1st - Semi-Annual Post-Closure Groundwater Monitoring Report 2014

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TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

1.1 Purpose and Scope 1
1.2 Site Location and Description 1

2.0 GROUNDWATER MONITORING PLAN 2

2.1 Sampling Frequency 2
2.2 Leachate Monitoring 2
2.3 Groundwater Monitoring 3
2.4 Well Condition Report 3
2.5 Sample Collection Procedures 3
2.6 Decontamination and Quality Assurance Quality Control Procedures 4
2.7 Groundwater Quality 4
2.7.1 Inorganic Water Quality Results – April 2014 4
2.7.2 Organic Water Quality Results – April 2014 6
2.7.3 Well Cluster 4 & 11 Analysis 6
2.8 Groundwater Flow & Migration of Leachate Plume 6
2.9 Leachate Quality 6

3.0 DATA VALIDATION AND USABILITY REPORT 8

3.1 Data Validation 8
3.1.1 Metals Analyses 8
3.1.2 Wet Chemistry Analyses 9
3.1.3 VOC Analyses 9
3.2 Data Usability Report 9

4.0 SUMMARY 10

5.0 RECOMENDATIONS 11

TABLES

TABLE 1 INORGANIC WATER QUALITY RESULTS – FIRST HALF 2014
TABLE 2 ORGANIC WATER QUALITY RESULTS – FIRST HALF 2014
TABLE 3 LEACHATE RESULTS – FIRST HALF 2014
TABLE 4 GROUNDWATER ELEVATIONS – FIRST HALF 2014

FIGURES

FIGURE 1 GROUNDWATER CONTOUR MAP – APRIL 2014
FIGURE 2 CROSS SECTION MW-11A – APRIL 2014
FIGURE 3 CROSS SECTION MW-11B – APRIL 2014

APPENDICES

APPENDIX A LABORATORY ANALYTICAL REPORTS / DATA VALIDATION & USABILITY REPORT
APPENDIX B WELL INSPECTION CHECKLISTS
APPENDIX C MONITORING WELL SAMPLING LOGS
APPENDIX D 6 NYCRR Part 360-2: LANDFILLS

1.0 INTRODUCTION

1.1 Purpose and Scope

P.W. Grosser Consulting Inc. (PWGC) has prepared the following post-closure groundwater monitoring report for the North Sea Landfill, Southampton, NY. This report is intended to satisfy New York State Department of Environmental Conservation (NYSDEC) requirements for post-closure monitoring at the North Sea Landfill. The landfill is currently in post-closure and was removed from the United States Environmental Protection Agency (USEPA) Superfund National Priorities List (NPL) in 2005. The report provides a summary of the groundwater monitoring and results of groundwater and leachate samples collected during the First Half of 2014.

1.2 Site Location and Description

North Sea Landfill (the Landfill) was initially constructed in 1963 for the disposal of solid waste, refuse and septic system waste. The Landfill consisted of three cells (Cell No. 1, Cell No. 2 and Cell No. 3), sludge lagoons, a leachate collection system and a gas monitoring system. Cell No. 1 is an inactive, unlined landfill that has been capped and closed. Cell No. 2 is an inactive, lined landfill with a leachate collection system that was capped and closed in 1990. Cell No. 3 is a 6.6 acre, inactive, lined landfill with a leachate collection system that was capped and closed in 1997. The sludge lagoons were decommissioned in 1986.

2.0 GROUNDWATER MONITORING PLAN

Groundwater monitoring and sampling is performed in accordance with the USEPA approved Operation and Maintenance (O&M) Manual dated November 1994.

The groundwater monitoring plan for the site calls for the monitoring of both leachate and groundwater to confirm that the historic operation of the facility has not adversely impacted groundwater quality. The groundwater well network currently utilized for monitoring purposes at the Landfill consists of 20 groundwater monitoring wells that were installed as a part of the Remedial Investigation / Feasibility Study, the Cell No. 3 landfill expansion hydrogeologic investigation, and earlier monitoring activities.

2.1 Sampling Frequency

In accordance with the O&M Manual, groundwater monitoring well sampling was performed on a quarterly basis. In 2005, the USEPA and NYSDEC approved reduction of number of wells sampled and sampling frequency to semi-annual as detailed in the table below:

1st Half Semi-Annual Sampling (April)		**2nd Half Semi-Annual Sampling (October)**	
Analysis	**Sample Locations**	**Analysis**	**Sample Locations**
Baseline Parameters (6 NYCRR Part 360-2.11 (d)(6)	1A, 1B, 1C, 3A, 3B, 3C, 4A, 4B, 4C, 11A, 11B, 12A, & 12C	Routine Parameters (6 NYCRR Part 360-2.11 (d)(6)	1A, 1B, 1C, 3A, 3B, 3C, 4A, 4B, 4C, 6AR, 6B, 8, 9, 11A, 11B, 12A, 12B
		Baseline Parameters (6 NYCRR Part 360-2.11 (d)(6) Metals Only	6AR, 6B, 11A, & 11B
Routine Parameters + Arsenic (6 NYCRR Part 360-2.11 (d)(6) Minus VOC Analysis	LEA-Primary & LEA-Secondary	Baseline Parameters (6 NYCRR Part 360-2.11 (d)(6) VOCs Only	11A & 11B
		Routine Parameters + Arsenic (6 NYCRR Part 360-2.11 (d)(6) Minus VOC Analysis	LEA-Primary & LEA-Secondary

Note: Filtered metals analysis run on samples with turbidity in excess of 50 nephelometric turbidity units (NTUs).

Appendix D includes list of analytes for 6 New York Codes, Rules and Regulations (NYCRR) Part 360-2.11 (d) (6)

2.2 Leachate Monitoring

The objectives of the leachate monitoring program are to adequately characterize and monitor the composition of:

1. Leachate in the primary leachate collection systems;
2. Liquids detected in the secondary liquids collection systems, prior to off-site treatment and disposal.

The Town of Southampton monitors the leachate storage system and submits monthly status reports, which includes the monthly summary tables of leachate volumes consisting of the amount of leachate trucked, storage tank levels and the volume of leachate removed from the storage tank. Leachate quantity removals and allowable leakage rate (ALR) calculations will be discussed in the Annual Report.

2.3 Groundwater Monitoring

The groundwater monitoring well network for the Landfill consists of nine groundwater monitoring locations (MW-1, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, MW-11, and MW-12) which are currently in use. Several of these locations are constructed with multiple wells which are screened at varying depths throughout the aquifer (A=shallow, B=intermediate, C=deep).

Twelve groundwater monitoring wells, as well as the primary and secondary leachate collection systems were sampled on April 17 and 18, 2014 as part of the First Half 2014 sampling event. A sample was not collected from MW-3C as a tree had fallen on top of the protective cover and the well could not be accessed during the time of sampling. Samples collected as part of the First Half 2014 sampling event were delivered to Pace Analytical Laboratories of Melville, New York and analyzed for the baseline parameters. Turbid groundwater samples were also analyzed for filtered metals. The data collected in the field and laboratory are summarized on **Tables 1** through **4** and the laboratory reports are attached in **Appendix A**. Depth to water and groundwater elevation data are summarized on **Table 4** and a water table flow map is shown on **Figure 1**.

Analytical results from each monitoring well were compared to applicable standards and guidance values, as well as analytical results from the previous year. Compounds that exceed current NYSDEC groundwater standards or guidance values are indicated by shading on **Tables 1** through **3** and are discussed in the water quality section of this report.

2.4 Well Condition Report

During the First Half 2014 sampling event, PWGC conducted an assessment of the monitoring wells. Well assessment checklists (**Appendix B**) were filled out appropriately in the field during the sampling event. The assessment checklist included well headspace readings, well conditions, and recommendations. A fallen tree was observed to be on top of MW-3C. The well appears to be in working condition, but the protective cover could not be opened due to the tree being in the way. The locks for the protective covers were observed to be missing from MW-6AR, MW-7A, and MW-11B. Headspace readings were collected utilizing a photoionization detector (PID). No PID responses were observed. No other deficiencies with the well conditions were noted.

2.5 Sample Collection Procedures

Prior to collection of each sample, a minimum of three casing volumes were evacuated (purged) from the well using a Grundfos, submersible pump and temperature, specific conductivity, pH, dissolved oxygen and turbidity measurements were collected and recorded. Groundwater sampling logs are included in **Appendix C**. Groundwater samples were collected using disposable polyethylene bailers and a dedicated polyethylene line.

Primary and secondary leachate collection systems were also sampled using disposable polyethylene bailers and a dedicated polyethylene line.

Additional sample volume was collected from groundwater monitoring wells where turbidity could not be reduced below 50 NTUs for laboratory filtering of metals. This included groundwater monitoring well MW-11A.

2.6 Decontamination and Quality Assurance Quality Control Procedures

All non-disposable sampling equipment (i.e. submersible pump) was decontaminated prior to and between each well by using a distilled water and non-phosphate detergent wash followed by a distilled water rinse.

2.7 Groundwater Quality

During the First Half 2014 (April) groundwater sampling event, samples from twelve groundwater monitoring wells were collected and submitted for analysis of baseline parameters. The inorganic portion of the analysis includes metals, nutrients, and the physical properties of the sample. Specific conductivity, temperature and pH values were reported from field measurements. However, they are listed in **Table 1** and discussed in the inorganic water quality section below. The list of organic groundwater quality results (**Table 2**) is comprised of volatile organic compounds (VOCs).

Groundwater quality as it relates to inorganic metal concentrations is evaluated at looking at the total metal concentrations for samples with turbidity values below 50 NTUs and dissolved metal concentrations with turbidity values above 50 NTUs.

The laboratory results are compared to NYSDEC's Class GA Groundwater Standards, 6NYCRR Part 703. Analytical results are discussed below. The locations of groundwater monitoring wells are illustrated on **Figure 1**. The wells are grouped into clusters consisting of varying depths (A=shallow, B=intermediate, C=deep).

