108-88-3-----	Toluene		5.0	U
71-55-6-----	1,1,1-Trichloroethane		1.0	U
79-00-5-----	1,1,2-Trichloroethane		1.0	U
79-01-6-----	Trichloroethene		5.0	U
75-01-4-----	Vinyl chloride		2.0	U
1330-20-7-----	Total Xylenes		5.0	U
10061-02-6-----	trans-1,3-Dichloropropene		1.0	U
10061-01-5-----	cis-1,3-Dichloropropene		1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

9/412

Client No.

NCR 13S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5E62301

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: S9700.RR

Level: (low/med) LOW

Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	25	U
71-43-2-----	Benzene	0.70	U
75-27-4-----	Bromodichloromethane	1.0	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
78-93-3-----	2-Butanone	10	U
75-15-0-----	Carbon Disulfide	1.0	U
56-23-5-----	Carbon Tetrachloride	1.0	U
108-90-7-----	Chlorobenzene	5.0	U
124-48-1-----	Dibromochloromethane	1.0	U
75-00-3-----	Chloroethane	1.0	U
67-66-3-----	Chloroform	1.0	U
74-87-3-----	Chloromethane	1.0	U
75-34-3-----	1,1-Dichloroethane	1.0	U
107-06-2-----	1,2-Dichloroethane	1.0	U
75-35-4-----	1,1-Dichloroethene	1.0	U
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U
78-87-5-----	1,2-Dichloropropane	1.0	U
142-28-9-----	1,3-Dichloropropane	1.0	U
100-41-4-----	Ethylbenzene	5.0	U
591-78-6-----	2-Hexanone	5.0	U
75-09-2-----	Methylene chloride	5.0	U
108-10-1-----	4-Methyl-2-pentanone	5.0	U
100-42-5-----	Styrene	1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U
127-18-4-----	Tetrachloroethene	5.0	U
108-88-3-----	Toluene	5.0	U
71-55-6-----	1,1,1-Trichloroethane	1.0	U
79-00-5-----	1,1,2-Trichloroethane	1.0	U
79-01-6-----	Trichloroethene	5.0	U
75-01-4-----	Vinyl chloride	2.0	U
1330-20-7-----	Total Xylenes	5.0	U
10061-02-6-----	trans-1,3-Dichloropropene	1.0	U
10061-01-5-----	cis-1,3-Dichloropropene	1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

10/412

Client No.

NCR 3S

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5E62302

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S9701.RR

Level: (low/med) LOW Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	25	U
71-43-2-----	Benzene	0.70	U
75-27-4-----	Bromodichloromethane	1.0	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
78-93-3-----	2-Butanone	10	U
75-15-0-----	Carbon Disulfide	1.0	U
56-23-5-----	Carbon Tetrachloride	1.0	U
108-90-7-----	Chlorobenzene	5.0	U
124-48-1-----	Dibromochloromethane	1.0	U
75-00-3-----	Chloroethane	1.0	U
67-66-3-----	Chloroform	1.0	U
74-87-3-----	Chloromethane	1.0	U
75-34-3-----	1,1-Dichloroethane	1.0	U
107-06-2-----	1,2-Dichloroethane	1.0	U
75-35-4-----	1,1-Dichloroethene	1.0	U
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U
78-87-5-----	1,2-Dichloropropane	1.0	U
142-28-9-----	1,3-Dichloropropane	1.0	U
100-41-4-----	Ethylbenzene	5.0	U
591-78-6-----	2-Hexanone	5.0	U
75-09-2-----	Methylene chloride	5.0	U
108-10-1-----	4-Methyl-2-pentanone	5.0	U
100-42-5-----	Styrene	1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U
127-18-4-----	Tetrachloroethene	5.0	U
108-88-3-----	Toluene	5.0	U
71-55-6-----	1,1,1-Trichloroethane	1.0	U
79-00-5-----	1,1,2-Trichloroethane	1.0	U
79-01-6-----	Trichloroethene	5.0	U
75-01-4-----	Vinyl chloride	2.0	U
1330-20-7-----	Total Xylenes	5.0	U
10061-02-6----	trans-1,3-Dichloropropene	1.0	U
10061-01-5----	cis-1,3-Dichloropropene	1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

11/412

Client No.

NCR 4S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5E62303

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: S9702.RR

Level: (low/med) LOW

Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1-----	Acetone		25	U
71-43-2-----	Benzene		0.70	U
75-27-4-----	Bromodichloromethane		1.0	U
75-25-2-----	Bromoform		1.0	U
74-83-9-----	Bromomethane		1.0	U
78-93-3-----	2-Butanone		10	U
75-15-0-----	Carbon Disulfide		1.0	U
56-23-5-----	Carbon Tetrachloride		1.0	U
108-90-7-----	Chlorobenzene		5.0	U
124-48-1-----	Dibromochloromethane		1.0	U
75-00-3-----	Chloroethane		1.0	U
67-66-3-----	Chloroform		1.0	U
74-87-3-----	Chloromethane		1.0	U
75-34-3-----	1,1-Dichloroethane		1.0	U
107-06-2-----	1,2-Dichloroethane		1.0	U
75-35-4-----	1,1-Dichloroethene		1.0	U
540-59-0-----	1,2-Dichloroethene (Total)		2.0	U
78-87-5-----	1,2-Dichloropropane		1.0	U
142-28-9-----	1,3-Dichloropropane		1.0	U
100-41-4-----	Ethylbenzene		5.0	U
591-78-6-----	2-Hexanone		5.0	U
75-09-2-----	Methylene chloride		5.0	U
108-10-1-----	4-Methyl-2-pentanone		5.0	U
100-42-5-----	Styrene		1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane		1.0	U
127-18-4-----	Tetrachloroethene		5.0	U
108-88-3-----	Toluene		5.0	U
71-55-6-----	1,1,1-Trichloroethane		1.0	U
79-00-5-----	1,1,2-Trichloroethane		1.0	U
79-01-6-----	Trichloroethene		5.0	U
75-01-4-----	Vinyl chloride		2.0	U
1330-20-7-----	Total Xylenes		5.0	U
10061-02-6----	trans-1,3-Dichloropropene		1.0	U
10061-01-5----	cis-1,3-Dichloropropene		1.0	U

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

12/412

Client No.

NCR 5S

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5E62304

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S9703.RR

Level: (low/med) LOW Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1	Acetone	25	U	
71-43-2	Benzene	0.70	U	
75-27-4	Bromodichloromethane	1.0	U	
75-25-2	Bromoform	1.0	U	
74-83-9	Bromomethane	1.0	U	
78-93-3	2-Butanone	10	U	
75-15-0	Carbon Disulfide	1.0	U	
56-23-5	Carbon Tetrachloride	1.0	U	
108-90-7	Chlorobenzene	5.0	U	
124-48-1	Dibromochloromethane	1.0	U	
75-00-3	Chloroethane	1.0	U	
67-66-3	Chloroform	1.0	U	
74-87-3	Chloromethane	1.0	U	
75-34-3	1,1-Dichloroethane	1.0	U	
107-06-2	1,2-Dichloroethane	1.0	U	
75-35-4	1,1-Dichloroethene	1.0	U	
540-59-0	1,2-Dichloroethene (Total)	2.0	U	
78-87-5	1,2-Dichloropropane	1.0	U	
142-28-9	1,3-Dichloropropane	1.0	U	
100-41-4	Ethylbenzene	5.0	U	
591-78-6	2-Hexanone	5.0	U	
75-09-2	Methylene chloride	5.0	U	
108-10-1	4-Methyl-2-pentanone	5.0	U	
100-42-5	Styrene	1.0	U	
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	
127-18-4	Tetrachloroethene	5.0	U	
108-88-3	Toluene	5.0	U	
71-55-6	1,1,1-Trichloroethane	1.0	U	
79-00-5	1,1,2-Trichloroethane	1.0	U	
79-01-6	Trichloroethene	5.0	U	
75-01-4	Vinyl chloride	2.0	U	
1330-20-7	Total Xylenes	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

13/412

Client No.

TRIP BLANK

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5E62306

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: S9707.RR

Level: (low/med) LOW

Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
67-64-1-----	Acetone		25	U
71-43-2-----	Benzene		0.70	U
75-27-4-----	Bromodichloromethane		1.0	U
75-25-2-----	Bromoform		1.0	U
74-83-9-----	Bromomethane		1.0	U
78-93-3-----	2-Butanone		10	U
75-15-0-----	Carbon Disulfide		1.0	U
56-23-5-----	Carbon Tetrachloride		1.0	U
108-90-7-----	Chlorobenzene		5.0	U
124-48-1-----	Dibromochloromethane		1.0	U
75-00-3-----	Chloroethane		1.0	U
67-66-3-----	Chloroform		1.0	U
74-87-3-----	Chloromethane		1.0	U
75-34-3-----	1,1-Dichloroethane		1.0	U
107-06-2-----	1,2-Dichloroethane		1.0	U
75-35-4-----	1,1-Dichloroethene		1.0	U
540-59-0-----	1,2-Dichloroethene (Total)		2.0	U
78-87-5-----	1,2-Dichloropropane		1.0	U
142-28-9-----	1,3-Dichloropropane		1.0	U
100-41-4-----	Ethylbenzene		5.0	U
591-78-6-----	2-Hexanone		5.0	U
75-09-2-----	Methylene chloride		5.0	U
108-10-1-----	4-Methyl-2-pentanone		5.0	U
100-42-5-----	Styrene		1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane		1.0	U
127-18-4-----	Tetrachloroethene		5.0	U
108-88-3-----	Toluene		5.0	U
71-55-6-----	1,1,1-Trichloroethane		1.0	U
79-00-5-----	1,1,2-Trichloroethane		1.0	U
79-01-6-----	Trichloroethene		5.0	U
75-01-4-----	Vinyl chloride		2.0	U
1330-20-7-----	Total Xylenes		5.0	U
10061-02-6----	trans-1,3-Dichloropropene		1.0	U
10061-01-5----	cis-1,3-Dichloropropene		1.0	U

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

14/412

Client No.

NCR 13S

Lab Name: STL Buffalo Contract: _____

Lab Code: REONY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5E62301

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: V12654.RR

Level: (low/med) LOW Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/28/2005

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 8.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		9	U
541-73-1-----	1,3-Dichlorobenzene		9	U
106-46-7-----	1,4-Dichlorobenzene		9	U
108-95-2-----	Phenol		9	U
95-48-7-----	2-Methylphenol		9	U
108-39-4-----	3-Methylphenol		9	U
106-44-5-----	4-Methylphenol		9	U

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

15/412

Client No.

NCR 3S

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5E62302

Sample wt/vol: 1060.0 (g/mL) ML

Lab File ID: V12655.RR

Level: (low/med) LOW

Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 12/28/2005

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/30/2005

Injection Volume: 1.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		9	U
541-73-1-----	1,3-Dichlorobenzene		9	U
106-46-7-----	1,4-Dichlorobenzene		9	U
108-95-2-----	Phenol		9	U
95-48-7-----	2-Methylphenol		9	U
108-39-4-----	3-Methylphenol		9	U
106-44-5-----	4-Methylphenol		9	U

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

16/412

Client No.

NCR 4S

Lab Name: STL Buffalo Contract: _____

Lab Code: RECONY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5E62303

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: V12656.RR

Level: (low/med) LOW Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/28/2005

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		9	U
541-73-1-----	1,3-Dichlorobenzene		9	U
106-46-7-----	1,4-Dichlorobenzene		9	U
108-95-2-----	Phenol		9	U
95-48-7-----	2-Methylphenol		9	U
108-39-4-----	3-Methylphenol		9	U
106-44-5-----	4-Methylphenol		9	U

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

17/412

Client No.

NCR 5S

Lab Name: STL Buffalo

Contract: _____

Lab Code: REONY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A5E62304

Sample wt/vol: 1060.0 (g/mL) ML

Lab File ID: V12657.RR

Level: (low/med) LOW

Date Samp/Recv: 12/23/2005 12/23/2005

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 12/28/2005

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/30/2005

Injection Volume: 1.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-50-1-----	1,2-Dichlorobenzene	9	U
541-73-1-----	1,3-Dichlorobenzene	9	U
106-46-7-----	1,4-Dichlorobenzene	9	U
108-95-2-----	Phenol	9	U
95-48-7-----	2-Methylphenol	9	U
108-39-4-----	3-Methylphenol	9	U
106-44-5-----	4-Methylphenol	9	U

North Tonawanda Water Works
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 13S

Contract: NY01-078

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG No.: A05-E623

Matrix (soil/water): WATER

Lab Sample ID: AD573697

Level (low/med): LOW

Date Received: 12/23/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3380			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	63.2			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	162000			P
7440-47-3	Chromium	23.2			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	13.6			P
7439-89-6	Iron	6870			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	75700			P
7439-96-5	Manganese	34.4			P
7440-02-0	Nickel	16.9			P
7440-09-7	Potassium	2800			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	68700			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	10.3			P
7440-66-6	Zinc	20.0	U		P

Color Before: YELLOW

Clarity Before: CLOUDY

Texture: NONE

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:

North Tonawanda Water Works
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 3S

Contract: NY01-078

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A05-E623

Matrix (soil/water): WATER

Lab Sample ID: AD573698

Level (low/med): LOW

Date Received: 12/23/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	360			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	65.9			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	196000			P
7440-47-3	Chromium	21.4			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	11.6			P
7439-89-6	Iron	13600			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	110000			P
7439-96-5	Manganese	1870			P
7440-02-0	Nickel	55.5			P
7440-09-7	Potassium	2660			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	26900			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	5.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: NONE

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

North Tonawanda Water Works
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 4S

Contract: NY01-078

Lab Code: STLBFO

Case No.:

SAS No.:

SDG NO.: A05-E623

Matrix (soil/water): WATER

Lab Sample ID: AD573699

Level (low/med): LOW

Date Received: 12/23/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4170			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	92.4			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.1			P
7440-70-2	Calcium	106000			P
7440-47-3	Chromium	4.8			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	11.4			P
7439-89-6	Iron	22400			P
7439-92-1	Lead	11.5			P
7439-95-4	Magnesium	33600			P
7439-96-5	Manganese	329			P
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	18800			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	29300			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	5.0	U		P
7440-66-6	Zinc	465			P

Color Before: YELLOW

Clarity Before: CLOUDY

Texture: NONE

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:

North Tonawanda Water Works
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

NCR 5S

Contract: NY01-078

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A05-E623

Matrix (soil/water): WATER

Lab Sample ID: AD573700

Level (low/med): LOW

Date Received: 12/23/2005

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6380			P
7440-36-0	Antimony	20.0	U		P
7440-39-3	Barium	151			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	104000			P
7440-47-3	Chromium	34.5			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	24.5			P
7439-89-6	Iron	7840			P
7439-92-1	Lead	8.5			P
7439-95-4	Magnesium	63800			P
7439-96-5	Manganese	210			P
7440-02-0	Nickel	36.2			P
7440-09-7	Potassium	2570			P
7782-49-2	Selenium	15.0	U		P
7440-22-4	Silver	3.0	U		P
7439-97-6	Mercury	0.200	U		CV
7440-23-5	Sodium	52800			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	12.2			P
7440-66-6	Zinc	61.0			P

Color Before: GRAY

Clarity Before: CLOUDY

Texture: NONE

Color After: GRAY

Clarity After: CLOUDY

Artifacts:

Comments:

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER SURROGATE RECOVERY

22/412

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECHY

Case No.: _____

SAS No.: _____

SDG No.: _____

	Client Sample ID	Lab Sample ID	BFB %REC #	DCE %REC #	TOL %REC #						TOT OUT
1	FIELD DUP # 1	A5E62305	86	106	95						0
2	msb22	A5B2013701	88	104	98						0
3	NCR 13S	A5E62301	83	104	92						0
4	NCR 3S	A5E62302	78	99	88						0
5	NCR 4S	A5E62303	85	105	96						0
6	NCR 5S	A5E62304	84	106	94						0
7	NCR 5S	A5E62304MS	81	97	90						0
8	NCR 5S	A5E62304SD	81	96	90						0
9	TRIP BLANK	A5E62306	82	105	93						0
10	vblk22	A5B2013702	86	105	95						0

QC LIMITS

BFB = p-Bromofluorobenzene
DCE = 1,2-Dichloroethane-D4
TOL = Toluene-D8

(73-120)
(72-143)
(76-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

8270 - SELECT SEMI-VOLATILE ORGANICS
WATER SURROGATE RECOVERY

23/412

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

	Client Sample ID	Lab Sample ID	2FP %REC #	FBP %REC #	NBZ %REC #	PHL %REC #	TBP %REC #	TPH %REC #			TOT OUT
1	Matrix Spike Blank	A5B2005201	41	64	77	31	85	87			0
2	Matrix Spike Blk Dup	A5B2005202	46	75	84	35	91	93			0
3	NCR 13S	A5E62301	34	70	76	24	83	64			0
4	NCR 3S	A5E62302	38	76	79	28	93	70			0
5	NCR 4S	A5E62303	35	64	69	28	72	64			0
6	NCR 5S	A5E62304	38	78	79	28	91	79			0
7	S Blank	A5B2005203	44	75	82	33	89	88			0

QC LIMITS

2FP	=	2-Fluorophenol	(21-120)
FBP	=	2-Fluorobiphenyl	(21-120)
NBZ	=	Nitrobenzene-D5	(52-120)
PHL	=	Phenol-D5	(13-120)
TBP	=	2,4,6-Tribromophenol	(62-133)
TPH	=	p-Terphenyl-d14	(36-138)

- # Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER MATRIX SPIKE BLANK RECOVERY

24/412

Lab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5B2013702

Lab Code: RECNY Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: vblk22

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS REC.
1,1-Dichloroethene _____	25.0	29.2	117	65 - 142
Trichloroethene _____	25.0	27.3	110	71 - 120
Benzene _____	25.0	27.2	109	67 - 126
Toluene _____	25.0	25.8	103	69 - 120
Chlorobenzene _____	25.0	25.0	100	73 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike recovery: ____ 0 out of ____ 5 outside limits

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

25/412

Lab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5E62304

Lab Code: RECONY

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: NCR 5S

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	25.0	0	30.6	123	65 - 142
Trichloroethene	25.0	0	28.8	115	71 - 120
Benzene	25.0	0	28.9	116	67 - 126
Toluene	25.0	0	27.2	109	69 - 120
Chlorobenzene	25.0	0	25.5	102	73 - 120

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD REC.
1,1-Dichloroethene	25.0	31.0	124	0	16 65 - 142
Trichloroethene	25.0	28.6	114	0	16 71 - 120
Benzene	25.0	28.9	116	0	13 67 - 126
Toluene	25.0	27.0	108	0	18 69 - 120
Chlorobenzene	25.0	25.9	104	2	19 73 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike recovery: 0 out of 10 outside limits

Comments: _____

8270 - SELECT SEMI-VOLATILE ORGANICS
WATER MATRIX SPIKE BLANK/MATRIX SPIKE BLANK DUPLICATE RECOVERY

26/412

Lab Name: STL Buffalo

Contract: _____

Lab Samp ID: A5B2005203

Lab Code: RECNY Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix Spike - Client Sample No.: S Blank

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS REC.
Phenol_____	100	30.7	31	16 - 120
1,4-Dichlorobenzene_____	100	54.4	54	28 - 120

COMPOUND	SPIKE ADDED UG/L	MSBD CONCENTRATION UG/L	MSBD % REC #	% RPD #	QC LIMITS	
Phenol_____	100	34.7	35	12	39	16 - 120
1,4-Dichlorobenzene_____	100	62.9	63	15	35	28 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: ____0 out of ____2 outside limits

Spike recovery: ____0 out of ____4 outside limits

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
METHOD BLANK SUMMARY

27/412
Client No.

vblk22

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID: S9693.RR

Lab Sample ID: A5B2013702

Date Analyzed: 12/28/2005

Time Analyzed: 09:44

GC Column: DB-624 ID: 0.18 (mm)

Heated Purge: (Y/N) N

Instrument ID: HP5973S

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	FIELD DUP # 1	A5E62305	S9706.RR	15:00
2	msb22	A5B2013701	S9692.RR	09:19
3	NCR 13S	A5E62301	S9700.RR	12:34
4	NCR 3S	A5E62302	S9701.RR	12:58
5	NCR 4S	A5E62303	S9702.RR	13:22
6	NCR 5S	A5E62304	S9703.RR	13:47
7	NCR 5S	A5E62304MS	S9704.RR	14:12
8	NCR 5S	A5E62304SD	S9705.RR	14:36
9	TRIP BLANK	A5E62306	S9707.RR	15:25

Comments: _____

METHOD 8260 - SELECT VOLATILE ORGANICS
ANALYSIS DATA SHEET

28/412

Client No.

vblk22

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5B2013702

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S9693.RR

Level: (low/med) LOW Date Samp/Recv: _____

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 12/28/2005

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
67-64-1-----	Acetone	25	U
71-43-2-----	Benzene	0.70	U
75-27-4-----	Bromodichloromethane	1.0	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
78-93-3-----	2-Butanone	10	U
75-15-0-----	Carbon Disulfide	1.0	U
56-23-5-----	Carbon Tetrachloride	1.0	U
108-90-7-----	Chlorobenzene	5.0	U
124-48-1-----	Dibromochloromethane	1.0	U
75-00-3-----	Chloroethane	1.0	U
67-66-3-----	Chloroform	1.0	U
74-87-3-----	Chloromethane	1.0	U
75-34-3-----	1,1-Dichloroethane	1.0	U
107-06-2-----	1,2-Dichloroethane	1.0	U
75-35-4-----	1,1-Dichloroethene	1.0	U
540-59-0-----	1,2-Dichloroethene (Total)	2.0	U
78-87-5-----	1,2-Dichloropropane	1.0	U
142-28-9-----	1,3-Dichloropropane	1.0	U
100-41-4-----	Ethylbenzene	5.0	U
591-78-6-----	2-Hexanone	5.0	U
75-09-2-----	Methylene chloride	5.0	U
108-10-1-----	4-Methyl-2-pentanone	5.0	U
100-42-5-----	Styrene	1.0	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.0	U
127-18-4-----	Tetrachloroethene	5.0	U
108-88-3-----	Toluene	5.0	U
71-55-6-----	1,1,1-Trichloroethane	1.0	U
79-00-5-----	1,1,2-Trichloroethane	1.0	U
79-01-6-----	Trichloroethene	5.0	U
75-01-4-----	Vinyl chloride	2.0	U
1330-20-7-----	Total Xylenes	5.0	U
10061-02-6-----	trans-1,3-Dichloropropene	1.0	U
10061-01-5-----	cis-1,3-Dichloropropene	1.0	U

8270 - SELECT SEMI-VOLATILE ORGANICS
METHOD BLANK SUMMARY

29/412

Client No.

S Blank

Lab Name: STL Buffalo

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID: V12653.RR

Lab Sample ID: A5B2005203

Instrument ID: HP5973V

Date Extracted: 12/28/2005

Matrix: (soil/water) WATER

Date Analyzed: 12/30/2005

Level: (low/med) LOW

Time Analyzed: 21:26

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
1	Matrix Spike Blank	A5B2005201	V12651.RR	12/30/2005
2	Matrix Spike Blk Dup	A5B2005202	V12652.RR	12/30/2005
3	NCR 13S	A5E62301	V12654.RR	12/30/2005
4	NCR 3S	A5E62302	V12655.RR	12/30/2005
5	NCR 4S	A5E62303	V12656.RR	12/30/2005
6	NCR 5S	A5E62304	V12657.RR	12/30/2005

Comments: _____

8270 - SELECT SEMI-VOLATILE ORGANICS
ANALYSIS DATA SHEET

30/412

Client No.

S Blank

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5B2005203

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: V12653.RR

Level: (low/med) LOW Date Samp/Recv: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/28/2005

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		10	U
541-73-1-----	1,3-Dichlorobenzene		10	U
106-46-7-----	1,4-Dichlorobenzene		10	U
108-95-2-----	Phenol		10	U
95-48-7-----	2-Methylphenol		10	U
108-39-4-----	3-Methylphenol		10	U
106-44-5-----	4-Methylphenol		10	U

STL BUFFALO**North Tonawanda Water Works**

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BLANKSContract: NY01-078Lab Code: STLBFLO

Case No.: _____

SAS No.: _____

SDG NO.: A05-E623Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Aluminum	200.0 U	200.0 U		200.0 U		200.0 U		200.000 U		P
Antimony	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P
Barium	2.0 U	2.0 U		2.0 U		2.0 U		2.000 U		P
Beryllium	2.0 U	2.0 U		2.0 U		2.0 U		2.000 U		P
Cadmium	1.0 U	1.0 U		1.0 U		1.0 U		1.000 U		P
Calcium	500.0 U	500.0 U		500.0 U		500.0 U		500.000 U		P
Chromium	4.0 U	4.0 U		4.0 U		4.0 U		4.000 U		P
Cobalt	4.0 U	4.0 U		4.0 U		4.0 U		4.000 U		P
Copper	10.0 U	10.0 U		10.0 U		10.0 U		10.000 U		P
Iron	50.0 U	50.0 U		50.0 U		50.0 U		50.000 U		P
Lead	5.0 U	5.0 U		5.0 U		5.0 U		5.000 U		P
Magnesium	200.0 U	200.0 U		200.0 U		200.0 U		200.000 U		P
Manganese	3.0 U	3.0 U		3.0 U		3.0 U		3.000 U		P
Nickel	10.0 U	10.0 U		10.0 U		10.0 U		10.000 U		P
Potassium	500.0 U	500.0 U		500.0 U		500.0 U		500.000 U		P
Selenium	15.0 U	15.0 U		15.0 U		15.0 U		15.000 U		P
Silver	3.0 U	3.0 U		3.0 U		3.0 U		3.000 U		P
Sodium	1000.0 U	1000.0 U		1000.0 U		1000.0 U		1000.000 U		P
Thallium	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P
Vanadium	5.0 U	5.0 U		5.0 U		5.0 U		5.000 U		P
Zinc	20.0 U	20.0 U		20.0 U		20.0 U		20.000 U		P

Comments:

STL BUFFALO**North Tonawanda Water Works**

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BLANKSContract: NY01-078Lab Code: STLBFLO

Case No.: _____

SAS No.: _____

SDG NO.: A05-E623Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Aluminum		200.0	U							P
Antimony		20.0	U							P
Barium		2.0	U							P
Beryllium		2.0	U							P
Cadmium		1.0	U							P
Calcium		500.0	U							P
Chromium		4.0	U							P
Cobalt		4.0	U							P
Copper		10.0	U							P
Iron		50.0	U							P
Lead		5.0	U							P
Magnesium		200.0	U							P
Manganese		3.0	U							P
Nickel		10.0	U							P
Potassium		500.0	U							P
Selenium		15.0	U							P
Silver		3.0	U							P
Sodium		1000.0	U							P
Thallium		20.0	U							P
Vanadium		5.0	U							P
Zinc		20.0	U							P

Comments:

STL BUFFALO**North Tonawanda Water Works**

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BLANKSContract: NY01-078Lab Code: STLBFLO

Case No.: _____

SAS No.: _____

SDG NO.: A05-E623Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Mercury	0.1 U	0.1	U	0.1	U	0.1	U	0.200	U	CV

Comments:

Lab Name: STL Buffalo

Contract: _____

Labsampid: A5C0006632

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID (Standard): S9691.RR

Date Analyzed: 12/28/2005

Instrument ID: HP5973S

Time Analyzed: 08:52

GC Column(1): DB-624

ID: 0.180(mm)

Heated Purge: (Y/N) N

		IS1 (CBZ)		IS2 (DCB)		IS3 (DFB)	
		AREA	# RT #	AREA	# RT #	AREA	# RT #
12 HOUR STD		557609	7.30	290663	9.16	392221	5.09
UPPER LIMIT		1115218	7.80	581326	9.66	784442	5.59
LOWER LIMIT		278805	6.80	145332	8.66	196111	4.59
CLIENT SAMPLE	Lab Sample ID						
1 FIELD DUP # 1	A5E62305	532248	7.30	250290	9.17	368978	5.09
2 msb22	A5B2013701	545359	7.30	253524	9.16	396361	5.09
3 NCR 13S	A5E62301	527175	7.30	247498	9.17	365091	5.09
4 NCR 3S	A5E62302	546062	7.30	259834	9.17	378766	5.09
5 NCR 4S	A5E62303	536064	7.30	256273	9.17	376783	5.09
6 NCR 5S	A5E62304	517189	7.30	245955	9.16	359381	5.09
7 NCR 5S	A5E62304MS	539369	7.30	257768	9.17	383419	5.09
8 NCR 5S	A5E62304SD	541303	7.30	262631	9.17	385354	5.09
9 TRIP BLANK	A5E62306	520252	7.30	249342	9.17	360086	5.09
10 vblk22	A5B2013702	535567	7.30	244360	9.17	375838	5.09

AREA UNIT
QC LIMITS

RT
QC LIMITS

IS1 (CBZ) = Chlorobenzene-D5

(50-200) -0.50 / +0.50 min

IS2 (DCB) = 1,4-Dichlorobenzene-D4

(50-200) -0.50 / +0.50 min

IS3 (DFB) = 1,4-Difluorobenzene

(50-200) -0.50 / +0.50 min

Column to be used to flag recovery values

* Values outside of contract required QC limits

8270 - SELECT SEMI-VOLATILE ORGANICS
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

35/412

Lab Name: STL Buffalo

Contract: _____

Labsampid: A6C0003147

Lab Code: RECNY

Case No.: _____

SAS No.: _____

SDG No.: _____

Lab File ID (Standard): V12635.RR

Date Analyzed: 12/30/2005

Instrument ID: HP5973V

Time Analyzed: 13:49

		IS1 (ANT)		IS2 (CRY)		IS3 (DCB)	
		AREA	# RT #	AREA	# RT #	AREA	# RT #
=====		=====		=====		=====	
12 HOUR STD		306764	10.98	468126	15.65	138551	6.50
UPPER LIMIT		613528	11.48	936252	16.15	277102	7.00
LOWER LIMIT		153382	10.48	234063	15.15	69276	6.00
=====		=====		=====		=====	
CLIENT SAMPLE	Lab Sample ID						
=====		=====		=====		=====	
1 Matrix Spike Blank	A5B2005201	299465	10.97	471156	15.65	131132	6.50
2 Matrix Spike Blk Dup	A5B2005202	279838	10.97	434359	15.65	120353	6.50
3 NCR 13S	A5E62301	308172	10.97	479076	15.65	132895	6.50
4 NCR 3S	A5E62302	338696	10.97	527118	15.65	146836	6.50
5 NCR 4S	A5E62303	306761	10.97	475139	15.65	131625	6.50
6 NCR 5S	A5E62304	272066	10.97	425980	15.65	115425	6.50
7 S Blank	A5B2005203	310215	10.97	488341	15.65	135158	6.50

AREA UNIT
QC LIMITS

RT
QC LIMITS

IS1 (ANT) = Acenaphthene-D10

(50-200) -0.50 / +0.50 min

IS2 (CRY) = Chrysene-D12

(50-200) -0.50 / +0.50 min

IS3 (DCB) = 1,4-Dichlorobenzene-D4

(50-200) -0.50 / +0.50 min

Column to be used to flag recovery values

* Values outside of contract required QC limits

8270 - SELECT SEMI-VOLATILE ORGANICS
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

36/412

Lab Name: STL Buffalo Contract: _____ Labsampid: A6C0003147
Lab Code: RECNV Case No.: _____ SAS No.: _____ SDG No.: _____
Lab File ID (Standard): V12635.RR Date Analyzed: 12/30/2005
Instrument ID: HP5973V Time Analyzed: 13:49

		IS4 (NPT)		IS5 (PHN)		IS6 (PRY)	
		AREA	# RT #	AREA	# RT #	AREA	# RT #
=====		=====		=====		=====	
12 HOUR STD		542379	8.38	481006	13.02	537121	16.87
UPPER LIMIT		1084758	8.88	962012	13.52	1074242	17.37
LOWER LIMIT		271190	7.88	240503	12.52	268561	16.37
=====		=====		=====		=====	
CLIENT SAMPLE	Lab Sample ID						
=====		=====		=====		=====	
1 Matrix Spike Blank	A582005201	538994	8.38	478466	13.02	524603	16.87
2 Matrix Spike Blk Dup	A582005202	494852	8.38	434619	13.01	476624	16.87
3 NCR 13S	A5E62301	539431	8.38	484005	13.01	537421	16.87
4 NCR 3S	A5E62302	598817	8.38	522418	13.01	584760	16.87
5 NCR 4S	A5E62303	534437	8.38	478104	13.01	526671	16.87
6 NCR 5S	A5E62304	483864	8.38	429551	13.01	475009	16.87
7 S Blank	A582005203	542562	8.38	481352	13.01	533206	16.87

AREA UNIT RT
QC LIMITS QC LIMITS

IS4 (NPT) = Naphthalene-D8 (50-200) -0.50 / +0.50 min
IS5 (PHN) = Phenanthrene-D10 (50-200) -0.50 / +0.50 min
IS6 (PRY) = Perylene-D12 (50-200) -0.50 / +0.50 min

Column to be used to flag recovery values
* Values outside of contract required QC limits

Sample Data Package

SDG Narrative

SAMPLE SUMMARY

<u>LAB SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLED</u>		<u>RECEIVED</u>	
			<u>DATE</u>	<u>TIME</u>	<u>DATE</u>	<u>TIME</u>
A5E62305	FIELD DUP # 1	GW	12/23/2005		12/23/2005	15:10
A5E62301	NCR 13S	GW	12/23/2005	14:45	12/23/2005	15:10
A5E62302	NCR 3S	GW	12/23/2005	11:35	12/23/2005	15:10
A5E62303	NCR 4S	GW	12/23/2005	13:30	12/23/2005	15:10
A5E62304	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62304MS	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62304SD	NCR 5S	GW	12/23/2005	11:00	12/23/2005	15:10
A5E62306	TRIP BLANK	WATER	12/23/2005		12/23/2005	15:10

METHODS SUMMARY

Job#: A05-E623STL Project#: NY1A8791Site Name: City of North Tonawanda

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - SELECT VOLATILE ORGANICS	SW8463 8260
8270 - SELECT SEMI-VOLATILE ORGANICS	SW8463 8270
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7470
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-E623STL Project#: NY1A8791Site Name: City of North TonawandaGeneral Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-E623

Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

Initial calibration standard curve A5I0002442-1 exhibited the %RSD of the compounds Bromomethane, Chloroethane, Methylene Chloride, and Bromoform as greater than 15%. However, the mean RSD of all compounds is 8.04%.