2.7.1 Inorganic Water Quality Results – April 2014

Long Island groundwater generally has a low pH and is typically measured below the NYSDEC standard range of 6.5 to 8.5. Ten samples had a measured pH level below 6.5 with the largest deviation seen in sample MW-4A where the pH level measured 5.61. Historically, low pH values have been evident in both up-gradient and down-gradient wells documenting that it is not being influenced by landfill leachate.

Ammonia was detected above method detection limits in ten of the twelve groundwater samples. Ammonia was detected in two of the twelve groundwater samples (MW-3B and MW-4B) at concentrations exceeding the NYSDEC groundwater standard (2.0 mg/L) indicating that leachate is present. The highest concentration of ammonia, 5.32 mg/L, was measured in sample MW-4B. The leachate plume has been observed to reach its deepest point at the MW-3B depth and discharge into Fish Cove where the MW-4 cluster well is located.

Chromium was detected above method detection limits in eleven of the twelve groundwater samples. Chromium was detected in two of the twelve groundwater samples (MW-3A and MW-4C) at a concentration exceeding the groundwater standard of 0.05 mg/L for chromium. Overall concentrations of chromium ranged from less than 0.0011 mg/L to 1.31 mg/L. However, hexavalent chromium, the toxic form of chromium, was not detected in any of the groundwater monitoring wells. Chromium adheres to soil particles and concentrations are significantly reduced by filtering samples to remove suspended particulates. Chromium concentrations in the filtered sample were significantly reduced when compared to the unfiltered results as observed in MW-11A.

Iron was detected above method detection limits in each of the twelve groundwater samples. Six of the twelve groundwater samples exceeded the 0.3 mg/L NYSDEC ambient groundwater standard for iron. Iron was not detected above NYSDEC groundwater standards in the up-gradient (MW-1) well cluster. Concentrations of iron ranged from 0.0261mg/L to 14.3 mg/L. Iron concentrations are highest in the wells where the leachate plume has been delineated indicating leachate is still present. In addition, iron adheres to fine sediment particles which are obtained as part of the sample. Iron concentrations detected are shown to be significantly reduced when the samples are filtered to remove suspended particulates as observed in MW-11A indicating iron detections are more a function of turbidity than influenced by leachate. The standard for iron is set based upon aesthetic considerations and is not detrimental to health.

Manganese was detected above method detection limits in each of the twelve groundwater samples. Five samples (MW-3B, MW-4B, MW-11A, MW-12A, and MW-12B) of twelve showed concentrations of manganese above the NYSDEC groundwater standard (0.3 mg/L). Manganese concentrations in the filtered sample (MW-11A) exceeded its groundwater standard. Elevated manganese concentrations have been detected in down-gradient wells only, which indicates leachate is present. The groundwater wells where manganese has been detected have remained the same and concentrations have stabilized over time indicating plume stabilization. Manganese concentrations in excess of 1.0 mg/L produce a metallic taste to water. The highest concentration of manganese was 4.16 mg/L measured from sample MW-12A. Manganese is also aesthetically objectionable and not considered a significant health threat.

Nickel was detected above method detection limits in each of the twelve groundwater samples. Nickel was detected in one of the twelve groundwater samples (MW-4C) at a concentration exceeding the NYSDEC groundwater standard (0.1 mg/L). Nickel concentrations ranged from 0.0012 mg/L to 0.359 mg/L (MW-4C).

Sodium was detected above method detection limits in each of the twelve groundwater samples. Sodium was detected in four of the twelve groundwater samples (MW-3A, MW-4A, MW-4B, and MW-4C) at concentrations exceeding the NYSDEC groundwater standard (20 mg/L). Sodium concentrations ranged from 7.5 mg/L (MW-1B) to 33.6 mg/L (MW-3A).

2.7.2 Organic Water Quality Results – April 2014

Groundwater samples collected from wells were analyzed for VOCs as part of the First Half 2014 sampling program. Analytical results indicate that no VOCs were detected in the samples collected at concentrations exceeding the laboratory detection limits with the exception of chloroform in MW-1B, MW-1C, and MW-11B and chlorobenzene and 1,4-dichlorobenzene in MW-4B which were qualified as (J) estimated (**Table 2**).

2.7.3 Well Cluster 4 & 11 Analysis

Monitoring wells MW-4A, MW-4B, and MW-4C are located down-gradient of the Landfill along the edge of Fish Cove Pond. These wells represent the farthest down-gradient wells that are used to monitor the Landfill. Historical monitoring has shown that the leading edge of the leachate plume is migrating into Fish Cove Pond. Conductivity, total dissolved solids, and chloride have been trending upwards in MW-4C. These increasing trends are not coupled with any significant increases in iron and manganese which would indicate the presence of leachate that is being broken down. Iron and manganese are prevalent in MW-4B where the plume has been documented. Iron and manganese levels in MW-4C are at background levels when compared to MW-4B.

Monitoring wells MW-11A and MW-11B are located down-gradient of Cell 3. These wells have been under close observation since March 1993. A graph of several leachate indicators detected in samples collected from monitoring wells MW-11A and MW-11B since 1997 are shown on **Figures 2** and **3**. Detected concentrations of certain constituents were noted in MW-11A and MW-11B during both sampling events. A review of the trends shows that concentrations have generally decreased over time indicating that the plume continues to degrade over time. Slightly elevated concentrations of iron, manganese, and lead are still detected in these wells.

2.8 Groundwater Flow & Migration of Leachate Plume

Groundwater elevation data and laboratory analytical results are utilized to determine groundwater flow and to map the horizontal and vertical migration of the leachate plume. Depth to water and groundwater elevation data are shown on **Table 4**.

A groundwater contour map for April 2014 (**Figure 1**) was created with groundwater elevation data from eight water table monitoring wells (MW-1A, MW-3A, MW-4A, MW-6B, MW-7A, MW-8, MW-9, MW-11A, and MW-12A). An evaluation of the water table elevation data indicates that groundwater flows from the landfill towards Fish Cove Pond. At Fish Cove Pond, an upward vertical flow component has been observed based upon head differential observed in the groundwater monitoring wells indicating groundwater is discharging into the pond.

Based upon historical groundwater sampling results and previous remedial investigations, the leachate plume migrates from the landfill, specifically Cell No. 1, and travels horizontally towards the northwest and discharges into Fish Cove Pond. The plume has been observed at its deepest point vertically at the MW-3B depth interval.

2.9 Leachate Quality

The April 2014 analytical data indicate that contaminant concentrations in the leachate detection system (secondary) are diluted when compared to those of the leachate collection system (primary). Concentrations

observed in both the primary and secondary leachate are lower when compared to concentrations detected during the October 2013 sampling event. Total precipitation was slightly higher during the first half of 2014 (22.09 inches) when compared to the second half of 2013 (18.86 inches). The analytical results for the primary and secondary leachate are shown on **Table 3** and the laboratory report is attached as part of **Appendix A**.

3.0 DATA VALIDATION AND USABILITY REPORT

3.1 Data Validation

In accordance with the contract, five percent of the groundwater analytical results were validated by Premiere Environmental Services, Merrick, New York. As part of the data validation process, all quality control (QC) issues were reviewed. A copy of the data validation and usability report is included in Appendix A. Compliance chart, re-submission communications, and the New York State Department of Environmental Conservation (NYSDEC) laboratory sample preparation and analysis summary forms are also included.

In summary, sample processing was primarily conducted with compliance to protocol requirements and adherence to quality criteria. Sample results are usable as reported or usable with minor qualification as estimated or edited to non-detection. These issues are discussed in the following analytical section. Although only 5% of the samples underwent full validation review, recommended qualifications below are stated to include all project samples as pertains to general quality issues, and where otherwise evident.

Data Completeness
Data packages were complete as received: no additional documentation was required.

3.1.1 Metals Analyses

Review was conducted for method compliance, holding times, calibration analysis, ICP CRDL standard, ICP interference check standard, matrix spike analysis, post digestion spike analysis, duplicate sample analysis, ICP serial dilution, blanks, laboratory control sample analysis, instrument QC data, compound identification, field duplicate sample analysis, and system performance and overall assessment to each procedure. All were found acceptable for the validated samples, unless noted specifically within this text.

The percent recovery of all target analytes met QC criteria in this matrix spike analysis with the exception of Silver (72.5%). Silver has been qualified as estimated (UJ/J) in the sample chosen for review.

Aluminum was detected at a concentration below the reporting limit and "B" qualified by the laboratory in the preparation blank associated with the Filtered ICP metals. Aluminum was detected in MW-3A (Total) and MW-11A (Filtered) at a concentration that may be attributed to the preparation blank sample. Aluminum has been negated (U) in the samples chosen for review.

The ICP serial dilution evaluation of MW-4B (Total Metals Analysis) was acceptable, with the exception of that for potassium. Detected results for potassium in this sample are qualified as estimated (J).

3.1.2 Wet Chemistry Analyses

Review was conducted for method compliance, holding times, calibration analysis, matrix spike analysis, duplicate sample analysis, blanks, laboratory control sample analysis, compound identification, field duplicate sample analysis, and system performance and overall assessment to each procedure. All were found acceptable for the validated samples, unless noted specifically within this text.

The laboratory provided Method Blank data results for each Wet Chemistry analytes with the exception of the BOD depletion blank. This blank depletion was greater than acceptable criteria. BOD in the sample chosen for review (MW-12B) has been estimated (UJ) qualified.

3.1.3 VOC Analyses

Review was conducted for method compliance, holding times, surrogates, matrix spike/spike duplicate analysis, blank spike analysis, blank contamination, GC/MS calibration, GC/MS mass spectrometer tuning, field duplicate analysis, compound identification and overall assessment. All were found acceptable for the validated samples, unless noted specifically within this text.

All target analyte percent relative standard deviation (%RSD) criteria were met in the initial calibration curve analysis associated with this data set with the exception of Acetone (30.2%). Acetone has been qualified "UJ/J" estimated in the sample chosen for data review.

The GC/MS calibration identified the % difference of all target compounds met QC criteria in this continuing calibration standard with the exception of the following:

Analytes	% Difference
• Acrylonitrile	30.2
• Iodomethane	26.7
• Vinyl Acetate	74.4
• Acetone	42.3
• Carbon Disulfide	30.2
• 2-Butanone	31.5
• 1,2-Dichloroethane	22.5

These target analytes have been qualified "UJ/J" estimated in each of the samples that were included in the 5 % data review.

3.2 Data Usability Report

According to the Data Usability report, the analytical data were compliant with established protocols and met the project data quality objectives (DQO) and are usable, with the appropriate qualifiers, to determine the presence, absence, and magnitude of environmental contamination in the samples collected from the site. A copy of the Data Usability report is included in **Appendix A**.

4.0 SUMMARY

Review of the data for the First Half 2014 indicates that previously implemented remedial actions continue to be effective at minimizing potential site impacts. In brief, the leachate quality has remained similar and the groundwater quality with regards to the inorganic constituents has improved when compared to the previous reporting periods. The groundwater quality with regards to the organic constituents has improved when compared to the previous reporting periods as organic constituents were detected at estimated concentrations but below groundwater standards in several of the samples collected. Several inorganic compounds are sporadically detected in wells MW-1A, 3A, 3B, 3C, 4A, 4B, 4C, 11A, 11B, 12A, and 12B. Contaminants detected in wells MW-3A, 3B, 3C, 4A, 4B, and 4C may be due to the expansion of the recharge basin, which is now located up-gradient of these wells. It is also due to the turbidity in the samples, as contaminant concentrations are significantly reduced in filtered samples.

5.0 RECOMENDATIONS

PWGC recommends that the Post-closure monitoring and maintenance operations program be continued and the groundwater and leachate sampling program be continued on a semi-annual basis.

Prior to performing the next round of sampling, the fallen tree should be removed from MW-3C and locks should be replaced where missing.

TABLES

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-1A

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005	Oct. 2005	April 2006	Oct. 2006	April 2007	Oct. 2007	April 2008	Oct. 2008	April 2009
Aluminum as Al	mg/L	NA	0.78	0.18	0.35	0.13	0.51	PNA	0.027 B	PNA	0.0092 U
Antimony as Sb	mg/L	0.003 #	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.0044 U	PNA	0.0027 U
Arsenic as As	mg/L	0.025	0.006	0.005 U	0.005 U	0.005 U	0.005 U	PNA	0.0029 U	PNA	0.0028 U
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	PNA	0.0126 B	PNA	0.0186 B
Beryllium as Be	mg/L	0.003	0.001 U	PNA	0.001 U	PNA	0.001 U	PNA	0.00012 B	PNA	0.00016 U
Boron as B	mg/L	1.0	0.11	PNA	0.13	PNA	0.11	PNA	0.055 B	PNA	0.0945 B
Cadmium as Cd	mg/L	0.005	0.005 U	PNA	0.005 U	PNA	0.005 U	0.0061 B	0.00027 U	0.00035 U	0.00023 U
Calcium as Ca	mg/L	NA	57	42	61	72	56	39.7	27.3	68.6	80
Chromium as Cr	mg/L	0.05	0.035	PNA	0.038	PNA	0.14	PNA	0.00075 U	PNA	0.0013 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0017 U	PNA	0.0012 U
Copper as Cu	mg/L	0.2	0.02	PNA	0.01 U	PNA	0.03	PNA	0.0016 U	PNA	0.0016 B
Cyanide as CN	mg/L	0.20	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.01 U	PNA	0.01 U
Iron as Fe	mg/L	0.3	**2.4**	**0.47**	**1.2**	**0.54**	**2.4**	**0.333**	0.12	0.0564 B	0.0576 B
Lead as Pb	mg/L	0.025	0.006	0.005 U	0.005 U	0.005 U	0.007	0.0021 B	0.0023 U	0.0013 U	0.0015 U
Magnesium	mg/L	35 #	PNA	16	NA	27	PNA	16.2	13.3	30	**36.1**
Manganese as Mn	mg/L	0.3	**2.0**	0.28	**0.9**	0.15	0.15	0.053	0.0365	0.0223	0.0111 B
Mercury as Hg	mg/L	0.0007	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	PNA	0.0001 U	PNA	0.0001 U
Nickel as Ni	mg/L	0.1	0.02	PNA	0.02	PNA	0.06	PNA	0.0013 U	PNA	0.0014 U
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	15.3	8.19	27.4	28.9 E
Selenium as Se	mg/L	0.01	0.004 U	PNA	0.004 U	PNA	0.004 U	PNA	0.0043 U	PNA	0.0027 U
Silver as Ag	mg/L	0.05	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.00089 U	PNA	0.0006 U
Sodium as Na	mg/L	20	**21**	PNA	15	PNA	14	13	13.1	**22**	**29.6**
Thallium as Tl	mg/L	0.0005 #	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.0025 U	PNA	0.0033 U
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0022 U	PNA	0.00097 U
Zinc as Zn	mg/L	2 #	0.03	PNA	0.01	PNA	0.04	PNA	0.0054 B	PNA	0.006 B
Alkalinity tot CaCo3	mg/L	NA	190	140	240	270	220	150	73.8	216	222
Chloride as Cl	mg/L	250.0	47	24	26	21	24	27.7	28.3	43.8	54.8
Sulfate as SO4	mg/L	250.0	38	24	34	26	27	10.5	33.4	48.8	101
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	PNA	0.5 U	0.5 U	0.5 U	0.5 U
BOD5	mg/L	NA	10	2.1	2 U	2 U	2 U	2 U	11	2 U	2 U
COD	mg/L	NA	100	PNA	40 U	PNA	40 U	10 U	19.4	29.3	10 U
Color	units	NA	5 U	5 U	10	10	15	PNA	5	PNA	10
Chromium hex as Cr	mg/L	0.05	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	mg/L	NA	230	170	250	290	230	160	128	144	520
Ammonia as N	mg/L	2.0	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.18	0.1 U
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA
Nitrate as N	mg/L	10	1.6	PNA	1.9	PNA	2.5	5.93	3.91	3.79	5.55
Phenols as Phenol	mg/L	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U	0.005 U	0.0005 U
Tot Dissolved Solids	mg/L	NA	340	PNA	380	PNA	340	242	0.1	361	531
Tot. Kjeldahl Nitrogen	mg/L	NA	1.4	PNA	2.2	PNA	1.6	0.55	0.33	1.02	0.61
Tot Organic Carbon	mg/L	NA	10	6.5	10	9.5	7.6	5.9	4.7	8.4	7.3
Turbidity	NTU	NA	7.6	4.1	8.2	2.4	11	0	18.6	10	5.8
Temperature	deg.C	NA	15	13	13	13	13	12.8	12.31	13.45	12.85
pH	units	6.5-8.5	7.3	**6.4**	6.6	6.6	**6.0**	**8.53**	**5.45**	**6.21**	6.58
Spec. Cond	umho/cm	NA	500	460	570	620	550	PNA	PNA	542	656