GC/MS Semivolatile Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Chain Of Custody Documentation

STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client North Tonawanda w WT	Project Manager Bill Devignon	Date 12/23/05	Chain of Custody Number 242438
Address River Rd.	Telephone Number (Area Code)/Fax Number (716) 695-8560	Lab Number	Page 1 of 1

City North Tonawanda	State NY	Zip Code 14120	Site Contact Rick Becken	Lab Contact Amy Haug	Analysis (Attach list if more space is needed)									
Project Name and Location (State) Niagara County Refuse Site			Carrier/Waybill Number Dam Enterprises Inc.		Lab									
Contract/Purchase Order/Quote No.														

[illegible]

Possible Hazard Identification					Sample Disposal				
☐ Non-Hazard	☐ Flammable	☐ Skin Irritant	☐ Poison B	☒ Unknown	☐ Return To Client	☒ Disposal By Lab	☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)	

Turn Around Time Required ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

1. Relinquished By <i>Joe L. Becker</i>	Date <i>12/23/05</i>	Time <i>1510</i>	1. Received By <i>Tim P. J. STC</i>	Date <i>12/23/05</i>	Time <i>1510</i>
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

43/412

Date: 12/24/2005
Time: 07:23:55

STL Buffalo
Sample Inventory

Page: 1
Rept: AN0383

Job No: A05-E623 Client: North Tonawanda Water Works Project: NY1A8791 SDG: Case: SMO No: No. Samps: 6				Radiation Check: YES Custody Seal: NO Chain of Custody: YES Sample Tags: NO Sample Tag Numbers: NO SMO Forms: NO CLSIS: NO		Cooler Temperature: 2.0°C			
Sample	Receive	Client Sample ID	Lab ID	Condition	Bottles	Parameters	Lab	Pres log	
								Code	PH
12/23/2005 14:45	12/23/2005 15:10	NCR 13S	A5E62301	Good	3-40mLV 1-1lGA	TCL VOAS SVOA	RECNY	0103	<2
12/23/2005 11:35	12/23/2005 15:10	NCR 3S	A5E62302	Good	1-16ozP 3-40mLV 1-1lGA	T-METALS TCL VOAS SVOA	RECNY	0100	<2
12/23/2005 13:30	12/23/2005 15:10	NCR 4S	A5E62303	Good	1-16ozP 3-40mLV 1-1lGA	T-METALS TCL VOAS SVOA	RECNY	0001	<2
12/23/2005 11:00	12/23/2005 15:10	NCR 5S	A5E62304	Good	1-16ozP 3-40mLV 1-1lGA	T-METALS TCL VOAS SVOA	RECNY	0103	<2
12/23/2005 11:00	12/23/2005 15:10	NCR 5S	A5E62304MS	Good	2-40mLV	TCL VOAS	RECNY	0001	<2
12/23/2005 11:00	12/23/2005 15:10	NCR 5S	A5E62304SD	Good	2-40mLV	TCL VOAS	RECNY	0103	<2
12/23/2005	12/23/2005 15:10	FIELD DUP # 1	A5E62305	Good	2-40mLV	8260	RECNY	0103	<2
12/23/2005	12/23/2005 15:10	TRIP BLANK	A5E62306	Good	1-40mLV	8260	RECNY	0103	<2

Sample Custodian:

Tommy 12/24/2005

Analytical Services Coordinator:

/ /20

Preservation Code References:

First Digit: Sample Filtration; 1=Filtered, 0=Unfiltered
Second Digit: Sample Requires Cooling; (4°) 1=Cooled, 0=Not Cooled

Third, Fourth Digits - Preservation Types:
00=Nothing added, 01=HNO3, 02=H2SO4, 03=HCl, 04=Sodium Thiosulfate
05=NaOH, 06=NaOH+Zinc Acetate, 07=Sodium Thiosulfate+HCl, 08=MeOH
09=MCAA (Mono chloroacetic acid)

44/412

Volatiles

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

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

CREW MEMBERS: RC Becker

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: WCR-35

ONE WELL VOLUME: 0.34 gallons

FIVE WELL VOLUMES: 1.69 gallons

(See Section 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)	<u>~.3</u>	<u>~.6</u>				
pH	<u>6.18</u>	<u>6.1</u>				
TEMPERATURE	<u>48.8</u>	<u>48.7</u>				
CONDUCTIVITY	<u>1.17</u>	<u>1.27</u>				
TURBIDITY	<u>26.12</u>	<u>4.10</u>				
COLOR	<u>clear</u>	<u>clear</u>				
ODOR	<u>none</u>	<u>none</u>				
COMMENTS		<u>well dry app. 1 gal</u>				

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE

PRINT NAME

SIGNATURE

FP-4C

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

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

CREW MEMBERS: RC Becker

PURGING METHOD: Dedicated Bladder Pump Disposable Bailer

WELL NUMBER: WCR 45

ONE WELL VOLUME: .4 gallons

FIVE WELL VOLUMES: 2.03 gallons

(See Section 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	~.75				
pH	6.31	6.3				
TEMPERATURE	49.2	49.5				
CONDUCTIVITY	0.90	1.01				
TURBIDITY	442	477				
COLOR	silty	silty				
ODOR	none	none				
COMMENTS		well dry ~.80 gal				

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE

PRINT NAME

SIGNATURE

FP-4C

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

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

CREW MEMBERS: RC Becken

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: WCR 135

ONE WELL VOLUME: 0.38 gallons

FIVE WELL VOLUMES: 1.98 gallons

(See Section 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)	~.3	~1.00	~1.33			
pH	5.9	5.7	5.62			
TEMPERATURE	46.7	46.6	46.0			
CONDUCTIVITY	1.68	1.83	1.85			
TURBIDITY	17.43	19.98	23.93			
COLOR	clear	clear	clear			
ODOR	none	none	none			
COMMENTS			well dry			

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE

PRINT NAME

SIGNATURE

FP-4C

purged dry at 0945

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

DATE: 10/5/03/05 (MM DD YY)

CREW MEMBERS: RC Becker

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: NCR 55

ONE WELL VOLUME: .64 gallons

FIVE WELL VOLUMES: 3.22 gallons

(See Section 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)	~.75	~1.25	~2.0			
pH	6.36	6.03	6.01			
TEMPERATURE	48.3	47.4	49.0			
CONDUCTIVITY	1.09	1.02	1.05			
TURBIDITY	272	140	34.33			
COLOR	silty	silty	clear			
ODOR	none	none	none			
COMMENTS			well dry ~2.5 gal			

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE

PRINT NAME

SIGNATURE

FP-4C

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: NIAGARA COUNTY REFUSE SITE

SAMPLING CREW MEMBERS: Richard C. Becken

DATE OF SAMPLE COLLECTION: 05/03/05
(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	NCR 3S	.34	~1.0	1310	monitoring well	volatiles, sent to volatiles + metals	194631	
NCR 4S	NCR 4S	.4	~.8	1345	/	" "	"	
NCR 5S	NCR 5S	.64	~2.5	1430		" "	"	
NCR 13S	NCR 13S	.58	1.33	1230		" "	"	
NCR 13S	(MS/MSD) * NCR 13S	.38	1.33	1230			194632	
	(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:

FP-5A

NIAGARA COUNTY REFUSE SITE

GROUNDWATER PURGING AND SAMPLING • COMPLETION CHECKLIST

BEFORE GOING TO SITE:

- ☒ Confirm well numbers, location, and accessibility.
- ☒ Review of project documents (i.e., QAPP, HSCP, and sampling procedures in the OM&M Manual), sampling QA/QC, and site-specific sampling requirements.
- ☒ Historical well data; depth, pH, performance and disposition of purge water.
- ☒ Site access notification and coordination.
- ☒ Coordinated with laboratory.
- ☒ Procured, inventoried, and inspected all equipment and supplies.
- ☒ Prepared, calibrated, and performed required maintenance on equipment.

AT SITE:

- ☒ Instruments calibrated daily.
- ☒ Sampling equipment decontaminated in accordance with the QAPP.
- ☒ Initial well measurements logged.
- ☒ Well volume calculated and specified volumes removed.
- ☒ Purged water collected.
- ☒ Specified samples and QA/QC samples taken per Quality Assurance Project Plan (QAPP).
- ☒ Samples properly labeled, preserved, and packed.
- ☒ Well was secured after completion of sampling.
- ☒ Sample dates, times, locations and sample numbers recorded in applicable log(s).
- ☒ Samples properly stored if not shipped/delivered to lab same day.
- ☒ Samples shipped with complete and accurate Chain-of-Custody record.

AFTER SAMPLING:

- ☒ All equipment has been maintained, decontaminated, and returned.
- ☒ Sampling information reduced and required sample keys and field data distributed.
- ☒ Chain-of-Custody records filed.
- ☒ Expendable stock supplies replaced.
- ☒ Access keys and well cap keys returned.
- ☒ Arranged disposal/treatment for purged water and decontamination fluids.
- ☒ Confirm all samples collected.

Completed by:



Date:

5/3/05

FP-4B

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

DATE: 1/2/23/05 (MM DD YY)

CREW MEMBERS: RC Becken

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: NER-45

ONE WELL VOLUME: 0.384 gallons

FIVE WELL VOLUMES: 1.921 gallons

(See Section 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	~1 gal				
pH	8.61	7.92				
TEMPERATURE	40.5	38.1				
CONDUCTIVITY	0.85	0.78				
TURBIDITY	52	276				
COLOR	clear	cloudy				
ODOR	none	none				
COMMENTS		well dry				

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

12/23/05
DATE

Richard C Becken
PRINT NAME

Richard C Becken
SIGNATURE

FP-4C

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

DATE: 12/23/05 (MM DD YY)

CREW MEMBERS: Rc Becken

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: NCE 55

ONE WELL VOLUME: 55 gallons

FIVE WELL VOLUMES: 2.75 gallons

(See Section 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)	~.5	~1.2				
pH	7.62	7.48				
TEMPERATURE	41.5	43.8				
CONDUCTIVITY	0.95	0.90				
TURBIDITY	45.66	588				
COLOR	clear	cloudy				
ODOR	none	none				
COMMENTS		well dry				

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

12/23/05
DATE

Richard C Becken
PRINT NAME

Richard Becken
SIGNATURE

FP-4C

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

DATE: 11/22/05 (MM DD YY)

CREW MEMBERS: Rc Becken

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: NCR-35

ONE WELL VOLUME: .275 gallons

FIVE WELL VOLUMES: 1.377 gallons

(See Section 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)	~.3	~.5	~.75			
pH	7.27	7.10	7.09			
TEMPERATURE	41.6	43.2	43.5			
CONDUCTIVITY	1.43	1.53	1.51			
TURBIDITY	7.49	16.26	23.25			
COLOR	clear black flakes	clear	clear			
ODOR	none	none	none			
COMMENTS		well dry	well dry			

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

12/23/05
DATE

Richard C Becken
PRINT NAME

Richard C Becken
SIGNATURE

FP-4C

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuse Site

DATE: 1/24/05 (MM DD YY)

CREW MEMBERS: R C Becker

PURGING METHOD: Dedicated Bladder Pump

WELL NUMBER: NCR 135

ONE WELL VOLUME: 0.33 gallons

FIVE WELL VOLUMES: 1.65 gallons

(See Section 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)	~.3	~.6	~1			
pH	7.23	7.16	7.13			
TEMPERATURE	44.1	43.9	44			
CONDUCTIVITY	1.41	1.40	1.42			
TURBIDITY	32.30	81	247			
COLOR	cloudy	cloudy → light brown	cloudy → light brown			
ODOR	none	none	none			
COMMENTS			well dry			

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

1/24/05
DATE

Richard C Becker
PRINT NAME

Richard C Becker
SIGNATURE

FP-4C

STL-4124 (0901)

Client

STL

Severn Trent Laboratories, Inc.

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: NIAGARA COUNTY REFUSE SITE

SAMPLING CREW MEMBERS: Richard C. Becken

DATE OF SAMPLE COLLECTION: 11/22/05
(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	NCR 3S	275 275	~.75	1135	monitoring well	volatiles, semi-volatiles, metals	242438	
NCR 4S	NCR 4S	380 380	~1.0	1330		volatiles, semi-volatiles, metals		
NCR 5S	NCR 5S	55 55	~1.2	1100		volatiles, semi-vol. metals		
NCR 13S	NCR 13S	33	~1.0	1445		volatiles, semi-volatiles, metals		
NCR 5S	(MS/MSD) *	55		1100		volatiles only		
NCR 13S	(Duplicate) *			1445		volatiles only		
	(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:

FP-5A

APPENDIX C

DATA VALIDATION REPORTS

DATA USABILITY SUMMARY REPORT FOR NIAGARA COUNTY REFUSE SITE

Prepared By:

PARSONS

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REVIEWED AND APPROVED BY:

Project Manager: _____ Date _____

Technical Manager: _____ Date _____

JUNE 2005

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ATTACHMENT A - VALIDATED LABORATORY DATA

SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Niagara County Refuse site in North Tonawanda, New York on May 3, 2005. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- OM&M Manual, and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Severn Trent Laboratories, Inc. (STL) in Buffalo, New York.

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 20 days on average for the groundwater samples.

The data packages received from STL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the 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 STL within one day of sampling. All samples were received intact and in good condition at STL.

1.3 LABORATORY ANALYTICAL METHODS

Groundwater samples were collected from the site and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method 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,

- "N" - presumptive evidence at the value given, and
- "R" - unusable value.

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

1.3.1 Volatile Organic Analysis

Groundwater samples collected from the site were analyzed for target compound list (TCL) VOCs using the USEPA SW-846 8260B analytical method. Certain reported results for the TCL VOC samples were considered estimated due to noncompliant instrument calibrations. Certain reported results for the TCL VOC samples were considered unusable and qualified "R" due to poor calibration linearity of certain compounds. Therefore, the reported TCL VOC analytical results were 94.3% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.2 Semivolatile Organic Analysis

Groundwater samples collected from the site were analyzed for certain SVOCs using the USEPA SW-846 8270C analytical method. The SVOC samples did not require qualification resulting from data validation. Therefore, the reported SVOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.3 Metals Analysis

Groundwater samples collected from the site were analyzed for target analyte list (TAL) metals using the USEPA SW-846 6010B/7470A analytical methods. The metals samples did not require qualification resulting from data validation. All of the metals data were considered usable and 100% complete for the groundwater data presented by STL. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER DATA

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

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

2.1.1 TCL Volatiles

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

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

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of initial and continuing calibrations.

Initial and Continuing Calibrations

All initial calibrations were compliant with a minimum relative response factor (RRF) of 0.05 and a maximum relative standard deviation (%RSD) of 30% with the exception of acetone (RRF=0.0210) and 2-butanone (RRF=0.0330) in the initial

calibration associated with all groundwater samples. Therefore, sample results for acetone and 2-butanone, which were nondetects, were considered unusable and qualified “R” for the affected samples.

All continuing calibration compounds were compliant with a minimum relative response factor (RRF) of 0.05 and a maximum percent difference (%D) of $\pm 25\%$, with the exception of acetone (RRF=0.0214), 2-butanone (RRF=0.0347), and carbon disulfide (29%D) on the continuing calibration associated with all groundwater samples. Sample results for acetone and 2-butanone, which were nondetects, were considered unusable and qualified "R" for the affected samples. The nondetected carbon disulfide results were considered estimated and qualified “UJ”.

Usability

All TCL volatile sample results were considered usable following data validation with the exception of the nondetected acetone and 2-butanone results for all samples due to poor calibration linearity.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness and comparability. The TCL volatile data presented by STL were 94.3% complete (i.e., usable) for groundwater. The validated TCL volatile laboratory data are tabulated and presented in Attachment A.

2.1.2 Semivolatiles

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

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

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All semivolatile sample results were considered usable following data validation.

Summary

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

2.1.3 TAL Metals

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

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration and laboratory preparation blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- Matrix spike recoveries
- Laboratory duplicate precision
- Laboratory control sample
- ICP serial dilution
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All TAL metals sample results were considered usable following data validation.

Summary

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

TABLE 2.1-1
SUMMARY OF SAMPLE ANALYSES AND USABILITY
NIAGARA COUNTY REFUSE SITE

<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLE DATE</u>	<u>TCL VOCs</u>	<u>SVOCs</u>	<u>TAL METALS</u>	<u>FOOTNOTES</u>
NCR-3S	Water	5/3/05	NO	OK	OK	1
NCR-4S	Water	5/3/05	NO	OK	OK	1
NCR-13S	Water	5/3/05	NO	OK	OK	1
NCR-5S	Water	5/3/05	NO	OK	OK	1
TOTAL SAMPLES			4	4	4	

NOTES: OK - Sample analysis considered valid and usable.
 NO - Sample analysis has noncompliances resulting in unusable data. See appropriate footnote.

FOOTNOTES:

- 1 Poor volatile calibration linearity for acetone and 2-butanone.

ATTACHMENT A

VALIDATED LABORATORY DATA

City of North Tonawanda WWTP 830 River Road North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event May 2005		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	NCR-3S A541102 STL-Buffalo A05-4411 WATER 5/3/2005 6/20/2005	NCR-4S A541103 STL-Buffalo A05-4411 WATER 5/3/2005 6/20/2005	NCR-5S A541104 STL-Buffalo A05-4411 WATER 5/3/2005 6/20/2005	NCR-13S A541101 STL-Buffalo A05-4411 WATER 5/3/2005 6/20/2005
CAS NO.	COMPOUND	UNITS:				
	VOLATILES					
67-64-1	Acetone	ug/L	R	R	R	R
71-43-2	Benzene	ug/L	1	0.7 U	0.7 U	0.7 U
75-27-4	Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U
75-25-2	Bromoform	ug/L	1 U	1 U	1 U	1 U
74-83-9	Bromomethane	ug/L	1 U	1 U	1 U	1 U
78-93-3	2-Butanone	ug/L	R	R	R	R
75-15-0	Carbon Disulfide	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
56-23-5	Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U
108-90-7	Chlorobenzene	ug/L	5 U	5 U	5 U	5 U
124-48-1	Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U
75-00-3	Chloroethane	ug/L	1 U	1 U	1 U	1 U
67-66-3	Chloroform	ug/L	1 U	1 U	1 U	1 U
74-87-3	Chloromethane	ug/L	1 U	1 U	1 U	1 U
75-34-3	1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
107-06-2	1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
75-35-4	1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
540-59-0	1,2-Dichloroethene (total)	ug/L	2 U	2 U	2 U	2 U
78-87-5	1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U
142-28-9	1,3-Dichloropropane	ug/L	1 U	1 U	1 U	1 U
100-41-4	Ethylbenzene	ug/L	5 U	5 U	5 U	5 U
591-78-6	2-Hexanone	ug/L	5 U	5 U	5 U	5 U
75-09-2	Methylene chloride	ug/L	5 U	5 U	5 U	5 U
108-10-1	4-Methyl-2-pentanone	ug/L	5 U	5 U	5 U	5 U
100-42-5	Styrene	ug/L	1 U	1 U	1 U	1 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U
127-18-4	Tetrachloroethene	ug/L	5 U	5 U	5 U	5 U
108-88-3	Toluene	ug/L	1.8 J	5 U	5 U	5 U
71-55-6	1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
79-00-5	1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
79-01-6	Trichloroethene	ug/L	5 U	5 U	5 U	5 U
75-01-4	Vinyl chloride	ug/L	2 U	2 U	2 U	2 U
1330-20-7	Total Xylenes	ug/L	1.2 J	5 U	5 U	5 U
10061-02-6	trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U
10061-01-5	cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U
	SEMIVOLATILES					
95-50-1	1,2-Dichlorobenzene	ug/L	9 U	10 U	9 U	9 U
541-73-1	1,3-Dichlorobenzene	ug/L	9 U	10 U	9 U	9 U
106-46-7	1,4-Dichlorobenzene	ug/L	9 U	10 U	9 U	9 U
108-95-2	Phenol	ug/L	9 U	10 U	9 U	9 U
95-48-7	2-Methylphenol	ug/L	9 U	10 U	9 U	9 U
108-39-4	3-Methylphenol	ug/L	9 U	10 U	9 U	9 U
106-44-5	4-Methylphenol	ug/L	9 U	10 U	9 U	9 U
	METALS					
7429-90-5	Aluminum	ug/L	1260	17000	3880	563
7440-36-0	Antimony	ug/L	20 U	20 U	20 U	20 U
7440-39-3	Barium	ug/L	51.7	134	148	63.4
7440-41-7	Beryllium	ug/L	2 U	2 U	2 U	2 U
7440-43-9	Cadmium	ug/L	1 U	1 U	1 U	1 U
7440-70-2	Calcium	ug/L	151000	130000	106000	186000
7440-47-3	Chromium	ug/L	30.6	14.9	26.4	11
7440-48-4	Cobalt	ug/L	4 U	4 U	4 U	4 U
7440-50-8	Copper	ug/L	23.6	33.1	19	10 U
7439-89-6	Iron	ug/L	6590	59600	3190	1310
7439-92-1	Lead	ug/L	5 U	27.2	5 U	5 U
7439-95-4	Magnesium	ug/L	87200	39600	74700	86100
7439-96-5	Manganese	ug/L	564	441	115	103
7440-02-0	Nickel	ug/L	44.7	15.3	26	14.4
7440-09-7	Potassium	ug/L	2470	12900	1690	2290
7782-49-2	Selenium	ug/L	15 U	15 U	15 U	15 U
7440-22-4	Silver	ug/L	3 U	3 U	3 U	3 U
7439-97-6	Mercury	ug/L	0.2 U	0.2 U	0.2 U	0.2 U
7440-23-5	Sodium	ug/L	22800	24700	38700	54500
7440-28-0	Thallium	ug/L	20 U	20 U	20 U	20 U
7440-62-2	Vanadium	ug/L	5 U	9	5.4	5 U
7440-66-6	Zinc	ug/L	23.2	1590	30.2	20 U

DATA USABILITY SUMMARY REPORT FOR NIAGARA COUNTY REFUSE SITE

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PARSONS

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REVIEWED AND APPROVED BY:

Project Manager: _____ Date _____

Technical Manager: _____ Date _____

JANUARY 2006

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ATTACHMENT A - VALIDATED LABORATORY DATA

SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Niagara County Refuse site in North Tonawanda, New York on December 23, 2005. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- OM&M Manual, and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Severn Trent Laboratories, Inc. (STL) in Buffalo, New York.

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 18 days on average for the groundwater samples.

The data packages received from STL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the 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 STL within one day of sampling. All samples were received intact and in good condition at STL.

1.3 LABORATORY ANALYTICAL METHODS

Groundwater samples were collected from the site and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method 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,
- "N" - presumptive evidence at the value given, and

"R" - unusable value.

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

1.3.1 Volatile Organic Analysis

Groundwater samples collected from the site were analyzed for target compound list (TCL) VOCs using the USEPA SW-846 8260B analytical method. Certain reported results for the TCL VOC samples were considered estimated due to noncompliant instrument calibrations. Therefore, the reported TCL VOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.2 Semivolatile Organic Analysis

Groundwater samples collected from the site were analyzed for certain SVOCs using the USEPA SW-846 8270C analytical method. The SVOC samples did not require qualification resulting from data validation. Therefore, the reported SVOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.3 Metals Analysis

Groundwater samples collected from the site were analyzed for target analyte list (TAL) metals using the USEPA SW-846 6010B/7470A analytical methods. The metals samples did not require qualification resulting from data validation. All of the metals data were considered usable and 100% complete for the groundwater data presented by STL. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER DATA

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

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

2.1.1 TCL Volatiles

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

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

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of continuing calibrations.

Continuing Calibrations

All continuing calibration compounds were compliant with a minimum relative response factor (RRF) of 0.05 and a maximum percent difference (%D) of $\pm 25\%$, with the exception of chloroethane (-74%D) on the continuing calibration associated with all groundwater samples. Sample results for chloroethane, which were nondetects, were considered estimated and qualified "UJ".

Usability

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

Summary

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

2.1.2 Semivolatiles

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

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

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All semivolatile sample results were considered usable following data validation.

Summary

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

2.1.3 TAL Metals

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

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration and laboratory preparation blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- Matrix spike recoveries
- Laboratory duplicate precision
- Laboratory control sample
- ICP serial dilution
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All TAL metals sample results were considered usable following data validation.

Summary

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

TABLE 2.1-1
SUMMARY OF SAMPLE ANALYSES AND USABILITY
NIAGARA COUNTY REFUSE SITE

<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLE DATE</u>	<u>TCL VOCs</u>	<u>SVOCs</u>	<u>TAL METALS</u>
NCR-3S	Water	12/23/05	OK	OK	OK
NCR-4S	Water	12/23/05	OK	OK	OK
NCR-13S	Water	12/23/05	OK	OK	OK
NCR-5S	Water	12/23/05	OK	OK	OK
Field DUP #1	Water	12/23/05	OK	OK	
Trip Blank	Water	12/23/05	OK		
TOTAL SAMPLES			6	5	4

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

							NCR-13S	
City of North Tonawanda WWTP 830 River Road North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event December 2005		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	NCR-3S A5E62302 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006	NCR-4S A5E62303 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006	NCR-5S A5E62304 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006	NCR-13S A5E62301 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006	Field Duplicate A5E62305 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006	TRIP BLANK A5E62306 STL-Buffalo A05-E623 WATER 12/23/2005 1/18/2006
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
67-64-1	Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
71-43-2	Benzene	ug/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
75-27-4	Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
75-25-2	Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
74-83-9	Bromomethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
78-93-3	2-Butanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
75-15-0	Carbon Disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
56-23-5	Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
108-90-7	Chlorobenzene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
124-48-1	Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
75-00-3	Chloroethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
67-66-3	Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
74-87-3	Chloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
75-34-3	1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
107-06-2	1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
75-35-4	1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
540-59-0	1,2-Dichloroethene (total)	ug/L	2 U	2 U	2 U	2 U	2 U	2 U
78-87-5	1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
142-28-9	1,3-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
100-41-4	Ethylbenzene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
591-78-6	2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
75-09-2	Methylene chloride	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
108-10-1	4-Methyl-2-pentanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
100-42-5	Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
127-18-4	Tetrachloroethene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
108-88-3	Toluene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
71-55-6	1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
79-00-5	1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
79-01-6	Trichloroethene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
75-01-4	Vinyl chloride	ug/L	2 U	2 U	2 U	2 U	2 U	2 U
1330-20-7	Total Xylenes	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
10061-02-6	trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
10061-01-5	cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
	SEMIVOLATILES							
95-50-1	1,2-Dichlorobenzene	ug/L	9 U	9 U	9 U	9 U		
541-73-1	1,3-Dichlorobenzene	ug/L	9 U	9 U	9 U	9 U		
106-46-7	1,4-Diclorobenzene	ug/L	9 U	9 U	9 U	9 U		
108-95-2	Phenol	ug/L	9 U	9 U	9 U	9 U		
95-48-7	2-Methylphenol	ug/L	9 U	9 U	9 U	9 U		
108-39-4	3-Methylphenol	ug/L	9 U	9 U	9 U	9 U		
106-44-5	4-Methylphenol	ug/L	9 U	9 U	9 U	9 U		
	METALS							
7429-90-5	Aluminum	ug/L	360	4170	6380	3380		
7440-36-0	Antimony	ug/L	20 U	20 U	20 U	20 U		
7440-39-3	Barium	ug/L	65.9	92.4	151	63.2		
7440-41-7	Beryllium	ug/L	2 U	2 U	2 U	2 U		
7440-43-9	Cadmium	ug/L	1 U	1.1	1 U	1 U		
7440-70-2	Calcium	ug/L	196000	106000	104000	162000		
7440-47-3	Chromium	ug/L	21.4	4.8	34.5	23.2		
7440-48-4	Cobalt	ug/L	4 U	4 U	4 U	4 U		
7440-50-8	Copper	ug/L	11.6	11.4	24.5	13.6		
7439-89-6	Iron	ug/L	13600	22400	7840	6870		
7439-92-1	Lead	ug/L	5 U	11.5	8.5	5 U		
7439-95-4	Magnesium	ug/L	110000	33600	63800	75700		
7439-96-5	Manganese	ug/L	1870	329	210	34.4		
7440-02-0	Nickel	ug/L	55.5	10 U	36.2	16.9		
7440-09-7	Potassium	ug/L	2660	18800	2570	2800		
7782-49-2	Selenium	ug/L	15 U	15 U	15 U	15 U		
7440-22-4	Silver	ug/L	3 U	3 U	3 U	3 U		
7439-97-6	Mercury	ug/L	0.2 U	0.2 U	0.2 U	0.2 U		
7440-23-5	Sodium	ug/L	26900	29300	52800	68700		
7440-28-0	Thallium	ug/L	20 U	20 U	20 U	20 U		
7440-62-2	Vanadium	ug/L	5 U	5 U	12.2	10.3		
7440-66-6	Zinc	ug/L	20 U	465	61	20 U		

APPENDIX D

MONTHLY INSPECTION LOGS

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/10/15
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐	Manholes	- cover on securely	yes
		- condition of cover	OK
		- condition of inside of manhole	OK
		- flow conditions	OK
☐	Wet Wells	- cover on securely	yes
		- condition of cover	OK
		- condition of inside of wet well	OK
2. Landfill Cap			
☐	Vegetated Soil Cover	- erosion	minor
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	short
		- dead/dying vegetation	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/10/05
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐ ☐ ☐ ☐	Access Roads	- bare areas, dead/dying veg.	<u>none</u>
		- erosion	<u>none</u>
		- potholes or puddles	<u>none</u>
		- obstruction	<u>none</u>
3. Wetlands (Area "F")			
	- dead/dying vegetation	<u>winter kill</u>	
	- change in water budget	<u>high level</u>	
	- general condition of wetlands	<u>OK</u>	
4. Other Site Systems			
☐ ☐ ☐ ☐	Perimeter Fence	- integrity of fence	<u>OK</u>
		- integrity of gates	<u>OK</u>
		- integrity of locks	<u>OK</u>
		- placement and condition of signs	<u>OK</u>
			<u>repaired area near back gate</u>

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/10/14
(MM DD YY)

INSPECTOR(S):

RC Becken

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/20/31/05
(MM DD YY)

INSPECTOR(S):

Richard C Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	OK
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	no apparent flow
☐ ☐ ☐	Wet Wells	- cover on securely	OK
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	snow covered
		- bare areas	" "
		- washouts	" "
		- leachate seeps	" " none apparent
		- length of vegetation	" "
		- dead/dying vegetation	" "

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/21/05
(MM DD YY)

INSPECTOR(S):

Richard C. Barker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐ ☐ ☐ ☐	Access Roads	- bare areas, dead / dying veg.	<u>snow covered</u>
		- erosion	<u>" "</u>
		- potholes or puddles	<u>" "</u>
		- obstruction	<u>" "</u>
3. Wetlands (Area "F")			
		- dead / dying vegetation	<u>winter conditions</u>
		- change in water budget	<u>slightly higher</u>
		- general condition of wetlands	<u>good</u>
4. Other Site Systems			
☐ ☐ ☐ ☐	Perimeter Fence	- integrity of fence	<u>good</u>
		- integrity of gates	<u>good</u>
		- integrity of locks	<u>good</u>
		- placement and condition of signs	<u>good</u>

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/20/30/51
(MM DD YY)

INSPECTOR(S): Richard C. Becker

Item	Inspect For	Action Required	Comments
4. Other Site Systems (continued)			
☐ Drainage Ditches/ Swale Outlets	- sediment build-up	snow covered	
	- erosion	" "	
	- condition of erosion protection	" "	
	- flow obstructions	"	
	- dead/dying vegetation	" "	
	- cable concrete/gabion mats and riprap	" "	
☐ Culverts	- sediment build-up	snow covered	
	- erosion	" "	
	- condition of erosion protection	" "	
	- flow obstructions	snow	
☐ Gas Vents	- intact / damage	good	
☐ Wells	- locks secure	good	

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/31/05
(MM DD YY)