ANALYTICAL PARAMETERS	Oct. 2009	April 2010	Oct. 2010 Unfiltered	Oct. 2010 Filtered	April 2011	Oct. 2011	April 2012	Oct. 2012	April 2013	Oct. 2013	April 2014
Aluminum as Al	PNA	0.0407 BJ	PNA	PNA	0.0156 B	PNA	0.174 B	PNA	0.0129 B	PNA	0.00336 B
Antimony as Sb	PNA	0.0028 U	PNA	PNA	0.0041 B	PNA	0.0085 B	PNA	0.0012 U	PNA	0.0019 U
Arsenic as As	PNA	0.0028 U	PNA	PNA	0.0019 U	PNA	0.0221 U	PNA	0.0028 U	PNA	0.0011 U
Barium	PNA	0.0575 B	PNA	PNA	0.0185 BE	PNA	0.062 B	PNA	0.0058 B	PNA	0.0202 B
Beryllium as Be	PNA	0.0004 B	PNA	PNA	0.00013 U	PNA	0.00062 U	PNA	0.0001 U	PNA	0.00014 U
Boron as B	PNA	0.156	PNA	PNA	0.0688 BE	PNA	0.263 B	PNA	0.0248 B	PNA	0.027 B
Cadmium as Cd	0.00035	0.0004 B	0.00025 U	0.00025 U	0.00027 U	0.00017 U	0.00089 U	0.000087 U	0.0001 U	0.00015 U	0.00011 U
Calcium as Ca	70.4	10.6	44.5	46.1	39.3	66.8	182	66.8	14.1	59.9	18.2
Chromium as Cr	PNA	0.0033 B	PNA	PNA	0.00068 B	PNA	0.013 B	PNA	0.0016 B	PNA	0.0031 B
Cobalt	PNA	0.0012 U	PNA	PNA	0.00049 U	PNA	0.0026 U	PNA	0.0004 U	PNA	0.00019 U
Copper as Cu	PNA	0.006 B	PNA	PNA	0.0012 B	PNA	0.0045 B	PNA	0.0004 U	PNA	0.00076 U
Cyanide as CN	PNA	0.01 U	PNA	PNA	0.01 U	PNA	0.01 U	PNA	0.01 U	PNA	0.01 U
Iron as Fe	0.18	0.179	0.018 B	0.0071 B	0.0312 B	**1.1**	0.254 B	0.176	0.0124 B	0.228	0.0297 B
Lead as Pb	0.0018 U	**0.0326 J**	0.009	0.0077	0.0015 U	0.008	0.0247	0.001 B	0.0045	0.0057	0.0052
Magnesium	31.6	**48.2**	21.7	21.5	22.5	27.5	**82.7**	26.5	6.28	26	7.54
Manganese as Mn	0.085	0.0555	0.0015 B	0.0007 B	0.104	**0.98 E**	0.0665 B	0.0771	0.0023 B	0.0456	0.0099 B
Mercury as Hg	PNA	0.0001 U	PNA	PNA	0.0001 U	PNA	0.0001 U	PNA	0.0001 U	PNA	0.0001 U
Nickel as Ni	PNA	0.0018 B	PNA	PNA	0.0012 U	PNA	0.005 B	PNA	0.0012 B	PNA	0.0012 B
Potasium	25.6	45.1	18.6	15.9	11.7	20.2	53.3	17.2	4.68 B	13.7	5.17
Selenium as Se	PNA	0.0042 U	PNA	PNA	0.0026 U	PNA	**0.0242 B**	PNA	0.0025 B	PNA	0.0011 U
Silver as Ag	PNA	0.0005 U	PNA	PNA	0.00052 U	PNA	0.0089 B	PNA	0.0002 U	PNA	0.00043 U
Sodium as Na	**33.4**	**30**	**21.8**	**20.9**	**20.2**	19.4	**68.6**	16.8	7.87	16.9	11.2
Thallium as Tl	PNA	0.0056 U	PNA	PNA	0.0037 B	PNA	0.0159 U	PNA	0.0019 U	PNA	0.0013 U
Vanadium	PNA	0.0012 U	PNA	PNA	0.00056 U	PNA	0.0015 B	PNA	0.0003 U	PNA	0.00039 U
Zinc as Zn	PNA	0.0057 B	PNA	PNA	0.0103 B	PNA	0.0022 U	PNA	0.0084 B	PNA	0.0162 B
Alkalinity tot CaCo3	211	324	110 D	PNA	37.7	158 D	69 D	150 D	31	125 D	27.1
Chloride as Cl	52.5	49.8	34.5	PNA	27.8	24.3	17.8	29.6	13.1	27.7	21.5
Sulfate as SO4	114	171 J	103 D	PNA	141 D	106 D	63.7 D	128 D	25.7	123 D	41.3
Bromide	0.5 U	0.5 U	0.5 U	PNA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BOD5	2 U	2 U	2 U	PNA	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U
COD	10 U	10 U	10.6	PNA	12.4	16.4	10 U	20	10 U	10 U	18.4
Color	PNA	5	PNA	PNA	5 U	PNA	5 U	PNA	5 U	PNA	5 U
Chromium hex as Cr	PNA	0.02 U	PNA	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	330	460	210 D	PNA	190 D	288 D	152 D	260 D	62	350 D	76 D
Ammonia as N	0.1 U	0.92	0.1 U	PNA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11
Nitrite as N	0.1 U	0.1 U	0.1 U	PNA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrate as N	0.1 U	1.14	2.84	PNA	6.47 D	4.45 D	4.07 D	6.32 D	2.09 D	6.65 D	3.09 D
Phenols as Phenol	0.005 U	0.005 U	0.005 U	PNA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tot Dissolved Solids	489	674	333	PNA	356	398	245	501	98	427	107
Tot. Kjeldahl Nitrogen	0.89	1.02 J	0.47	PNA	0.1 U	0.78	0.1 U	0.95	0.1 U	0.11	0.23
Tot Organic Carbon	22	12.4	4.6	PNA	4.8	47.2	2.8	4.8	9.4	6.2	1.7
Turbidity	7	0	42	PNA	3.8	5.6	1.4	0	0	8.9	0
Temperature	12.86	13.47	12.39	PNA	11.96	13.13	12.98	12.31	12.57	13.35	11.08
pH	**6.09**	6.97	**5.38**	PNA	**3.72**	**6.33**	**5.74**	6.56	7.4	**6.21**	**5.77**
Spec. Cond	950	1,110	432	PNA	490	630	410	690	212	615	253

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6 NYCRR Part 703

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B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL	UNITS	GW	MW-1B																																	
PARAMETERS		STND*	April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009		Oct. 2009		April 2010		Oct. 2010		April 2011		Oct. 2011		April 2012		Oct. 2012		April 2013		Oct. 2013		April 2014	
Aluminum as Al	mg/L	NA	0.08		0.14		0.06		0.07		0.07		PNA		0.0571	B	PNA		0.0123	B	PNA		0.0196	UJ	PNA		0.0241	B	PNA		0.0334	BJ	PNA		0.0438	B	PNA		0.0283	B
Antimony as Sb	mg/L	0.003 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0044	U	PNA		0.0027	U	PNA		0.0028	U	PNA		0.0021	U	PNA		0.0018	B	PNA		0.0012	U	PNA		0.0019	U
Arsenic as As	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.007		PNA		0.0029	U	PNA		0.0028	U	PNA		0.0028	U	PNA		0.0019	U	PNA		0.0044	U	PNA		0.0028	U	PNA		0.0011	U
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0125	B	PNA		0.0105	B	PNA		0.0104	B	PNA		0.0104	BE	PNA		0.012	B	PNA		0.0098	B	PNA		0.0103	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0001	U	PNA		0.00016	U	PNA		0.00017	U	PNA		0.00013	U	PNA		0.00012	U	PNA		0.0001	U	PNA		0.00014	U
Boron as B	mg/L	1.0	0.02		PNA		0.02		PNA		0.01	U	PNA		0.009	B	PNA		0.0022	U	PNA		0.0104	B	PNA		0.0087	BE	PNA		0.0068	B	PNA		0.0129	B	PNA		0.0072	B
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.0033	B	0.00027	U	0.00035	U	0.00023	U	0.00034	U	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.00018	U	0.000087	U	0.0001	U	0.00015	U	0.00011	U
Calcium as Ca	mg/L	NA	4.3		5.1		3.6		4.9		5.4		3.14		3.33	B	3.49		3.68	B	3.71	B	2.98	B	2.99	B	2.76	B	4.22	B	4.29	BJ	4.26	B	4.31	B	4.66	B	4.07	B
Chromium as Cr	mg/L	0.05	0.007		PNA		0.007		PNA		0.007		PNA		0.0073	B	PNA		0.0058	B	PNA		0.0036	B	PNA		0.0088	B	PNA		0.0062	BJ	PNA		0.0131		PNA		0.0053	B
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0017	U	PNA		0.0012	U	PNA		0.0012	U	PNA		0.00049	U	PNA		0.00052	U	PNA		0.0004	U	PNA		0.00019	U
Copper as Cu	mg/L	0.2	0.03		PNA		0.02		PNA		0.03		PNA		0.0016	U	PNA		0.0012	U	PNA		0.0072	B	PNA		0.0012	B	PNA		0.0017	B	PNA		0.0053	B	PNA		0.001	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U
Iron as Fe	mg/L	0.3	**0.42**		**0.71**		**0.35**		**0.42**		**0.36**		0.189		0.15		0.0492	B	0.0532	B	**0.405**		0.0355	B	0.0151	B	0.0699	B	0.0516	U	0.0337	BJ	0.0767	B	0.177		0.0751	B	0.0261	B
Lead as Pb	mg/L	0.025	0.012		0.021		0.008		0.012		0.01		0.0022	B	0.0023	U	0.0013	U	0.0019	B	0.0058		0.0185	J	0.0081		0.0015	U	0.0091		0.0069		0.00096	U	0.0052		0.0071		0.0051	
Magnesium	mg/L	35 #	PNA		1.5		PNA		1.4		PNA		1.74	B	1.86	B	2.17	B	2.33	B	2.26	B	1.58	B	1.48	B	1.31	B	1.24	B	2	BJ	1.99	B	1.95	B	2.06	B	1.74	B
Manganese as Mn	mg/L	0.3	0.01		0.02		0.02		0.01		0.02		0.0054	B	0.0037	B	0.0023	B	0.0018	B	0.0121	B	0.0015	B	0.0011	B	0.0017	B	0.003	BE	0.0012	BJ	0.0021	B	0.0041	B	0.0049	B	0.0049	B
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.00025		PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	mg/L	0.1	0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0124	B	PNA		0.0064	B	PNA		0.0084	B	PNA		0.0055	B	PNA		0.0114	B	PNA		0.0095	B	PNA		0.0117	B
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.642	B	0.631	B	0.628	B	0.77	BE	0.795	B	0.934	B	1.25	B	1.12	B	0.3	B	0.961	BJ	0.775	B	0.613	B	1.64	B	0.954	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0043	U	PNA		0.0027	U	PNA		0.0042	U	PNA		0.0026	U	PNA		0.0028	U	PNA		0.0023	U	PNA		0.0011	U
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.00089	U	PNA		0.0006	U	PNA		0.0005	U	PNA		0.00052	U	PNA		0.0024	B	PNA		0.0002	U	PNA		0.00043	U
Sodium as Na	mg/L	20	9.5		PNA		7.7		PNA		7.9		6.65		7.93		8.13		6.78		6.92		7.09		7.41		6.93		7.73		7.04	J	7.16		6.28		8.31		7.5	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0025	U	PNA		0.0033	U	PNA		0.0056	U	PNA		0.0032	B	PNA		0.0032	U	PNA		0.0019	U	PNA		0.0013	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.00056	U	PNA		0.00023	U	PNA		0.0003	B	PNA		0.00039	U
Zinc as Zn	mg/L	2 #	0.04		PNA		0.02		PNA		0.03		PNA		0.0101	B	PNA		0.0106	B	PNA		0.005	B	PNA		0.0118	B	PNA		0.00044	U	PNA		0.013	B	PNA		0.0232	
Alkalinity tot CaCo3	mg/L	NA	14		18		18		34		16		7.6		26		11.1		11		12		8.8		6.2		6.5		10.1	D	12.9	D	11.5		11		12.2		10.4	
Chloride as Cl	mg/L	250.0	10		13		6.0		7.0		8.0		9.9		9.8		9.8		9.61		8.54		9.02		8.95		6.6		8.39		9.89		10.8		8.72		10.6		9.99	
Sulfate as SO4	mg/L	250.0	9.0		8.0		8.0		8.0		5	U	8		9.14		8.5		8.58		7		7.8	J	8.33		6.31		6.15		6.58		8.09		7.62		8.67		7.21	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	3.4		2.1		2	U	4.1		2	U	2	U	13		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	UJ	2	U	2	U
COD	mg/L	NA	40		PNA		40	U	PNA		40	U	10	U	10	U	14.4		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U
Hardness as CaC03	mg/L	NA	16		19		15		18		19		10		0.1	U	34		28		19		14		21		11		18		22		17		16		20		18	
Ammonia as N	mg/L	2.0	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.12	U
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	mg/L	10	0.5	U	PNA		0.5	U	PNA		0.5	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	1.49		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Phenols as Phenol	mg/L	0.001	0.001	U	**0.002**		**0.02**		**0.001**		0.001	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	55		PNA		74		PNA		69		54		59		44		55		51		45		35		47		24		53		59		41		62		48	
Tot. Kjeldahl Nitrogen	mg/L	NA	0.2		PNA		0.4		PNA		1.8		0.1	U	0.1	U	0.11		0.1	U	0.25		0.56	J	0.45		0.5	UD	0.27		0.1	U	0.1	U	0.1	U	0.27		0.37	
Tot Organic Carbon	mg/L	NA	2.5		6.5		3.3		9.5		1.2		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	5		1.3		1	U	3.4		1.7		1	U
Turbidity	NTU	NA	5.6		6.2		5.2		8.4		5.9		7		27.2		9.4		10.6		18.5		0		32		5.3		7.90		3.5		0.6		1.24		5		1.1	
Temperature	deg.C	NA	13		12		12		12		11		11.6		11.63		11.55		11.46		12.5		11.4		11.25		11.72		13.12		12.55		11.4		12.39		12.42		11.21	
pH	units	6.5-8.5	6.9		7.2		**6.0**		**6.1**		7.3		**8.51**		**5.37**		**6.18**		**6.43**		**5.85**		**6.33**		**5.2**		**3.94**		7.90		**5.75**		**6.39**		8.12		6.63		**6.46**	
Spec. Cond	umho/cm	NA	62		77		71		82		73		PNA		PNA		61		59		91		78		53		59		77		91		84		1		92		70	