INSPECTOR(S):

RC Becken

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	OK
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	no apparent flow
☐ ☐ ☐	Wet Wells	- cover on securely	yes
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	snow covered
		- bare areas	ll n
		- washouts	n n
		- leachate seeps	ll n
		- length of vegetation	ll n
		- dead/dying vegetation	ll n

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/31/95
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐ ☐ ☐ ☐	Access Roads	- bare areas, dead/dying veg.	SNOW covered
		- erosion	" "
		- potholes or puddles	" "
		- obstruction	SNOW
3. Wetlands (Area "F")			
	- dead/dying vegetation	winter kill	
	- change in water budget	normal	
	- general condition of wetlands	good	
4. Other Site Systems			
☐ ☐ ☐ ☐	Perimeter Fence	- integrity of fence	good
		- integrity of gates	good
		- integrity of locks	good
		- placement and condition of signs	good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/31/905
(MM DD YY)

INSPECTOR(S):

R. Becker

Item	Inspect For	Action Required	Comments
4. Other Site Systems (continued)			
☐ Drainage Ditches/ Swale Outlets	- sediment build-up	snow covered	
	- erosion	" "	
	- condition of erosion protection	" "	
	- flow obstructions	snow	
	- dead/dying vegetation	snow covered	
	- cable concrete/gabion mats and riprap	" "	
☐ Culverts	- sediment build-up	snow covered	
	- erosion	" "	
	- condition of erosion protection	" "	
	- flow obstructions	snow	
☐ Gas Vents	- intact / damage	good	
☐ Wells	- locks secure	yes	

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/10/95
(MM DD YY)

INSPECTOR(S):

R. C. Barker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
	Manholes	- cover on securely	OK
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	moderate flow
	Wet Wells	- cover on securely	OK
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
	Vegetated Soil Cover	- erosion	none
		- bare areas	no
		- washouts	no
		- leachate seeps	no
		- length of vegetation	short
		- dead/dying vegetation	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/4/95
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	no
		- erosion	no
		- potholes or puddles	no
		- obstruction	no
3. Wetlands (Area "F")			
	- dead/dying vegetation	winter kill	
	- change in water budget	high water	
	- general condition of wetlands	OK	
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	good
		- integrity of gates	good
		- integrity of locks	good
		- placement and condition of signs	good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/19/05
(MM DD YY)

INSPECTOR(S):

R. Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

01/10/15
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐	Manholes	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of manhole	OK
		- flow conditions	OK
☐	Wet Wells	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of wet well	OK
2. Landfill Cap			
☐	Vegetated Soil Cover	- erosion	minor
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	short
		- dead/dying vegetation	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/5/04
(MM DD YY)

INSPECTOR(S):

RC Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/15/01
(MM DD YY)

INSPECTOR(S):

D. C. Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/04/95
(MM DD YY)

INSPECTOR(S):

RC Becken

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	yes
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	no flow
☐ ☐ ☐	Wet Wells	- cover on securely	yes
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	minor
		- bare areas	no
		- washouts	no
		- leachate seeps	none
		- length of vegetation	Knee high
		- dead/dying vegetation	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/14/05
(MM DD YY)

INSPECTOR(S):

RC Beuken

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	no
		- erosion	no
		- potholes or puddles	none
		- obstruction	none
3. Wetlands (Area "F")			
		- dead/dying vegetation	none
		- change in water budget	low
		- general condition of wetlands	good
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	good
		- integrity of gates	good
		- integrity of locks	good
		- placement and condition of signs	good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 06/04/05
(MM DD YY)

INSPECTOR(S): RC Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/7/94
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐	Manholes	- cover on securely	OK
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	no flow
☐	Wet Wells	- cover on securely	OK
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐	Vegetated Soil Cover	- erosion	none
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	high
		- dead/dying vegetation	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/7/06
(MM DD YY)

INSPECTOR(S):

E. Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/7/06
(MM DD YY)

INSPECTOR(S):

RC Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

08 04 03
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of manhole	OK
		- flow conditions	no apparent flow
☐ ☐ ☐	Wet Wells	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of wet well	OK
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	minor
		- bare areas	no
		- washouts	no
		- leachate seeps	no
		- length of vegetation	short to tall
		- dead/dying vegetation	some due to dry weather

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/01/03
(MM DD YY)

INSPECTOR(S):

RC Beebe

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	<u>no</u>
		- erosion	<u>no</u>
		- potholes or puddles	<u>no</u>
		- obstruction	<u>no</u>
3. Wetlands (Area "F")			
	- dead/dying vegetation	<u>no</u>	
	- change in water budget	<u>very low water level</u>	
	- general condition of wetlands	<u>OK</u>	
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	<u>OK</u>
		- integrity of gates	<u>OK</u>
		- integrity of locks	<u>OK</u>
		- placement and condition of signs	<u>OK</u>

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

6/8/0/0/5
(MM DD YY)

INSPECTOR(S):

RC Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 09/03/05
(MM DD YY)

INSPECTOR(S):

Rc Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐	Manholes	- cover on securely	yes
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	no flow
☐	Wet Wells	- cover on securely	yes
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐	Vegetated Soil Cover	- erosion	minor
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	long
		- dead/dying vegetation	no

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/9/03/05
(MM DD YY)

INSPECTOR(S):

RL Becker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	none
		- erosion	none
		- potholes or puddles	none
		- obstruction	none
3. Wetlands (Area "F")			
	- dead/dying vegetation	yes	
	- change in water budget	no water	
	- general condition of wetlands	OK	
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	good
		- integrity of gates	good
		- integrity of locks	good
		- placement and condition of signs	good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 10/9/03/05
(MM DD YY)

INSPECTOR(S): RC Bech

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/01/17/05
(MM DD YY)

INSPECTOR(S): Richard C. Becker

Item	Inspect For	Action Required	Comments
1.	Perimeter Collection System/Off-Site Forcemain		
☐ ☐ ☐ ☐	Manholes	- cover on securely	yes
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	good
☐ ☐ ☐	Wet Wells	- cover on securely	yes
		- condition of cover	good
		- condition of inside of wet well	good
2.	Landfill Cap		
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	no
		- bare areas	no
		- washouts	none
		- leachate seeps	none
		- length of vegetation	short
		- dead/dying vegetation	no

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 1/10/99
(MM DD YY)

INSPECTOR(S):

Richard C. Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/01/95
(MM DD YY)

INSPECTOR(S):

Richard C Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/12/05
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	OK
		- condition of cover	good
		- condition of inside of manhole	good
		- flow conditions	good minor flow
☐ ☐ ☐	Wet Wells	- cover on securely	good
		- condition of cover	good
		- condition of inside of wet well	good
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	no
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	short
		- dead/dying vegetation	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/10/05
(MM DD YY)

INSPECTOR(S):

Richard C Becker

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	<u>no</u>
		- erosion	<u>none</u>
		- potholes or puddles	<u>none</u>
		- obstruction	<u>none</u>
3. Wetlands (Area "F")			
	- dead/dying vegetation	<u>no</u>	
	- change in water budget	<u>higher than last month</u>	
	- general condition of wetlands	<u>good</u>	
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	<u>good</u>
		- integrity of gates	<u>far back gate lock shot off</u>
		- integrity of locks	<u>see above</u>
		- placement and condition of signs	<u>a lot of signs missing</u>
			<u>will replace</u>

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/10/15
(MM DD YY)

INSPECTOR(S):

RC Becker

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 1/21/05
(MM DD YY)

INSPECTOR(S):

RC Becken

Item	Inspect For	Action Required	Comments
1. Perimeter Collection System/Off-Site Forcemain			
☐ ☐ ☐ ☐	Manholes	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of manhole	OK
		- flow conditions	no flow
☐ ☐ ☐	Wet Wells	- cover on securely	OK
		- condition of cover	OK
		- condition of inside of wet well	good
2. Landfill Cap			
☐ ☐ ☐ ☐ ☐ ☐	Vegetated Soil Cover	- erosion	none
		- bare areas	none
		- washouts	none
		- leachate seeps	none
		- length of vegetation	low
		- dead/dying vegetation	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/21/05
(MM DD YY)

INSPECTOR(S):

Rc Becken

Item	Inspect For	Action Required	Comments
2. Landfill Cap (continued)			
☐	Access Roads	- bare areas, dead/dying veg.	none
		- erosion	none
		- potholes or puddles	none
		- obstruction	none
3. Wetlands (Area "F")			
	- dead/dying vegetation	winter kill	
	- change in water budget	high	
	- general condition of wetlands	good	
4. Other Site Systems			
☐	Perimeter Fence	- integrity of fence	OK
		- integrity of gates	OK
		- integrity of locks	OK
		- placement and condition of signs	no signs

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

11/21/05
(MM DD YY)

INSPECTOR(S):

RC Becker

Item	Inspect For	Action Required	Comments
4. Other Site Systems (continued)			
☐ ☐ ☐ ☐ ☐ ☐	Drainage Ditches/ Swale Outlets	- sediment build-up	none
		- erosion	none
		- condition of erosion protection	good
		- flow obstructions	none
		- dead/dying vegetation	winter kill
		- cable concrete/gabion mats and riprap	OK
☐ ☐ ☐ ☐	Culverts	- sediment build-up	none
		- erosion	none
		- condition of erosion protection	good
		- flow obstructions	none
☐ ☐	Gas Vents	- intact / damage	no damage
☐	Wells	- locks secure	yes

FORM 1

APPENDIX E

WETLANDS MONITORING REPORT

FINAL MONITORING REPORT for Tonawanda Landfill Wetland Replacement Area

December 2005

**Fifth-Year Monitoring
Tonawanda Landfill Wetland Replacement Area
Tonawanda, New York**

ACOE Permit No. 97-494-0080 (0)



Prepared for:
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1.0 INTRODUCTION

1.1 Project History

The project site is located at the former Niagara County Refuse Site (NCRS) located in the town of Wheatfield, Niagara County, New York. This wetland replacement project was designed to alleviate the onsite wetland impacts associated with the capping and restoration of the former landfill site. Construction of the wetland replacement area was completed in the year 2000.

To mitigate wetland losses incurred by the capping, the City of North Tonawanda created 0.17 acres of wetland (Figure 1).

An aerial photograph of the site and surrounding area is shown in Figure 2 and depicts the location of these features.

1.2 Monitoring Requirements

Permit conditions in the Operation, Maintenance, and Monitoring Manual (CRA 2000) for the New York State Department of Environmental Conservation (DEC) Site No. 9-32-026 require post-construction monitoring of the wetland replacement area. This report presents the results of the fifth year (August 2005) monitoring study of the Wetland Replacement Area. Included are descriptions of the methodology used for the study (Section 2.0), vegetation data recorded during the survey (Section 3.0), and conclusions and recommendations (Section 4.0).

2.0 METHODOLOGY

The study involved: 1) mapping wetland plant communities; 2) characterizing plant species composition; 3) documenting presence/absence of nuisance exotic plant species; and 4) recording wetland hydrology parameters. A wetland boundary and plant community map was prepared for the wetland replacement area to show the approximate outer limit of the wetland and the distribution of plant communities within the area (Figure 3). Plant community boundaries were mapped using plant species composition and corresponding water depths observed in the field. Photographs were taken to document current site conditions.

A cumulative plant species list (Table 1) was prepared to document all species identified during a thorough reconnaissance of the wetland replacement area. This list has been updated to include seven new hydrophilic plant species identified in year 2005. In addition, plant species composition and prevalence were documented using ten sample points, 50 feet apart, along two north/south transects (Figure 3). The stakes were installed approximately 3.0 ft. from ground level making them inconspicuous. These will remain in place in the event that future monitoring is required. One-meter square plots centered on the stake at each sample point were used to record species composition data. A visual estimate of percent aerial cover was made for all herbaceous and woody plant species present within each plot. These data were used to calculate the relative frequency for each plant species in the wetland replacement area, the relative density for each species in each plant community and the overall wetland frequency value (Tables 2, 3, and 4). The following formulas were used to calculate these values:

Relative frequency = (number of plots in which species X occurs/total number of plots in the Wetland Replacement Area) x 100.

Relative density = (% aerial cover of species X / total aerial cover for all species in plant community Y) x 100.

Wetland Frequency Value = the combined indicator value / total amount of all species in the transects.

As directed, two permanent representative transects have been established using six foot iron posts located at the ends of each transect (Figure 3). The sample plots (1 meter square) were placed at fifty foot intervals along each transect, with sample plot 0+00 on the south side of the wetland creation area. Sample plot work sheets were prepared for each plot to record the number of each plant species, percent cover, relative frequency, water level relative to the normal water pool, soil type, and soil pH (Table 5). Surface-water depths were recorded at each sample point (Table 6).

A thorough search for nuisance exotic plants was conducted in the wetland replacement area. This survey focused primarily on purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*), which are particularly aggressive exotic weed species in wetlands of the northeastern United States. Purple loosestrife plants consisting of flowering and/or juvenile plants were growing in six of the ten plots. For some reason, the Purple loosestrife plants in the wetland creation area were not producing flowers. And for the most part, the leaves appeared pretty well eaten up by something. Common reed, *Phragmites australis*, was found in transect A Stations, 1+00; 1+50 and 2+00. Each spot consisted of approximately 100 stems each. The plant is spreading at a very rapid rate compared to the 2004 monitoring report.

3.0 RESULTS

The following sections present the results of the August 2005 monitoring study of the NCRS in Niagara County, New York. Figures are provided in Appendix A, tables in Appendix B, site photographs in Appendix C, and completed data forms in Appendix D.

3.1 Plant Community Mapping

The Cowardin *et al.* (1992) wetland classification system was used to assign wetland plant communities within the wetland replacement area. Two wetland plant communities occur in the site, 1) open water, and 2) emergent marsh. Palustrine wetlands are defined as non-tidal wetlands dominated by trees, shrubs or persistent emergent plants, as well as non-vegetated wetlands that are less than 2 m. (6.6 ft.) deep and less than 20 acres in size (Cowardin *et al.* 1992). Emergent marsh is characterized by a semi-permanently flooded water regime with erect, rooted herbaceous plants (e.g., narrow-leaf cattail, *Typha angustifolia*).

3.2 Plant Community Characterization

An overall cumulative list of plant species was formed and is presented in Table 1. Moreover, plant species composition and prevalence data were recorded from ten 1.0-meter square sample plots within the wetland replacement area (Figure 3). The completed data forms are attached in Appendix D. The relative frequencies of each species recorded in the replacement area are presented in Table 2. Relative density data for each species, by plant community, are presented in Table 3.

The wetland replacement area supports a diversity of plants, with a total of 32 species observed in the area (Table 1), and 14 species recorded in sample plots (Tables 2 and 3). All of these plants are classified as facultative wetland species (FACW) to obligate wetland species (OBL). The additional plant species identified in the 2005 monitoring could be due to an increase in plant cover, and reduced grazing by the large duck and muskrat population due to older, less edible plant foliage.

All of the plant species that were recorded in the wetland creation area fell in the range of

facultative wetland species (FACW) to obligate wetland species (OBL) (Table 1). The overall wetland frequency indicator of 1.36 exceeds the expected value of 1.67 for Year 5 of an established wetland (Table 4).

3.3 Invasive/Exotic Plant Survey

Three invasive/exotic aquatic plant species were found within the wetland replacement area. *Lythrum salicaria* (purple loosestrife) was observed in six of the ten sample plots. In addition, *Phragmites communis* (common reed) was found in three sample plot and *Typha angustifolia* (narrow-leaf cattail) was found in the three sample plots. O & M Enterprises removed many of the purple loosestrife seed heads in years 2001, 2002, and 2003 and pulled many plants by hand in the spring of 2003 and 2004. The annual control of purple loosestrife should include hand pulling or selective spraying starting as soon as the plants are identifiable in the spring. The root system will not be fully developed at that time of the season, making them easier to pull.

3.4 Wetland Hydrology

Surface-water depths were recorded at each of the ten plots during the August 2005 survey (Table 6). The water depth in the creation area was down 0.5 inches at the time of the survey. The same loss of hydrology was observed in the adjacent DEC wetland. Evaporation, lack of recent rainfall, and the date of monitoring may have created this reduction in water depth. It is expected that the mitigation area will refill and stay full under normal conditions.

3.5 Wildlife Usage

The wetland replacement area is, and has been, utilized by a number of wildlife species, some of which were seen during the survey. These species included a variety of waterfowl: wood duck (*Aix sponsa*) and mallard (*Anas platyrhynchos*); amphibians: leopard frog (*Rana pipiens*); and extensive signs of mammals: muskrat (*Ondatra zibethicus*). Use of the wetland replacement area by wetland wildlife should continue during the coming years.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The NCRS wetland replacement area is very successful. All the data that were examined for this study show that the hydrologic conditions that were examined in this study are creating a productive and diverse wetland community. The presence of hydrophytic vegetation and wildlife are evident throughout the creation area. There is no evidence that the hydrologic conditions in the replacement area will change, as they match the conditions in the adjacent DEC wetland.