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October 2013

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005	Oct. 2005	April 2006	Oct. 2006	April 2007	Oct. 2007	April 2008	Oct. 2008	April 2009	MW-1C Oct. 2009 Unfiltered	MW-1C Oct. 2009 Filtered	April 2010	Oct. 2010	April 2011	Oct. 2011	April 2012	Oct. 2012	April 2013	Oct. 2013	April 2014
Aluminum as Al	mg/L	NA	0.05	0.11	0.03	0.04	0.03	PNA	0.591	PNA	0.0112 B	PNA	0.0271 B	0.0959 BJ	PNA	0.0659 B	PNA	0.644	PNA	0.0173 B	PNA	0.0358 B
Antimony as Sb	mg/L	0.003 #	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.0044 U	PNA	0.0027 U	PNA	**0.0034 B**	0.0028 U	PNA	0.0021 U	PNA	0.0011 U	PNA	0.0012 U	PNA	0.0019 U
Arsenic as As	mg/L	0.025	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	PNA	0.0029 U	PNA	0.0028 U	PNA	0.0023 U	0.0028 U	PNA	0.0019 U	PNA	0.0044 U	PNA	0.0028 U	PNA	0.0011 U
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	PNA	0.0133 B	PNA	0.008 B	PNA	0.011 B	0.0093 B	PNA	0.0095 BE	PNA	0.0139 B	PNA	0.009 B	PNA	0.01 B
Beryllium as Be	mg/L	0.003	0.001 U	PNA	0.001 U	PNA	0.001 U	PNA	0.0001 U	PNA	0.00016 U	PNA	**0.0053 B**	0.00017 U	PNA	0.00013 U	PNA	0.00012 U	PNA	0.0001 U	PNA	0.00014 U
Boron as B	mg/L	1.0	0.04	PNA	0.01	PNA	0.01	PNA	0.0089 B	PNA	0.0022 U	PNA	0.0237 B	0.0111 B	PNA	0.0072 BE	PNA	0.0065 B	PNA	0.0128 B	PNA	0.0072 B
Cadmium as Cd	mg/L	0.005	0.005 U	PNA	0.005 U	PNA	0.005 U	0.00032 U	0.00027 U	0.00035 U	0.00023 U	0.00034 U	0.004 B	0.00024 U	0.00025 U	0.00027 U	0.00017 U	0.00018 U	0.000087 U	0.0001 U	0.00015 U	0.00011 U
Calcium as Ca	mg/L	NA	8.0	5.3	4.0	5.1	5.1	4.39 B	4.45 B	3.95 B	3.63 B	10.8	4.63 B	3.54 B	3.67 B	4.25 B	4.32 B	3.89 B	4.98 B	4.49 B	4.46 B	4.61 B
Chromium as Cr	mg/L	0.05	0.023	PNA	0.018	PNA	0.021	PNA	**0.295**	PNA	0.0049 B	PNA	0.0029 B	0.0118	PNA	0.0168	PNA	0.035	PNA	0.0037 B	PNA	0.0049 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0065 B	PNA	0.0012 U	PNA	0.0012 U	0.0012 U	PNA	0.00057 B	PNA	0.0009 B	PNA	0.0004 U	PNA	0.00019 U
Copper as Cu	mg/L	0.2	0.04	PNA	0.02	PNA	0.04	PNA	0.0209 B	PNA	0.0012 U	PNA	0.0062 B	0.0071 B	PNA	0.00077 B	PNA	0.0084 B	PNA	0.0013 B	PNA	0.0008 B
Cyanide as CN	mg/L	0.20	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.01 U	PNA	0.01 U	PNA	PNA	0.01 U	PNA	0.01 U	PNA	0.01 U	PNA	0.01 U	PNA	0.01 U
Iron as Fe	mg/L	0.3	**0.68**	**0.57**	0.23	**0.36**	0.26	0.024 U	**2.69**	**0.418**	0.0375 B	**20.8**	0.057 B	0.19	0.0099 B	0.243	0.0672 B	**1.25**	0.0389 B	0.0684 B	0.0619 U	0.0492 B
Lead as Pb	mg/L	0.025	0.007	0.007	0.005 U	0.005 U	0.005 U	0.0014 U	0.0042	0.0018 B	0.0023 B	0.0273	0.0018 U	0.0206 J	0.0092	0.0015 U	0.0077	0.0125	0.0011 B	0.0052	0.0055 J	0.0042 B
Magnesium	mg/L	35 #	PNA	1.5	PNA	1.5	PNA	2.13 B	2.64 B	2.1 B	2.03 B	7.19	1.81 B	1.84 B	1.94 B	2.09 B	1.58 B	2.06 B	2.45 N	2.23 B	2.22 BJ	2.28 B
Manganese as Mn	mg/L	0.3	0.05	0.02	0.02	0.01	0.03	0.0012 B	0.116	0.0194	0.0017 B	**0.703**	0.0125 B	0.0075 B	0.0006 B	0.0121 B	0.0138 BE	0.0424	0.0013 B	0.0026 B	0.0024 B	0.0033 B
Mercury as Hg	mg/L	0.0007	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	PNA	0.0001 U	PNA	0.0001 U	PNA	PNA	0.0001 U	PNA	0.0001 U	PNA	0.0001 U	PNA	0.0001 U	PNA	0.0001 U
Nickel as Ni	mg/L	0.1	0.01	PNA	0.02	PNA	0.02	PNA	**0.132**	PNA	0.0091 B	PNA	0.0085 B	0.0083 B	PNA	0.015 B	PNA	0.0162 B	PNA	0.009 B	PNA	0.0107 B
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.604 B	0.726 B	0.66 B	0.803 BE	2.55 B	0.856 B	0.947 B	1.17 B	1	0.406 B	1.12 B	0.751 B	0.702 B	1.38 B	0.978 B
Selenium as Se	mg/L	0.01	0.004 U	PNA	0.004 U	PNA	0.004 U	PNA	0.0043 U	PNA	0.0027 U	PNA	0.0025 U	0.0042 U	PNA	0.0026 U	PNA	0.0028 U	PNA	0.0023 U	PNA	0.0013 B
Silver as Ag	mg/L	0.05	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.00089 U	PNA	0.0006 U	PNA	0.00083 U	0.0005 U	PNA	0.00052 U	PNA	0.003 B	PNA	0.0002 U	PNA	0.00043 U
Sodium as Na	mg/L	20	11	PNA	7.0	PNA	9.6	7.13	7.81	7.95	7.68	6.61	7.37	8.34	8.76	7.87	7.62	7.77	9.07	7.77	9.02	8.24
Thallium as Tl	mg/L	0.0005 #	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.0025 U	PNA	0.0033 U	PNA	0.0032 U	0.0056 U	PNA	0.0027 U	PNA	0.0032 U	PNA	0.0019 U	PNA	0.0013 U
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0035 B	PNA	0.00097 U	PNA	0.0014 U	0.0012 U	PNA	0.00056 U	PNA	0.0012 B	PNA	0.0004 B	PNA	0.00039 U
Zinc as Zn	mg/L	2 #	0.05	PNA	0.02	PNA	0.06	PNA	0.0244	PNA	0.0103 B	PNA	0.0391	0.0061 B	PNA	0.0128 B	PNA	0.0129 B	PNA	0.0092 B	PNA	0.0256
Alkalinity tot CaCo3	mg/L	NA	24	24	18	30	20	13	13.4	12	10.1	15	PNA	11.8	12	12.7	12.6 D	10.8 D	12	12.6	12.9	12.5
Chloride as Cl	mg/L	250.0	13	8	6.0	7.0	10	10.2	9.7	9.85	10.4	9.28	PNA	9.68	10.1	7.92	9.15	9.85	11.5	9.47	11.2	214 D
Sulfate as SO4	mg/L	250.0	9.0	5.0	5.0	5.0 U	5	7.6	8.78	8.1	8.29	7.55	PNA	7.34 J	8.12	6.97	6.33	7.23	8.21	7.61	8.86	152 D
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	PNA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	PNA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	10 UD
BOD5	mg/L	NA	4.3	6	2 U	3.2	4.1	2 U	14	2 U	2 U	2 U	PNA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
COD	mg/L	NA	80	PNA	40 U	PNA	40 U	10 U	14.4	11.9	10 U	10 U	PNA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Color	units	NA	5 U	5 U	5 U	5 U	10	PNA	10	PNA	5	PNA	PNA	5	PNA	5 U	PNA	20	PNA	5 U	PNA	5 U
Chromium hex as Cr	mg/L	0.05	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	mg/L	NA	28	19	17	19	20 U	17	26	24	18	64	PNA	18	64 D	18	23	19	19	18	20	18
Ammonia as N	mg/L	2.0	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	PNA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA	0.1 U	PNA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrate as N	mg/L	10	0.5 U	PNA	0.5 U	PNA	0.5 U	0.1	0.11	0.1 U	0.11	0.36	PNA	0.24	0.3	0.13	0.18	0.11	0.27	0.29	0.3	0.35
Phenols as Phenol	mg/L	0.001	**0.062**	**0.004**	**0.048**	**0.001**	**0.002**	0.005 U	0.005 U	0.005 U	5 U	0.005 U	PNA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tot Dissolved Solids	mg/L	NA	74	PNA	88	PNA	73	54	63	43	43	374	PNA	46	55	68	34	61	56	56	64	31
Tot. Kjeldahl Nitrogen	mg/L	NA	0.6	PNA	0.2 U	PNA	1.4	0.1 U	0.1 U	0.18	0.1 U	0.33	PNA	1 UJ	0.41	0.5 UD	0.36	0.1 U	0.1 U	0.1 U	0.15	0.26
Tot Organic Carbon	mg/L	NA	4.3	3.6	1.4	2.1	2.9	1 U	1 U	1 U	1 U	1 U	PNA	1 U	1 U	1 U	5	1 U	1 U	3.8	1.1	1 U
Turbidity	NTU	NA	4.3	5	2.7	4.1	2.9	0	34.8	18.5	6.1	642	PNA	0	14.2	96.1	15.20	22.10	0.00	0.6	0.50	0.30
Temperature	deg.C	NA	13	12	12	12	11	12.5	14.44	11.3	10.98	11.45	PNA	11.33	10.96	12.28	12.97	15.74	11.36	12.56	12.18	10.12
pH	units	6.5-8.5	**6.3**	7.6	**6.1**	**6.1**	**6.4**	8.3	**5.9**	**6.25**	**6.48**	**5.2**	PNA	**6.31**	**5.47**	**4.37**	**6.42**	**6.05**	**6.27**	7.24	6.97	**6.15**
Spec. Cond	umho/cm	NA	64	79	70	75	77	PNA	PNA	59	56	100	PNA	92	65	75	86	841	870	79	98	89

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-3A

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005	April 2006	Oct. 2006	April 2007	Oct. 2007	April 2008	Oct. 2008	April 2009 Unfiltered	April 2009 Filtered	Oct. 2009 Unfiltered	Oct. 2009 Filtered
Aluminum as Al	mg/L	NA	0.69	0.64	0.11	0.72	PNA	0.5	PNA	0.0232 B	0.0092 U	PNA	PNA
Antimony as Sb	mg/L	0.003 #	0.01 U	0.005 U	PNA	0.005 U	PNA	0.0044 U	PNA	0.0027 U	0.0027 U	PNA	PNA
Arsenic as As	mg/L	0.025	0.004 U	0.005 U	0.005 U	0.005 U	PNA	0.0029 B	PNA	0.0028 U	0.0028 U	PNA	PNA
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	0.111 B	PNA	0.0659 B	0.0586 B	PNA	PNA
Beryllium as Be	mg/L	0.003	0.001 U	0.001 U	PNA	0.001 U	PNA	0.0002 B	PNA	0.00016 U	0.0002 U	PNA	PNA
Boron as B	mg/L	1.0	0.07	0.05	PNA	0.04	PNA	0.0588 B	PNA	0.0099 B	0..009 B	PNA	PNA
Cadmium as Cd	mg/L	0.005	0.005 U	0.005 U	PNA	0.005 U	0.00032 U	0.00027 U	0.00035 U	0.00023 U	0.0002 U	0.0034 U	0.00034 U
Calcium as Ca	mg/L	NA	19	14	11	37	18.1	15.5	14.3	28.5	28.10	19	18.9
Chromium as Cr	mg/L	0.05	**1.7**	**2.5**	PNA	**1.0**	PNA	**6.5**	PNA	**0.343**	0.0069 B	PNA	PNA
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.0397 B	PNA	0.0018 B	0.0012 U	PNA	PNA
Copper as Cu	mg/L	0.2	0.02	0.03	PNA	0.02	PNA	0.118	PNA	0.0093 B	0.0028 B	PNA	PNA
Cyanide as CN	mg/L	0.20	0.02 U	0.02 U	PNA	0.02 U	PNA	0.0100 U	PNA	0.01 U	PNA	PNA	PNA
Iron as Fe	mg/L	0.3	**7.5**	**11**	**1.4**	**6.5**	**7.67**	**31.9**	**39.9**	**1.63**	0.014 B	**10.7**	0.0091 B
Lead as Pb	mg/L	0.025	0.005 U	0.005 U	0.005 U	0.006	0.0014 U	0.0023 U	0.0027 B	0.0015 U	0.0015 B	1.8 U	0.0018 U
Magnesium	mg/L	35 #	PNA	PNA	2.1	PNA	4.81 B	3.79 B	4.46 B	5.97	5.9	5.08	5.03
Manganese as Mn	mg/L	0.3	**0.31**	**0.35**	0.04	**0.39**	**0.589**	**2.33**	**8.47**	0.123	0.0199	**0.853**	0.0025 B
Mercury as Hg	mg/L	0.0007	0.00025 U	0.00025 U	0.00025 U	0.00025 U	PNA	0.0001 U	PNA	0.0001 U	0.0001 U	PNA	PNA
Nickel as Ni	mg/L	0.1	0.05	0.07	PNA	0.03	PNA	**0.258**	PNA	0.0551	0.0362 B	PNA	PNA
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	6.78	5.97	6.97	6.37 E	6.2	4.77 B	4.78 B
Selenium as Se	mg/L	0.01	0.004 U	0.004 U	PNA	0.004 U	PNA	0.0043 U	PNA	0.0027 U	0.0027 U	PNA	PNA
Silver as Ag	mg/L	0.05	0.005 U	0.005 U	PNA	0.005 U	PNA	0.0010 B	PNA	0.0006 U	0.0006 U	PNA	PNA
Sodium as Na	mg/L	20	**78**	**34**	PNA	**140**	**26.4**	**32.2**	17.1	**60.1**	**60**	12.4	11.9
Thallium as Tl	mg/L	0.0005 #	0.005 U	0.005 U	PNA	0.005 U	PNA	0.0027 B	PNA	0.0033 U	0.0033 U	PNA	PNA
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.0213 B	PNA	0.0015 B	0.0010 U	PNA	PNA
Zinc as Zn	mg/L	2 #	0.01	0.01	PNA	0.01	PNA	0.1	PNA	0.0091 B	0.0172 B	PNA	PNA
Alkalinity tot CaCo3	mg/L	NA	30	50	50	32	65	60.8	62	41	PNA	68.2	PNA
Chloride as Cl	mg/L	250.0	140	41	18	**320**	28.8	45.4	14.6	139	PNA	9.53	PNA
Sulfate as SO4	mg/L	250.0	19	10	6	7.0	13.9	9.5	11.8	6.76	PNA	7.36	PNA
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	<0.5	0.5 U	0.5 U	0.5 U	PNA	0.50 U	PNA
BOD5	mg/L	NA	2 U	2 U	2 U	2 U	2 U	14	2 U	2 U	PNA	2 U	PNA
COD	mg/L	NA	40	40 U	PNA	40 U	10 U	16.9	10 U	10 U	PNA	10 U	PNA
Color	units	NA	5 U	5 U	5 U	5 U	PNA	40	PNA	5	PNA	PNA	PNA
Chromium hex as Cr	mg/L	0.05	0.02 U	0.02 U	PNA	0.02 U	PNA	0.0 U	PNA	0.02 U	PNA	PNA	PNA
Hardness as CaC03	mg/L	NA	64	51	35	120	66	100	115	160	PNA	74	PNA
Ammonia as N	mg/L	2.0	0.05 U	0.05 U	0.05 U	0.05 U	0.85	1.2	0.1 U	0.1 U	PNA	0.27	PNA
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA	PNA	0.10 U	PNA
Nitrate as N	mg/L	10	0.6	0.5	PNA	0.8	0.52	0.32	0.28	0.52	PNA	1.04	PNA
Phenols as Phenol	mg/L	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U	0.005 U	0.005 U	PNA	5.0 U	PNA
Tot Dissolved Solids	mg/L	NA	290	150	PNA	680	169	155	97	307	PNA	120	PNA
Tot. Kjeldahl Nitrogen	mg/L	NA	0.8	1.8	PNA	1.8	1.33	5.55	2.28	0.44	PNA	0.37	PNA
Tot Organic Carbon	mg/L	NA	1 U	1.3	1.8	<1 U	2.3	2.9	2.4	1.8	PNA	2.0	PNA
Turbidity	NTU	NA	7.7	77	20	66	21	88.2	634	100	PNA	93.6	PNA
Temperature	deg.C	NA	14	14	14	15	11.9	12.76	12.15	13.31	PNA	10.52	PNA
pH	units	6.5-8.5	**6.4**	**6.3**	6.9	**6.3**	8.47	**6.30**	**6.37**	**6.27**	PNA	**5.57**	PNA
Spec. Cond	umho/cm	NA	590	270	220	1100	PNA	PNA	152	434	PNA	213	PNA