A diverse array of wetland plants (a total of 32 species recorded during the August 2005 survey) has become established, with 100% of the species classified as FACW or OBL. The wetland is successful with minimal exposed bare ground in the non-open water areas. Most of the OBL plant species have a high quality rating and were dropping mature seed at the time of the survey. It is expected that this year's seed cast will fill in the remaining areas that have minimal vegetation.

It should be noted that purple loosestrife, an invasive/exotic aquatic plant species, was found in six of the ten transects. O & M Enterprises had removed the seed heads of purple loosestrife before maturity in the 2001, 2002, and 2003 growing seasons and hand pulled many purple loosestrife plants in 2003 and 2004. Now it appears that something is eating the foliage which will slow down and/or reduce the competition with the more desirable plants. Common reed was found in three of the ten transects. Visually, it appears that this plant is spreading at a very rapid rate. To reduce the strong possibility of the plant colonizing a large portion of the wetland, some actions should be taken now. This control could include hand brushing Round-up on the leaves starting when the new plant growth starts in the spring.

Over all, the wetland mitigation area is established and is serving nature as intended.

5.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1992. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. Washington, D.C.

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.

Department of the Army. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Corps of Engineers, Waterways Experiment Station. Vicksburg, MS.

Ohio Environmental Protection Agency. 1999. Ohio Rapid Assessment Method for Wetlands. Version 4.0 Draft. January 5, 1999. Ohio EPA Division of Surface Water. Columbus, Ohio.

Williams, A.E. 1992. Clarification and Interpretation of the 1987 Manual. U.S. Army Corps of Engineers, March 6, 1992 Memorandum. USACE. Washington, DC.

Monitoring field person:
Josh Brown

APPENDIX A

FIGURES

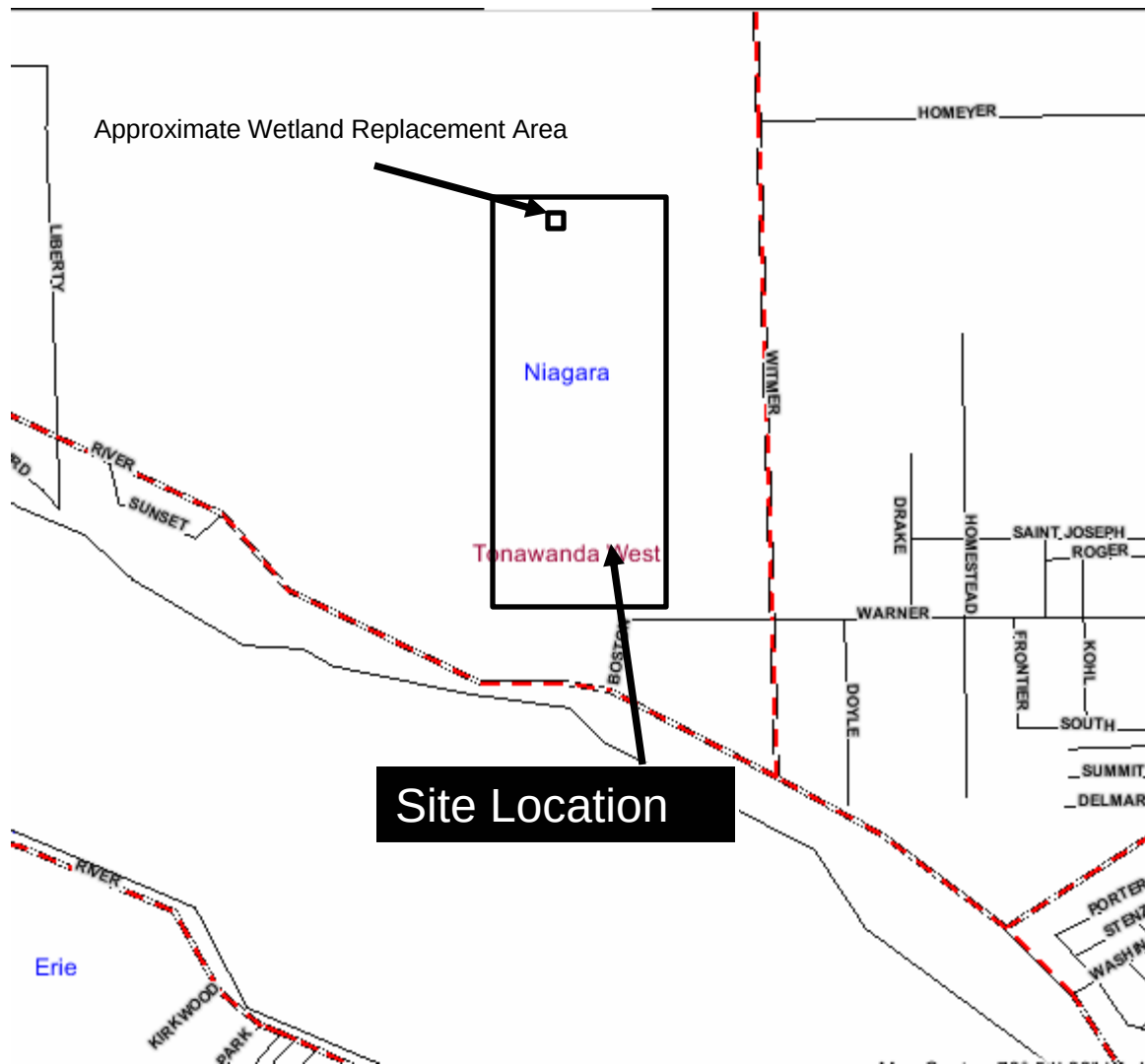


Figure 1. Site Location



Figure 2. Aerial

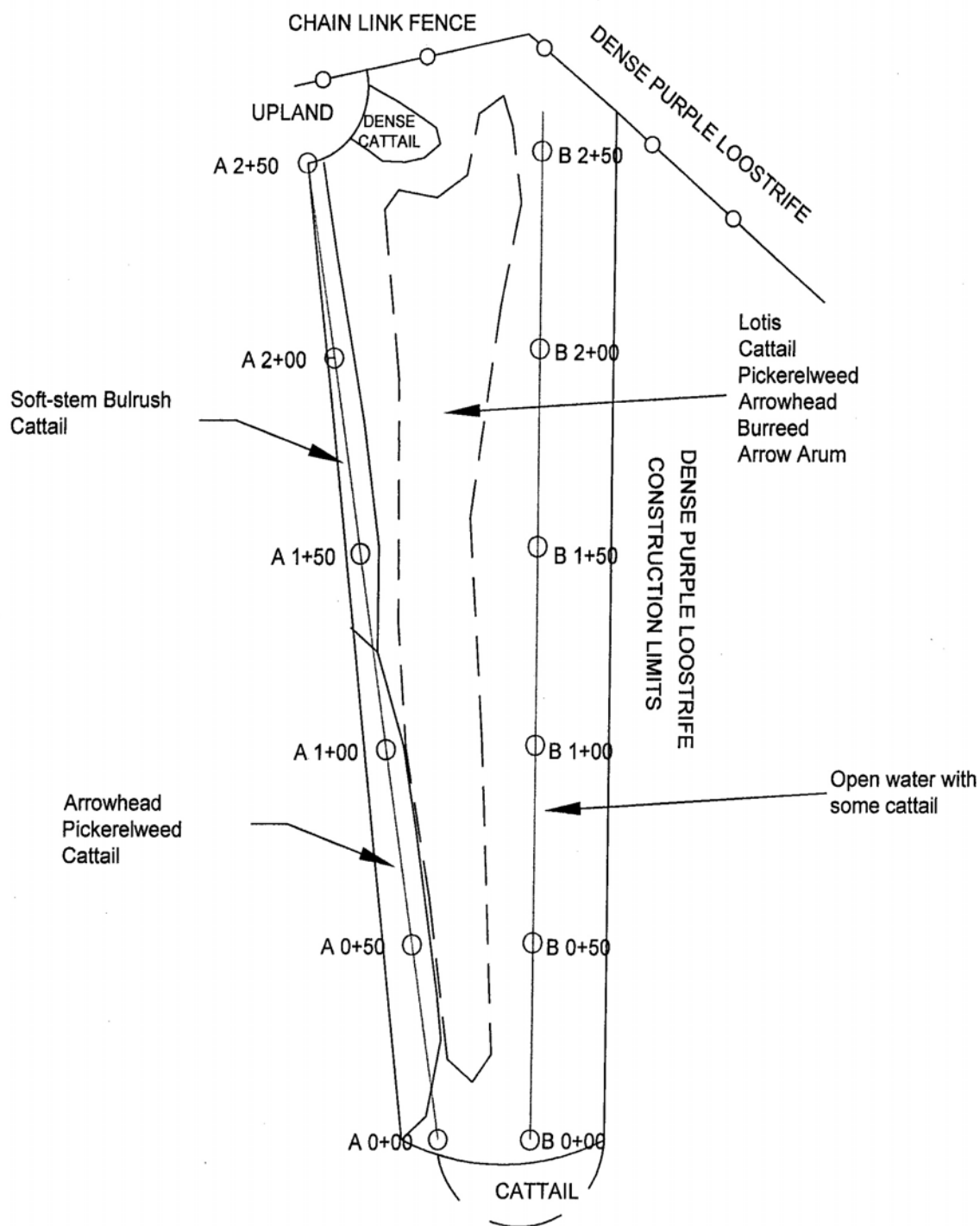


Figure 3. Plant Communities and Transect Locations
2005 Monitoring Program

APPENDIX B

TABLES

Table 1. Comprehensive List of Plants Observed in the Wetland Replacement Area.

Scientific Name	Common Name	Indicator Status
<i>Agrostis alba</i>	red top	FACW
<i>Alisma plantago-aquatica</i>	water plantain	OBL
<i>Aster novae-angliae</i>	New England aster	FACW
<i>Bidens cernua</i>	nodding bur-marigold	OBL
<i>Eupatorium perfoliatum</i>	boneset	FACW
<i>Carex lacustris</i>	lakebank sedge	OBL
<i>Carex vulpinoidea</i>	fox sedge	OBL
<i>Cicuta maculata</i>	water hemlock	OBL
<i>Eleocharis palustris</i>	creeping spikerush	OBL
<i>Cyperus esulentus</i>	nut grass	FACW
<i>Iris versicolor</i>	blueflag	OBL
<i>Leersia oryzoides</i>	rice cutgrass	OBL
<i>Juncus effusus</i>	soft rush	FACW
<i>Lythrum salicaria</i>	purple loosestrife	FACW
<i>Minulus ringens</i>	monkey flower	OBL
<i>Nymphaea tuberosa</i>	white water lily	OBL
<i>Peltandra virginica</i>	arrow arum	OBL
<i>Penthorum sedoides</i>	ditch stone crop	OBL
<i>Pontederia cordata</i>	pickerel weed	OBL
<i>Phragmites communis</i>	common reed	FACW
<i>Rumex verticillatus</i>	water dock	OBL
<i>Sagittaria latifolia</i>	arrow-head	OBL
<i>Sagittaria rigida</i>	sessile-fruited arrowhead	OBL
<i>Scirpus cyperinus</i>	wool grass	FACW
<i>Scirpus validus</i>	soft-stem bulrush	OBL
<i>Sium suave</i>	hemlock water parsnip	OBL
<i>Sparganium americanum</i>	eastern burreed	OBL
<i>Sparganium eurycarpum</i>	giant burreed	OBL
<i>Typha angustifolia</i>	narrow-leaf cattail	OBL
<i>Typha latifolia</i>	broad-leaf cattail	OBL

Table 2. Relative Frequency* of Plants Recorded in Wetland Mitigation Area

Monitoring Year 2005 (5th year)

Scientific Name	PEM											Relative Frequency
	Sample Plots											
	A0+00	A0+50	A1+00	A1+50	A2+00	B0+00	B0+50	B1+00	B1+50	B2+00	Frequency	
Carex lacustris					1						1	3.57%
Eleocharis palustris							1				1	3.57%
Juncus effusus	1	1		1	1						4	14.29%
Lythrum salicaria	1	1	1	1	1	1					6	21.43%
Nymphaea tuberosa							1		1	1	3	10.71%
Peltandra virginica							1				1	3.57%
Phragmites communis			1	1							2	7.14%
Scirpus validus			1	1							2	7.14%
Sparganium eurycarpus	1	1	1				1	1	1	1	7	25.00%
Typha angustifolia	1										1	3.57%
Typha latifolia					1	1					2	7.14%

Total Frequency of all Species 28

Relative Frequency*= number of plots in which Species X occurs / total number of plots in the Wetland Replacement Area x 100

Table 3. Relative Density* of Plants Recorded in Wetland Mitigation

Scientific Name	PEM											Relative Density %
	Sample Point											
	A0+00	A0+50	A1+00	A1+50	A2+00	B0+00	B0+50	B1+00	B1+50	B2+00	total	
<i>Carex lacustris</i>					20						20	2.8
<i>Eleocharis palustris</i>							40				24	30.0
<i>Juncus effusus</i>	5	10		84	30						40	19.5
<i>Lythrum salicaria</i>	20	10	10	10	40	50					140	19.9
<i>Nymphaea tuberosa</i>							10		65	40	115	16.3
<i>Peltandra virginica</i>							20				20	2.8
<i>Phragmites communis</i>			25	1							1	0.1
<i>Scirpus validus</i>			60	5							65	9.2
<i>Sparganium eurycarpus</i>	10	50	5				10	5	5	40	125	17.7
<i>Typha angustifolia</i>	25										25	31.3
<i>Typha latifolia</i>					10	10					20	25.0
% Aerial Cover	60	70	100	100	80	60	80	5	70	80	705	
% Bare ground	40	40	0	0	0	0	0	0	0	0	80	
% Open Water	0	0	0	0	0	40	20	95	30	20	205	

Relative Density* = (% aerial cover of species / total aerial cover for all species in plant community Y) x 100.

Table 4. Wetland Frequency Indicator*

Scientific Name	Sample Plots										Wetland Frequency Indicator
	A0+00	A0+50	A1+00	A1+50	A2+00	B0+00	B0+50	B1+00	B1+50	B2+00	
<i>Agrostis alba</i>	5										2.0
<i>Eleocharis palustris</i>					24						2.0
<i>Juncus effusus</i>				40							2.0
<i>Lythrum salicaria</i>	5		5	20	15	5					2.0
<i>Nymphaea tuberosa</i>							39	15	55	30	1.0
<i>Pontederia cordata</i>										5	1.0
<i>Potamogeton sp.</i>							1				1.0
<i>Phragmites communis</i>			1								2.0
<i>Sagittaria latifolia</i>		20			1		10				1.0
<i>Scirpus validus</i>			50	40	55				5		1.0
<i>Sparganium eurycarpus</i>	10	33					5	35	5	30	1.0
<i>Sagittaria rigida</i>		2					5		25	15	1.0
<i>Typha angustifolia</i>	20				5	5					1.0
<i>Typha latifolia</i>	50		44			65					1.0

Wetland Frequency Indicator*= combined indicator value / total number of all species in the transects Total Value 19.0

Total species 14.0

Wetland Frequency Indicator 1.36

Table 5.**Hydrology and Soil Data Within the Replacement Area**

Sample Point	Sub-surface Depth (from normal water pool elevation 100.00)	Soil Type (unified soil classification)	Soil (ph)	Soil (depth)
Transect A				
0+00	99.7	OL	6.8	> than 12 inches
0+50	95.5	OL	6.8	> than 12 inches
1+00	99.5	OL	6.8	> than 12 inches
1+50	99.9	OL	6.8	> than 12 inches
2+00	99.8	OL	6.8	> than 12 inches
Transect B				
0+00	100.0	OL	6.8	> than 12 inches
0+50	99.5	OL	6.8	> than 12 inches
1+00	98.7	OL	6.8	> than 12 inches
1+50	99.0	OL	6.8	> than 12 inches
2+00	98.6	OL	6.8	> than 12 inches

OL = Organic Loam

Table 6**Hydrology Measurements Within the Wetland Replacement Area**

Sample Point	Water Depth	Water Depth	*Water Depth
	Year 2001	Year 2002	Year 2003
A 0+00	+ 4 inches	0	0
A 0+50	-2 inches	0	3 inches
A 1+00	0.0 inches	0	0
A 1+50	+5 inches	0	0
A 2+00	+5 inches	0	0
B 0+00	+5 inches	0	0
B 0+50	-5 inches	0	3 inches
B 1+00	-1.3 inches	3 inches	9 inches
B 1+50	-1.0 inches	1 inches	8 inches
B 2+00	-1.4 inches	1 inches	9 inches

Normal water pool elevation was set at elevation 100.00

*The Water Level in the Creation Area was for the most part drained (see photos).