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2010 Unfiltered	April 2010 Filtered	Oct. 2010 Unfiltered	Oct. 2010 Filtered	April 2011	Oct. 2011	April 2012	Oct. 2012 Unfiltered	Oct. 2012 Filtered	April 2013	Oct. 2013	April 2014
Aluminum as Al	mg/L	NA	0.0498 B	0.0196 U	PNA	PNA	0.0787 B	PNA	0.0311 B	PNA	PNA	0.0108 B	PNA	0.0391 U
Antimony as Sb	mg/L	0.003 #	**0.0042 B**	0.0028 U	PNA	PNA	**0.0109 B**	PNA	0.0011 U	PNA	PNA	0.0012 U	PNA	0.0019 U
Arsenic as As	mg/L	0.025	0.0028 U	0.0028 U	PNA	PNA	0.0019 U	PNA	0.0044 U	PNA	0.0015 U	0.0028 U	PNA	0.0011 U
Barium	mg/L	1	0.0393 B	0.0288 B	PNA	PNA	0.0804 BE	PNA	0.0344 B	PNA	PNA	0.0382 B	PNA	0.055 B
Beryllium as Be	mg/L	0.003	0.00017 U	0.0004 B	PNA	PNA	0.00013 U	PNA	0.00012 U	PNA	PNA	0.0001 U	PNA	0.00014 U
Boron as B	mg/L	1.0	0.017 B	0.0227 B	PNA	PNA	0.0318 BE	PNA	0.0274 B	PNA	PNA	0.0257 B	PNA	0.0291 B
Cadmium as Cd	mg/L	0.005	0.00024 U	0.0003 B	0.00025 U	0.00025 U	0.00027 U	0.00017 U	0.00018 U	0.000087 U	0.000087 U	0.0001 U	0.00015 U	0.00011 U
Calcium as Ca	mg/L	NA	13.4	14.1	14.9	14.8	21.5	7.04	15.5	9.77	8.98	18	13.2	19.1
Chromium as Cr	mg/L	0.05	**0.553**	0.0048 B	PNA	PNA	**1.69**	PNA	**0.126**	PNA	PNA	**0.104**	PNA	**0.595**
Cobalt	mg/L	NA	0.0034 B	0.0012 U	PNA	PNA	0.0119 B	PNA	0.0008 B	PNA	PNA	0.0013 B	PNA	0.0024 B
Copper as Cu	mg/L	0.2	0.0177 B	0.0058 B	PNA	PNA	0.0333	PNA	0.0058 B	PNA	PNA	0.0059 B	PNA	0.0164 B
Cyanide as CN	mg/L	0.20	0.01 U	PNA	PNA	PNA	0.01 U	PNA	0.01 U	PNA	PNA	0.01 U	PNA	0.01 U
Iron as Fe	mg/L	0.3	**2.4**	0.0235 B	**0.376**	0.0258 B	**7.73**	**4.47**	**0.509**	**8.2**	0.164	**0.441**	**0.412**	**2.28**
Lead as Pb	mg/L	0.025	0.0088	0.0088	0.0047	0.0053	0.0015 U	0.0016 U	0.0055	0.00096 U	0.00096 U	0.0033	0.0048	0.0053
Magnesium	mg/L	35 #	3.17 B	3.3 B	4.2 B	3.98 B	4.96 B	1.28 B	3.74 B	2.24 B	2.09 B	4.1 B	3.55 B	4.74 B
Manganese as Mn	mg/L	0.3	**0.304**	0.0041 B	0.0355	0.0089 B	**1.04**	0.185 E	0.103	**2.6**	0.0225	0.0866	0.0273	0.255
Mercury as Hg	mg/L	0.0007	0.0001 U	0.0001 U	PNA	PNA	0.0001 U	PNA	0.0001 U	PNA	PNA	0.0001 U	PNA	0.0001 U
Nickel as Ni	mg/L	0.1	0.0381 B	0.0134 B	PNA	PNA	**0.151**	PNA	0.0351 B	PNA	PNA	0.0408	PNA	0.0735
Potasium	mg/L	NA	3.1 B	2.7 B	5.8	4.45 B	5.92	0.925 B	3.64 B	4.41 B	4.14 B	2.72 B	4.47 B	6.58 J
Selenium as Se	mg/L	0.01	0.0042 U	0.0042 U	PNA	PNA	0.0026 U	PNA	0.0028 U	PNA	PNA	0.0023 U	PNA	0.0016 B
Silver as Ag	mg/L	0.05	0.0005 U	0.0005 U	PNA	PNA	0.00052 U	PNA	0.00032 U	PNA	PNA	0.0002 U	PNA	0.00043 UJ
Sodium as Na	mg/L	20	16.7	15.8	16.6	14.5	**58.4**	18.9	8.94	7.8	7.4	16.9	18.8	**33.6**
Thallium as Tl	mg/L	0.0005 #	0.0056 U	0.0056 U	PNA	PNA	0.0027 U	PNA	0.0032 U	PNA	PNA	0.0019 U	PNA	0.0013 U
Vanadium	mg/L	NA	0.0012 U	0.0012 U	PNA	PNA	0.0064 B	PNA	0.0003 B	PNA	PNA	0.0003 U	PNA	0.0019 B
Zinc as Zn	mg/L	2 #	0.0036 B	0.0039 B	PNA	PNA	0.0139 B	PNA	0.0083 B	PNA	PNA	0.008 B	PNA	0.0267
Alkalinity tot CaCo3	mg/L	NA	36.3	PNA	55 D	PNA	39.8	41.4 D	47.8 D	29.5	PNA	28.3	46.4 D	41
Chloride as Cl	mg/L	250.0	29.9	PNA	16.6	PNA	109 D	17.2	10.6	11.3	PNA	49.1	31.5	72.6 D
Sulfate as SO4	mg/L	250.0	6.42	PNA	8.34	PNA	5 U	5 U	5.77	7.43	PNA	5.84	5 U	5.58
Bromide	mg/L	2 #	0.5 U	PNA	0.5 U	PNA	0.5 U	0.5 U	0.5 U	0.5 U	PNA	0.5 U	0.5 U	0.5 U
BOD5	mg/L	NA	2 U	PNA	2 U	PNA	2 U	2 U	2 U	2 U	PNA	2 U	2 U	2 U
COD	mg/L	NA	10 U	PNA	10 U	PNA	10 U	10 U	10 U	10 U	PNA	10 U	10 U	12.7
Color	units	NA	20	PNA	PNA	PNA	10	PNA	10	PNA	PNA	5	PNA	30
Chromium hex as Cr	mg/L	0.05	0.02 U	PNA	PNA	PNA	0.02 U	PNA	0.02 U	PNA	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	mg/L	NA	38	PNA	58 D	PNA	76 D	32	62 D	38 D	PNA	62 D	60 D	68 D
Ammonia as N	mg/L	2.0	0.15	PNA	0.1 U	PNA	0.98	0.1 U	0.17	0.46	PNA	0.28	0.1 U	0.22
Nitrite as N	mg/L	NA	0.1 U	PNA	0.1 U	PNA	0.1 U	0.1 U	0.1 U	0.1 U	PNA	0.1 U	0.1 U	0.1 U
Nitrate as N	mg/L	10	0.56	PNA	0.41	PNA	0.59	0.15	1.01	0.2	PNA	0.54	0.2	1.05
Phenols as Phenol	mg/L	0.001	0.005 U	PNA	0.005 U	PNA	0.005 U	0.005 U	0.005 U	0.005 U	PNA	0.005 U	0.005 U	0.005 U
Tot Dissolved Solids	mg/L	NA	86	PNA	128	PNA	291	58	87	85	PNA	145	114	158
Tot. Kjeldahl Nitrogen	mg/L	NA	0.72	PNA	0.44	PNA	1.32	0.27	0.41 U	0.71	PNA	0.32	0.39	0.67
Tot Organic Carbon	mg/L	NA	1.6	PNA	1.3	PNA	1.2	12.2	1.9	1 U	PNA	10.3	3.3	2.7
Turbidity	NTU	NA	184	PNA	114	PNA	120	49.3	6.6	148	PNA	1.6	2.4	11.5
Temperature	deg.C	NA	12.06	PNA	10.74	PNA	12.19	11.86	12.95	13.07	PNA	13.18	10.82	12.62
pH	units	6.5-8.5	6.79	PNA	**5.88**	PNA	**4.47**	**5.68**	**6.26**	6.85	PNA	7.1	**6.39**	**6.28**
Spec. Cond	umho/cm	NA	223	PNA	153	PNA	480	202	166	121	PNA	258	211	349

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.
1.0 = Compound at standard.
NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-3B