Water Depth	*Water Depth
Year 2004	Year 2005
0	
3 inches	
0	
0	
0	
0	
3 inches	
9 inches	
8 inches	
9 inches	

APPENDIX C

PHOTOGRAPHS



Photograph 1. Transect A – Station 0+00, - looking East



Photograph 2. Transect A – Station 0+50, - looking East



Photograph 3. Transect A – Station 1+00, - looking East



Photograph 4. Transect A – Station 1+50, - looking East



Photograph 5. Transect A – Station 2+00, - looking East



Photograph 6. Transect A – Station 2+50, - looking East



Photograph 1. Transect B – Station 0+00, - looking North



Photograph 2. Transect B – Station 0+50, - looking North



Photograph 3. Transect B – Station 1+00, - looking North



Photograph 4. Transect B – Station 1+50, - looking North



Photograph 5. Transect B – Station 2+00, - looking North



Photograph 6. Transect B – Station 2+50, - looking North

APPENDIX D

DATA FORMS

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>0+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <u>Lythrum salicaria</u>	20%	FACW	9. _____		
2 <u>Typha angustifolia</u>	25%	OBL	10. _____		
3 <u>Sparganium eurycarpum</u>	10%	OBL	11. _____		
4 <u>Juncus effusus</u>	5%	FACW	12. _____		
5. _____			13. _____		
6 Percent Coverage	60%		14. _____		
7 Percent Open Water	0%		15. _____		
8 Percent Bare Ground	40%		16. _____		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation in the wetland creation area</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>0+50</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <u>Lythrum salicaria</u>	<u>10%</u>	<u>FACW</u>	9. _____	_____	_____
2 <u>Sparganium eurycarpum</u>	<u>50%</u>	<u>OBL</u>	10. _____	_____	_____
3 <u>Juncus effusus</u>	<u>10%</u>	<u>FACW</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage <u>70%</u>	_____	_____	14. _____	_____	_____
7 Percent Open Water <u>0%</u>	_____	_____	15. _____	_____	_____
8 Percent Bare Ground <u>30%</u>	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) <u>3/3 = 100%</u>					
Remarks: <u>Created Wetland Area</u> <u>100% of the plant species are classified as FACW or OBL</u>					

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
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DATA FORM

ROUTINE WETLAND DETERMINATION

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Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>1+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <u>Lythrum salicaria</u>	<u>10%</u>	<u>FACW</u>	9. _____	_____	_____
2 <u>Scirpus validus</u>	<u>60%</u>	<u>OBL</u>	10. _____	_____	_____
3 <u>Sparganium eurycarpum</u>	<u>5%</u>	<u>OBL</u>	11. _____	_____	_____
4 <u>Phragmites communis</u>	<u>25%</u>	<u>FACW</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage <u>100%</u>	_____	_____	14. _____	_____	_____
7 Percent Open Water <u>0%</u>	_____	_____	15. _____	_____	_____
8 Percent Bare Ground <u>0%</u>	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = <u>100%</u>					
Remarks: <u>Created Wetland Area</u> <u>100% of the plant species are classified as FACW or OBL</u>					

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
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DATA FORM

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(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>						
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential problem area? (If needed explain on reverse.)	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px 10px;">Yes</td> <td style="padding: 2px 10px;">No</td> </tr> <tr> <td style="padding: 2px 10px;">Yes</td> <td style="padding: 2px 10px;">No</td> </tr> <tr> <td style="padding: 2px 10px;">Yes</td> <td style="padding: 2px 10px;">No</td> </tr> </table>	Yes	No	Yes	No	Yes	No
Yes	No						
Yes	No						
Yes	No						
Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>1+50</u>							

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <u>Lythrum salicaria</u>	<u>10%</u>	<u>FACW</u>	9. _____	_____	_____
2 <u>Scirpus validus</u>	<u>5%</u>	<u>OBL</u>	10. _____	_____	_____
3 <u>Juncus effusus</u>	<u>84%</u>	<u>FACW</u>	11. _____	_____	_____
4 <u>Phragmites communis</u>	<u>1%</u>	<u>FACW</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage	<u>100%</u>	_____	14. _____	_____	_____
7 Percent Open Water	<u>0%</u>	_____	15. _____	_____	_____
8 Percent Bare Ground	<u>0%</u>	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = 100%

Remarks: Created Wetland Area
100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation in the wetland creation area</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

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Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>2+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lythrum salicaria</u>	40%	FACW	9. _____		
2. <u>Carex lacustris</u>	20%	OBL	10. _____		
3. <u>Juncus effusus</u>	30%	FACW	11. _____		
4. <u>Typha latifolia</u>	10%	OBL	12. _____		
5. _____			13. _____		
6. Percent Coverage	100%		14. _____		
7. Percent Open Water	0%		15. _____		
8. Percent Bare Ground	0%		16. _____		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in the Upper 12 Inches ☒ Water Marks ☒ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation in the wetland creation area</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>A</u> Plot ID: <u>2+50</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lythrum salicaria</u>	30%	FACW	9. _____		
2. <u>Juncus effusus</u>	20%	FACW	10. _____		
3. <u>Typha latifolia</u>	10%	OBL	11. _____		
4. <u>Phragmites communis</u>	40%	FACW	12. _____		
5. _____			13. _____		
6. Percent Coverage	100%		14. _____		
7. Percent Open Water	0%		15. _____		
8. Percent Bare Ground	0%		16. _____		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) _____

Remarks: Created Wetland Area

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in the Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: _____	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>0+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <u>Lythrum salicaria</u>	50%	FACW	9. _____		
2 <u>Typha latifolia</u>	10%	OBL	10. _____		
3. _____			11. _____		
4. _____			12. _____		
5. _____			13. _____		
6 Percent Coverage	60%		14. _____		
7 Percent Open Water	0%		15. _____		
8 Percent Bare Ground	40%		16. _____		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/2 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation in the wetland creation area</u>	

DATA FORM

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Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>0+50</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Eleocharis palustris</i>	40%	FACW	9. _____	_____	_____
2 <i>Sparganium eurycarpum</i>	10%	OBL	10. _____	_____	_____
3 <i>Nymphaea tuberosa</i>	10%	FACW	11. _____	_____	_____
4 <i>Peltandra virginica</i>	20%	OBL	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage	80%	_____	14. _____	_____	_____
7 Percent Open Water	0%	_____	15. _____	_____	_____
8 Percent Bare Ground	25%	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = 100%					
Remarks: <u>Created Wetland Area</u> 100% of the plant species are classified as FACW or OBL					

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation in the wetland creation area</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>1+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Sparganium eurycarp</u>	<u>5%</u>	<u>FACW</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage <u>5%</u>	_____	_____	14. _____	_____	_____
7 Percent Open Water <u>0%</u>	_____	_____	15. _____	_____	_____
8 Percent Bare Ground <u>95%</u>	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/1 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation to expose bare ground</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>1+50</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Sparganium eurycarp</i>	5%	FACW	9. _____	_____	_____
2. <i>Nymphaea tuberosa</i>	65%	OBL	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage	70%	_____	14. _____	_____	_____
7 Percent Open Water	0%	_____	15. _____	_____	_____
8 Percent Bare Ground	30%	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/2 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation to expose bare ground</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>2+00</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Sparganium eurycarp</i>	40%	FACW	9. _____	_____	_____
2. <i>Nymphaea tuberosa</i>	40%	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6 Percent Coverage	80%	_____	14. _____	_____	_____
7 Percent Open Water	0%	_____	15. _____	_____	_____
8 Percent Bare Ground	20%	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/2 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation to expose bare ground</u>	

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project Site: <u>Tonawanda Landfill Wetland Replacement Area</u> Applicant/Owner: <u>O & M Enterprises</u> Investigator: <u>J. Brown</u>	Date: <u>8/12/2005</u> County: <u>Niagara</u> State: <u>New York</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential problem area? ☐ Yes ☒ No (If needed explain on reverse.)	Community ID: _____ Transect ID: <u>B</u> Plot ID: <u>2+50</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Nymphaea tuberosa</i>	5%	FACW	9. _____		
2. <i>Eleocharis palustris</i>	40%	OBL	10. _____		
3. <i>Alisma plantago-aquati</i>	5%	OBL	11. _____		
4. <i>Sparganium eurycarp</i>	20%	OBL	12. _____		
5. _____			13. _____		
6 Percent Coverage	70%		14. _____		
7 Percent Open Water	0%		15. _____		
8 Percent Bare Ground	30%		16. _____		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 4/4 = 100%

Remarks: Created Wetland Area
 100% of the plant species are classified as FACW or OBL

HYDROLOGY

Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☒ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☒ Saturated in the Upper 12 Inches ☒ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in upper 12 inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>12</u> (in.)	
Remarks: <u>The dry summer has lowered the water elevation to expose bare ground</u>	

APPENDIX F

MAINTENANCE RECORD LOGS

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date:

0	8	0	5	0	5
---	---	---	---	---	---

 (MM DD YY)

Time:

1	1	0	0
---	---	---	---

 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: replace pump

2. Company Performing Maintenance

Name: Orin Enterprises, Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: Richard C Becker

3. Methods Used:

Removed old Goulds pump replaced with new
Grundfos pump

Description of Material Removed:

none

Problems/Comments:

none

11/5/05

DATE

Richard C Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becken

1. Date: 01/05/05 (MM DD YY)

Time: 1400 (HH mm)

Scheduled/Unscheduled: Unscheduled

Type of Maintenance Performed: repair fence

2. Company Performing Maintenance

Name: Dam Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: Richard Becken

3. Methods Used:

repair fence

Description of Material Removed:

none

Problems/Comments:

none

4/5/05

DATE

Richard C Becken

INSPECTOR

Richard C Becken

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 03/03/05 (MM DD YY)

Time: 1030 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: float switch ~~stuck~~ stuck

2. Company Performing Maintenance

Name: D+M Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: RC Becker

3. Methods Used:

Received a high level alarm for WWB, had to take tractor
to site to plow a path in the snow to WWB. Float switch
was stuck on something, when I hit it with a long piece
of PVC conduit it freed itself and pump turned on

Description of Material Removed:

none

Problems/Comments:

none

3/3/05

DATE

RC Becker

INSPECTOR

RC Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 03/05/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: WWB float switch stuck

2. Company Performing Maintenance

Name: O+m Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: RC Becker

3. Methods Used:

snowshoed back to WWB and freed float switch
with PVC conduit

Description of Material Removed:

none

Problems/Comments:

none - need to see what this float is getting
hung up on, but can't see unless well is pumped down
hopefully I will see it on Wed 3/9/05 when I do monthly inspections

3/5/05

DATE

RC Becker

INSPECTOR

RC Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date: 03/18/05 (MM DD YY)

Time: 11030 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: replace pump (spare) in Wet Well A

2. Company Performing Maintenance

Name: D+M Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: Richard C Becker

3. Methods Used:

pulled old Goulds pump installed new Grundfos
pump

Description of Material Removed:

old Goulds pump

Problems/Comments:

none

3/18/05 RC Becker

DATE

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 04/09/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled:

unscheduled

Type of Maintenance Performed:

repaired man gate

2. Company Performing Maintenance

Name:

Orin Enterprises Inc

Address:

7134 Manigold Dr.

North Tonawanda, NY 14120

Contact Name:

Rick Becker

3. Methods Used:

repaired latch on man gate near wet well D

Description of Material Removed:

none

Problems/Comments:

none

4/9/05

DATE

Richard C Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 05/14/05 (MM DD YY)

Time: 114110 (HH mm)

Scheduled/Unscheduled:

Unscheduled

Type of Maintenance Performed:

repair pump connection

2. Company Performing Maintenance

Name:

OWM Est.

Address:

7134 Marigold Dr.

North Tonawanda, NY

Contact Name:

Rick Becker

3. Methods Used:

Pulled pump from well retightened cam lock fitting to
pump connected hose and turned pump back on

Description of Material Removed:

none

Problems/Comments:

none

5/14/05

DATE

RC Becker

INSPECTOR

Rick Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date: 05/17/05 (MM DD YY)

Time: 1105 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: float switch stuck on wet well B pump

2. Company Performing Maintenance

Name: Dan Eil

Address: 7134 Mangold Dr.
North Tonawanda, NY

Contact Name: Rick Becker

3. Methods Used:

moved float switch slightly to free

Description of Material Removed:

none

Problems/Comments:

none

5/17/05

DATE

RC Becker

INSPECTOR

Paul RC Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becken

1. Date: 06/02/05 (MM DD YY)

Time: 1100 (HH mm)

Scheduled/Unscheduled: ☒ scheduled

Type of Maintenance Performed: repair erosion near drainage inlets

2. Company Performing Maintenance

Name: D+m Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY

Contact Name: Rick Becken

3. Methods Used:

Filled erosion "holes" with 70% rip rap from on site and
30% soil from on site

Description of Material Removed:

none

Problems/Comments:

none / not enough on site soil to use

6/2/05

DATE

Richard C Becken

INSPECTOR

Richard C Becken

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker1. Date: 060805 (MM DD YY)Time: 0900 (HH mm)Scheduled/Unscheduled: UnscheduledType of Maintenance Performed: mowed grass around perimeter

2. Company Performing Maintenance

Name: OM Enterprises IncAddress: 7134 Mangold Dr.
North Tonawanda, NYContact Name: Richard C Becker

3. Methods Used:

mowed grass/weeds around perimeter fence

Description of Material Removed:

none

Problems/Comments:

none6/8/05
DATERC Becker
INSPECTORRC Becker
INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 10/6/08/05 (MM DD YY)

Time: 1141 (HH mm)

Scheduled/Unscheduled:

unscheduled

Type of Maintenance Performed:

repair Well B pump float switch

2. Company Performing Maintenance

Name:

O&M Enterprises Inc.

Address:

7134 Marigold Dr.

North Tonawanda, NY

Contact Name:

Richard C Becker

3. Methods Used:

removed old unused float switch so the float switch which is used will not hang up or get caught on the old switch

Description of Material Removed:

old float switch

Problems/Comments:

none

6/8/05

DATE

RC Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date: 07/28/03 (MM DD YY)

Time: 11030 (HH mm)

Scheduled/Unscheduled: scheduled

Type of Maintenance Performed: pump maintenance

2. Company Performing Maintenance

Name: DJM Enterprises

Address: 7134 Margot Dr.

North Tonawanda, NY

Contact Name: Rick Becker

3. Work Performed:

Pulled pumps, cleaned, checked and checked
amp draw

Description of Material Removed:

none

Problems/Comments:

none

7/28/03

DATE

RC Baker

INSPECTOR

Rick Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: Rc Becker

1. Date: 08/05/05 (MM DD YY)

Time: 0930 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: mowed grass around perimeter

2. Company Performing Maintenance

Name: O+m Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY

Contact Name: Rick Becker

3. Methods Used:

tractor + mower

Description of Material Removed:

none

Problems/Comments:

none

8/5/05

DATE

Rick Becker

INSPECTOR

Richard Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becken

1. Date: 08/23/05 (MM DD YY)

Time: 11500 (HH mm)

Scheduled/Unscheduled: Unscheduled

Type of Maintenance Performed: Wet Well B float switch stuck

2. Company Performing Maintenance

Name: O+m Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: Rick Becken

3. Methods Used:

Used long piece of conduit to free float switch

Description of Material Removed:

None

Problems/Comments:

none

8/23/05

DATE

Richard C Becken

INSPECTOR

Richard C Becken

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 08/24/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled: scheduled

Type of Maintenance Performed: repaired float switch in wet well B

2. Company Performing Maintenance

Name: OAM Enterprises Inc.

Address: 7134 Marigold Dr.
North Tonawanda, NY

Contact Name: Rick Becker

3. Methods Used:

Removed the remainder of wire ties holding float switch to
the well wall then attached weight to float switch
wire and lowered back into well

Description of Material Removed:

none

Problems/Comments:

none

8/24/05

DATE

Richard C Becker

INSPECTOR

Paul O Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date: 08/26/05 (MM DD YY)

Time: 8:50 (HH mm)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: retrieved stone

2. Company Performing Maintenance

Name: OVM Enterprises Inc

Address: 7134 Marigold Dr.
North Tonawanda, NY 14120

Contact Name: Rick Becker

3. Methods Used:

Retrieved one truck load of crushed stone for
pot holes and low spots in driveway

Description of Material Removed:

~~none~~ none

Problems/Comments:

none

8/26/05

DATE

Richard C Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RC Becker

1. Date: 09/01/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled: Scheduled

Type of Maintenance Performed: mow grass

2. Company Performing Maintenance

Name: O+M Enterprises Inc.

Address: 7134 Mangold Dr.
North Tonawanda, NY 14120

Contact Name: Rick Becker

3. Methods Used:

Mowed grass using tractor and 6' mower

Description of Material Removed:

none

Problems/Comments:

none

9/1/05
DATE

Richard C Becker
INSPECTOR

Richard C Becker
INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: Rick Becker

1. Date: 09/02/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled:

scheduled

Type of Maintenance Performed:

mow grass

2. Company Performing Maintenance

Name:

Owm Enterprises Inc.

Address:

Contact Name:

Rick Becker

3. Methods Used:

Mowed grass using tractor + 6 ft. mower

Description of Material Removed:

none

Problems/Comments:

none

9/2/05

DATE

R C Becker

INSPECTOR

Rick Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS: RL Becker

1. Date: 09/03/05 (MM DD YY)

Time: 0800 (HH mm)

Scheduled/Unscheduled: scheduled

Type of Maintenance Performed: mow grass

2. Company Performing Maintenance

Name:

O+m Enterprises Inc

Address:

Contact Name:

Rick Becker

3. Methods Used:

mowed grass with tractor + 6 ft. mower

Description of Material Removed:

none

Problems/Comments:

none

9/3/05

DATE

RL Becker

INSPECTOR

Rick Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 09/17/05 (MM DD YY)

Time: 0800 (HH mm)

Scheduled/Unscheduled:

well pump maintenance

Type of Maintenance Performed:

v v d scheduled

2. Company Performing Maintenance

Name:

DM Enterprises Inc.

Address:

7134 Mariopol Dr
North Tonawanda, NY

Contact Name:

Rick Becker

3. Methods Used:

pull pump, clean & check pump, ~~re~~ reinstall
pump in well

Description of Material Removed:

none

Problems/Comments:

none

9/17/05

DATE

Richard C Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date:

11/07/05

(MM DD YY)

Time:

1415

(HH mm)

Scheduled/Unscheduled:

unscheduled

Type of Maintenance Performed:

repair fence

2. Company Performing Maintenance

Name:

OAM Ent.

Address:

7134 Manigold Dr.

North Tonawanda, NY

Contact Name:

Rick Becker

3. Methods Used:

repaired cut in fence

Description of Material Removed:

none

Problems/Comments:

none

10/7/05

DATE

Richard C Becker

INSPECTOR

Richard C Becker

INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBER: RC Becker

1. Date: 1/20/05 (MM DD YY)

Time: 1:21 (HH MM)

Scheduled/Unscheduled: unscheduled

Type of Maintenance Performed: remove, replace lock on back gate

2. Company Performing Maintenance

Name: D & M Enterprises Inc.

Address: 7134 Mariopel Dr.
North Tonawanda, NY

Contact Name: Rick Becker

3. Methods Used:

Description of Material Removed:

old lock

Problems/Comments:

none

12/8/05 Richard Becker
DATE INSPECTOR

Paul C. Becker
INSPECTOR'S SIGNATURE

MAINTENANCE RECORD LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

CREW MEMBERS:

RC Becker

1. Date: 12/17/05 (MM DD YY)

Time: 0900 (HH mm)

Scheduled/Unscheduled:

unscheduled

Type of Maintenance Performed:

repair gate at control shed

2. Company Performing Maintenance

Name:

O+M Enterprises Inc.

Address:

7134 Mangohol Dr.

North Tonawanda, NY 14120

Contact Name:

RC Becker

3. Methods Used:

install gate with new hinge pins.

Description of Material Removed:

none

Problems/Comments:

none

12/17/05

DATE

RC Becker

INSPECTOR

RC Becker

INSPECTOR'S SIGNATURE

APPENDIX G

WATER LEVEL RECORDS

NIAGARA COUNTY REFUSE SITE

WATER LEVEL MEASUREMENT EQUIPMENT AND SUPPLY CHECKLIST

INSTRUMENTS:

- ☒ Electronic water level indicator

SUPPLIES:

- ☐ Foil
☒ Paper towels
☒ Decontamination Fluids
 ☐ Deionized water
 ☐ Non-phosphate soap
 ☐ Tap water
 ☐ 10% Nitric Acid (ultrapure)
 ☐ Methanol (pesticide grade or better)
 ☐ Hexane
☒ Trash bags
☒ Plastic spray bottles
☒ Scrub brush
☒ Abrasive pads (sponge type pads)
☐ Shallow tubs/buckets

DOCUMENTATION:

- ☒ Well logs
☒ FP-3
☐ Previous well readings
☒ Site map
☐ O&M Manual

MISCELLANEOUS:

- ☐ Well cap keys and Site access keys
☒ Bolt cutters
☐ Knife
☒ Spare batteries for instruments
☒ Lock de-icer (winter)

PERSONAL PROTECTIVE EQUIPMENT:

- ☒ Nitrile gloves
☐ Tyveks
☒ Work gloves (cotton and chemical resistant)
☒ Safety glasses/or side shields on
 OSHA-approved prescription lenses
☐ Work boots
☒ First-aid kit
☐ Respirators

Completed by:

Richard Bechi

Date:

1/5/05

FP-3A

WATER LEVEL RECORD

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

0	1	0	5	0	5
(MM		DD		YY)	

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1110	598.93	24.2	574.73
East "B"	1100	596.23	19.68	576.55
East "C"	1040	598.69	19.6	579.09
East "D"	1035	593.20	14.2	579.0
NCR-3S	0930	579.60	1.82	577.78
NCR-4S	0945	591.88	2.6	589.28
NCR-5S	1000	597.34	5.46	591.88
NCR-13S	1025	593.15	3.6	589.55

Wet Wells

WWA	8:52 8:52	~ 7'	high level	
WWB	10:05	~ 18"		
WWC	9:35	~ 8'	high level	pump down
WWD	9:15	~ 15"		

Total System

Time of

Flow

Measurement

22498600

8:55

NIAGARA COUNTY REFUSE SITE

WATER LEVEL MEASUREMENT EQUIPMENT AND SUPPLY CHECKLIST

INSTRUMENTS:

- ☒ Electronic water level indicator

SUPPLIES:

- ☐ Foil
☒ Paper towels
☒ Decontamination Fluids
☐ Deionized water
☐ Non-phosphate soap
☐ Tap water
☐ 10% Nitric Acid (ultrapure)
☐ Methanol (pesticide grade or better)
☐ Hexane
☐ Trash bags
☒ Plastic spray bottles
☐ Scrub brush
☒ Abrasive pads (sponge type pads)
☐ Shallow tubs/buckets

DOCUMENTATION:

- ☒ Well logs
☒ FP-3
☒ Previous well readings
☒ Site map
☐ O&M Manual

MISCELLANEOUS:

- ☒ Well cap keys and Site access keys
☐ Bolt cutters
☐ Knife
☐ Spare batteries for instruments
☒ Lock de-icer (winter)

PERSONAL PROTECTIVE EQUIPMENT:

- ☒ Nitrile gloves
☒ Tyveks
☒ Work gloves (cotton and chemical resistant)
☐ Safety glasses/or side shields on
OSHA-approved prescription lenses
☒ Work boots
☒ First-aid kit
☐ Respirators

Completed by: Paul C. Becker

Date: 2/03/05

FP-3A

WATER LEVEL RECORD

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

02/02/05
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"		598.93	21.21	577.72
East "B"		596.23	19.52	576.71
East "C"		598.69	19.42	579.27
East "D"		593.20	14.35	578.85
NCR-3S		579.60	3.39	576.21
NCR-4S		591.88	3.08	588.80
NCR-5S		597.34	6.57	590.77
NCR-13S		593.15	5.14	588.01

Wet Wells

WWA			~13"	
WWB			~14"	
WWC			~12"	
WWD			~15"	

Total System

Time of

Flow

Measurement

23445700	0730

FORM 16

NIAGARA COUNTY REFUSE SITE

WATER LEVEL MEASUREMENT • COMPLETION CHECKLIST

BEFORE GOING TO SITE:

- ☒ Confirmed well numbers, location, and accessibility.
- ☒ Reviewed of project documents (i.e., QAPP, HSCP, and sampling procedures in the OM&M Manual).
- ☒ Checked historical well depths and water level measurements.
- ☒ Procured, inventoried, and inspected all equipment and supplies (complete FP-3A).
- ☒ Prepared and performed required maintenance on equipment.

AT SITE:

- ☒ Equipment decontaminated in accordance with the QAPP and FP-2.
- ☒ Well inspected (complete FP-3C).
- ☒ Initial well measurements logged on FP-3D.
- ☒ Well secured after measurements.
- ☒ Measurement dates, times, locations, and results have all been recorded on FP-3D.
- ☒ Water levels in wet wells and total flows from wet well pumps recorded on FP-3D.

AFTER LEAVING SITE:

- ☒ All equipment has been maintained and returned.
- ☒ Water elevation data is reduced and checked on FP-3D.
- ☒ Expendable stock supplies replaced.
- ☒ Access keys and well cap keys returned.
- ☒ Confirm all measurements taken with previous well readings.

Completed by: Paul C. Baker

Date: 3/9/05

FP-3B

WATER LEVEL RECORD

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

DATE: 03/09/05
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1300	598.93	19.45	579.48
East "B"	1245	596.23	19.79	576.44
East "C"	1230	598.69	19.33	579.36
East "D"	1220	593.20	13.89	579.31
NCR-3S	1415	579.60	3.11	576.49
NCR-4S	1400	591.88	Frozen 2.5	589.38
NCR-5S	1335	597.34	6.14	591.20
NCR-13S	1320	593.15	4.34	588.81

Wet Wells

Wet Well	Time of Measurement	Depth of Water		
WWA	1525		~6'	
WWB	1510		~10"	
WWC	1455		~12"	
WWD	1430		~12"	

Total System Flow	Time of Measurement
24452100	1530

FORM 16

NIAGARA COUNTY REFUSE SITE

WATER LEVEL MEASUREMENT • COMPLETION CHECKLIST

BEFORE GOING TO SITE:

- ☒ Confirmed well numbers, location, and accessibility.
- ☒ Reviewed of project documents (i.e., QAPP, HSCP, and sampling procedures in the OM&M Manual).
- ☒ Checked historical well depths and water level measurements.
- ☒ Procured, inventoried, and inspected all equipment and supplies (complete FP-3A).
- ☒ Prepared and performed required maintenance on equipment.

AT SITE:

- ☒ Equipment decontaminated in accordance with the QAPP and FP-2.
- ☒ Well inspected (complete FP-3C).
- ☒ Initial well measurements logged on FP-3D.
- ☒ Well secured after measurements.
- ☒ Measurement dates, times, locations, and results have all been recorded on FP-3D.
- ☒ Water levels in wet wells and total flows from wet well pumps recorded on FP-3D.

AFTER LEAVING SITE:

- ☒ All equipment has been maintained and returned.
- ☒ Water elevation data is reduced and checked on FP-3D.
- ☒ Expendable stock supplies replaced.
- ☒ Access keys and well cap keys returned.
- ☒ Confirm all measurements taken with previous well readings.

Completed by: 

Date: 4/02/05

FP-3B

WATER LEVEL RECORD

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

DATE: 04/02/05
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"		598.93	22.21	576.72
East "B"		596.23	19.66	576.57
East "C"		598.69	19.15	579.54
East "D"		593.20	14.29	578.91
NCR-3S		579.60	1.5	578.1
NCR-4S		591.88	2.51	589.37
NCR-5S		597.34	6.36	590.98
NCR-13S		593.15	3.19	589.96

Wet Wells

		depth of water		
WWA		~12"		
WWB		~15"		
WWC		~12"		
WWD		~14"		

Total System

Time of

Flow

Measurement

FORM 16

WATER LEVEL RECORD

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE:

10/6/10
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1100	598.93	22.19	576.74
East "B"	1120	596.23	19.97	576.26
East "C"	1135	598.69	19.71	578.98
East "D"	1150	593.20	14.68	578.52
NCR-3S	1025	579.60	5.93	573.67
NCR-4S	1005	591.88	3.87	588.01
NCR-5S	1045	597.34	8.10	589.24
NCR-13S	0930	593.15	6.59	586.56

Wet Wells

WWA	0915		~12"	
WWB	0955		~14"	
WWC	1020		~15"	
WWD	0945		~18"	

Total System

Time of

Flow

Measurement

26499000	0915

FORM 16

WATER LEVEL RECORD

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

DATE: 10/10/03
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1315	598.93	23.24	575.69
East "B"	1300	596.23	19.89	576.34
East "C"	1240	598.69	19.76	578.93
East "D"	1230	593.20	14.64	578.56
NCR-3S	1130	579.60	dry	
NCR-4S	1110	591.88	dry	
NCR-5S	1050	597.34	10.60	586.74
NCR-13S	1030	593.15	7.52	585.63

Wet Wells

WWA	1025	~12"		
WWB	1115	~18"		
WWC	1145	~11"		
WWD	1200	~11"		

Total System Flow	Time of Measurement
26587600	1025

FORM 16

WATER LEVEL RECORD

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 08/04/05
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1430	598.93	23.49	575.44
East "B"	1450	596.23	19.96	576.27
East "C"	1510	598.69	19.57	579.12
East "D"	1530	593.20	14.62	578.58
NCR-3S	1115	579.60	5.96	573.64
NCR-4S	1205	596.88	dry	
NCR-5S	1420	597.34	dry	
NCR-13S	0935	593.15	7.79	585.36

Wet Wells

depth of water

WWA	0930	~ 15"		
WWB	1215	~ 17"		
WWC	1120	~ 15"		
WWD	1005	~ 18"		

Total System

Time of

Flow

Measurement

26623430	0930

FORM 16

WATER LEVEL RECORD

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

DATE: 0910305
 (MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"		598.93	23.57	575.36
East "B"		596.23	19.7	576.53
East "C"		598.69	19.5	579.18
East "D"		593.20	14.47	578.73
NCR-3S		579.60	dry	
NCR-4S		596.88	dry	
NCR-5S		597.34	dry	
NCR-13S		593.15	dry	

Wet Wells

			Depth of water	
WWA			~ 14"	
WWB			~ 11"	
WWC			~ 12"	
WWD			~ 12"	

Total System Flow	Time of Measurement
	26648670

FORM 16

WATER LEVEL RECORD

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, New York

DATE: 11/01/07
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"		598.93	24.07	574.86
East "B"		596.23	19.51	576.72
East "C"		598.69	19.65	579.04
East "D"		593.20	14.4	578.80
NCR-3S		579.60	5.63	573.97
NCR-4S		591.88	3.69	588.19
NCR-5S		597.34	dry	
NCR-13S		593.15	7.21	585.94

Wet Wells

			Depth of water	
WWA			~16"	
WWB			~14"	
WWC			~12"	
WWD			~18"	

Total System Flow	Time of Measurement
26907900	1015

FORM 16

WATER LEVEL RECORD

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

DATE: 11 21 10 05
(MM DD YY)

CREW MEMBERS: Richard C. Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
East "A"	1115	598.93	24.47	574.46
East "B"	1050	596.23	19.5	576.73
East "C"	1035	598.69	19.39	579.30
East "D"	1015	593.20	14.24	578.96
NCR-3S	925	599.60	4.21	575.39
NCR-4S	920	591.88	2.99	588.89
NCR-5S	940	597.34	8.17	589.17
NCR-13S	830	593.15	6.06	587.09

Wet Wells

WWA	950	~18"		
WWB	925	~14"		
WWC	920	~10"		
WWD	845	~13"		

Total System

Time of

Flow

Measurement

28128381	0950

FORM 16

NIAGARA COUNTY REFUSE SITE

WATER LEVEL MEASUREMENT • COMPLETION CHECKLIST

BEFORE GOING TO SITE:

- ☒ Confirmed well numbers, location, and accessibility.
- ☒ Reviewed of project documents (i.e., QAPP, HSCP, and sampling procedures in the OM&M Manual).
- ☒ Checked historical well depths and water level measurements.
- ☒ Procured, inventoried, and inspected all equipment and supplies (complete FP-3A).
- ☒ Prepared and performed required maintenance on equipment.

AT SITE:

- ☒ Equipment decontaminated in accordance with the QAPP and FP-2.
- ☒ Well inspected (complete FP-3C).
- ☒ Initial well measurements logged on FP-3D.
- ☒ Well secured after measurements.
- ☒ Measurement dates, times, locations, and results have all been recorded on FP-3D.
- ☒ Water levels in wet wells and total flows from wet well pumps recorded on FP-3D.

AFTER LEAVING SITE:

- ☒ All equipment has been maintained and returned.
- ☒ Water elevation data is reduced and checked on FP-3D.
- ☒ Expendable stock supplies replaced.
- ☒ Access keys and well cap keys returned.
- ☒ Confirm all measurements taken with previous well readings.

Completed by: Rich D. Becker

Date: 11/06/05

FP-3B