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009		Oct. 2009	
Aluminum as Al	mg/L	NA	0.03		0.06		0.04		0.02		PNA		0.0	B	PNA		0.0092	U	PNA	
Antimony as Sb	mg/L	0.003 #	0.01	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U	PNA	
Arsenic as As	mg/L	0.025	**0.025**		0.023		0.019		0.024		PNA		0.0116		PNA		0.0128		PNA	
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		0.042	B	PNA		0.052	B	PNA	
Beryllium as Be	mg/L	0.003	0.001	U	0.001	U	PNA		0.001	U	PNA		0.0	U	PNA		0.00016	U	PNA	
Boron as B	mg/L	1.0	0.1		0.08		PNA		0.12		PNA		0.1	B	PNA		0.0868	B	PNA	
Cadmium as Cd	mg/L	0.005	0.005	U	0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U	0.0034	U
Calcium as Ca	mg/L	NA	9.8		12		15		16		11.5		10.7		11.9		13.3		8.74	
Chromium as Cr	mg/L	0.05	0.005	U	0.005	U	PNA		0.006		PNA		0.0	B	PNA		0.00079	B	PNA	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0056	B	PNA		0.0075	B	PNA	
Copper as Cu	mg/L	0.2	0.01	U	0.01	U	PNA		0.01	U	PNA		0.0	U	PNA		0.0013	B	PNA	
Cyanide as CN	mg/L	0.20	0.02	U	0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U	PNA	
Iron as Fe	mg/L	0.3	**13**		**21**		**20**		**21**		**13.1**		**14.8**		**15.7**		**21.9**		**10.0**	
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0015	U	0.0018	U
Magnesium	mg/L	35 #	PNA		PNA		5.3		PNA		3.99	B	4.04	B	4.49	B	5.06		3.26	B
Manganese as Mn	mg/L	0.3	**1.5**		**3.5**		**3.1**		**3.3**		**1.97**		**2.13**		**2.62**		**3.69**		**1.79**	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U	PNA	
Nickel as Ni	mg/L	0.1	0.01	U	0.01	U	PNA		0.01	U	PNA		0.0	B	PNA		0.0043	B	PNA	
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		5.99		4.81	B	5.59		6.21		4.96	B
Selenium as Se	mg/L	0.01	0.004	U	0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U	PNA	
Silver as Ag	mg/L	0.05	0.005	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U	PNA	
Sodium as Na	mg/L	20	8.8		11		PNA		18		12.9		15.6		15.9		**20**		9.52	
Thallium as Tl	mg/L	0.0005 #	0.005	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U	PNA	
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA	
Zinc as Zn	mg/L	2 #	0.01		0.02		PNA		0.02		PNA		0.0	B	PNA		0.0068	B	PNA	
Alkalinity tot CaCo3	mg/L	NA	42		60		100		110		60.2		60.8		64		72		47.6	
Chloride as Cl	mg/L	250.0	10		5		20		23		17.1		18.5		19.6		21.9		10.4	
Sulfate as SO4	mg/L	250.0	40		12		7		7.0		11.1		11.9		12.2		9.9		10.1	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.50	U
BOD5	mg/L	NA	2	U	6.0		3.0	U	3	U	2	U	12		2	U	2	U	2	U
COD	mg/L	NA	80		40	U	PNA		40	U	10	U	21.8		26.8		13.3		10	U
Color	units	NA	5	U	5	U	5	U	10		PNA		140		PNA		60		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.02	U	PNA	
Hardness as CaC03	mg/L	NA	40		51		60		62		54		60		52		170		48	
Ammonia as N	mg/L	2.0	**2.4**		1.8		**2.1**		**5.0**		**6.67**		**3.52**		**3.99**		**4.81**		**3.0**	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U
Nitrate as N	mg/L	10	0.5	U	0.5	U	PNA		0.5	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Phenols as Phenol	mg/L	0.001	0.001	U	**0.002**		0.001	U	**0.002**		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	91		110		PNA		180		135		111		101		127		93	
Tot. Kjeldahl Nitrogen	mg/L	NA	2.4		2.4		PNA		8.6		7.66		5.73		5.39		6.01		3.64	
Tot Organic Carbon	mg/L	NA	1	U	2.4		3.6		1.7		2.6		2.6		2.8		4.1		1.0	
Turbidity	NTU	NA	8.4		150		110		92		7		7.3		24.6		0		16.5	
Temperature	deg.C	NA	14		14		13		14		11.9		12.96		12.78		12.84		10.73	
pH	units	6.5-8.5	**6.5**		**6.1**		**6.5**		**6.4**		8.35		**6.39**		**6.43**		6.56		**5.77**	
Spec. Cond	umho/cm	NA	170		210		340		350		PNA		PNA		212		258		365	

ANALYTICAL PARAMETERS	April 2010		Oct. 2010		April 2011		Oct. 2011 Unfiltered		Oct. 2011 Filtered		April 2012		Oct. 2012		April 2013		Oct. 2013		April 2014	
Aluminum as Al	0.0341	B	PNA		0.0161	B	PNA		PNA		0.0354	B	PNA		0.0123	B	PNA		0.0294	B
Antimony as Sb	0.0028	U	PNA		0.0046	B	PNA		PNA		0.0011	U	PNA		0.0012	U	PNA		0.0019	U
Arsenic as As	0.0125		PNA		0.0134		PNA		PNA		0.0063	B	PNA		0.0125		PNA		0.0058	B
Barium	0.0165	B	PNA		0.0409	BE	PNA		PNA		0.0319	B	PNA		0.291	B	PNA		0.039	B
Beryllium as Be	0.00017	U	PNA		0.00019	B	PNA		PNA		0.00012	U	PNA		0.0001	U	PNA		0.00014	U
Boron as B	0.0131	B	PNA		0.0893	BE	PNA		PNA		0.0502	B	PNA		0.0402	B	PNA		0.042	B
Cadmium as Cd	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.0002	B	0.00018	U	0.000087	U	0.0001	U	0.00015	U	0.00011	U
Calcium as Ca	5.72		9.71		12		13		11.4		7.79		6.35		9.03		10.4		11.8	
Chromium as Cr	0.002	B	PNA		0.0011	B	PNA		PNA		0.0081	B	PNA		0.0035	B	PNA		0.0025	B
Cobalt	0.0031	B	PNA		0.0054	B	PNA		PNA		0.0041	B	PNA		0.0047	B	PNA		0.0056	B
Copper as Cu	0.0037	B	PNA		0.00055	U	PNA		PNA		0.0007	U	PNA		0.0011	B	PNA		0.003	B
Cyanide as CN	0.01	U	PNA		0.01	U	PNA		PNA		0.01	U	PNA		0.01	U	PNA		0.01	U
Iron as Fe	**8.06**		**13.3**		**16.8**		**9.64**		0.136		**11.2**		**10.8**		**12.1**		**14**		**14.3**	
Lead as Pb	0.0169		0.0017	U	0.0018	B	0.0034		0.0061		0.0038		0.00096	U	0.0029	B	0.00072	U	0.0023	B
Magnesium	2.09	B	3.8	B	4.45	B	3.09	B	3.18	B	2.51	B	1.9	B	2.96	B	3.54	B	4.1	B
Manganese as Mn	**1.79**		**2.58**		**2.37**		**4.36**	**E**	**0.995**		**2.34**		**3.54**		**3.4**		**3.59**		**4.15**	
Mercury as Hg	0.0001	U	PNA		0.0001	U	PNA		PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	0.001	U	PNA		0.0027	B	PNA		PNA		0.002	B	PNA		0.0022	B	PNA		0.003	B
Potasium	2.99	B	3.68	B	6.82		4.37	B	6.61	E	4.86	B	2.59	B	3.72	B	4.93	B	4.23	B
Selenium as Se	0.0042	U	PNA		0.0026	U	PNA		PNA		0.0028	U	PNA		0.0023	U	PNA		0.0011	U
Silver as Ag	0.0005	U	PNA		0.00052	U	PNA		PNA		0.00032	U	PNA		0.0002	U	PNA		0.00043	U
Sodium as Na	7.92		9.91		16		12.8		12.8		11.5		8.8		9.98		10.6		13	
Thallium as Tl	0.0056	U	PNA		0.0027	U	PNA		PNA		0.0032	U	PNA		0.0019	U	PNA		0.0013	U
Vanadium	0.0012	U	PNA		0.00072	B	PNA		PNA		0.00023	U	PNA		0.0003	U	PNA		0.00039	U
Zinc as Zn	0.0101	B	PNA		0.0092	B	PNA		PNA		0.00044	U	PNA		0.0115	B	PNA		0.0087	B
Alkalinity tot CaCo3	28.1		44	D	64.4	D	44.5	D	PNA		63	D	29.9		46.3	D	57.1	D	55.5	
Chloride as Cl	8.61		11.6		12.7		12.6		PNA		13.1		12		13.5		17.8		17.1	
Sulfate as SO4	8.06		8.62		8.24		7.3		PNA		8.61		10.5		11.2		10.9		9.82	
Bromide	0.5	U	0.5	U	0.5	U	0.5	U	PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	2	U	2	U	2	U	4		PNA		2	U	2	U	2	U	2	U	2	U
COD	10	U	10	U	13.7		10	U	PNA		10	U	10	U	10	U	10	U	12.1	
Color	50		PNA		75	E	PNA		PNA		200	D	PNA		125	D	PNA		55	
Chromium hex as Cr	0.02	U	PNA		0.02	U	PNA		PNA		0.02	U	PNA		0.0001	UD	PNA		0.02	U
Hardness as CaC03	37		58	D	60	D	64	D	PNA		41		37		84	D	68	D	72	D
Ammonia as N	1.62		1.07		**2.6**		0.74		PNA		**4.21**	D	**2.07**		**2.82**	**D**	**3.22**	**D**	**2.54**	**D**
Nitrite as N	0.1	U	0.1	U	0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	0.12		0.1	U	0.1	U	0.9		PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Phenols as Phenol	0.005	U	0.005	U	0.005	U	0.005	U	PNA		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	63		104		116		73		PNA		85		82		75		102		76	
Tot. Kjeldahl Nitrogen	1.9		1.63		2.67		1.42		PNA		8.44	D	3.16		3.05		3.62		3.11	
Tot Organic Carbon	1	U	1.7		2.5		13		PNA		1	U	1	U	14.2		2.6		2	
Turbidity	0		10.6		10.4		14.8		PNA		2.2		0		0		4.1		0	
Temperature	12.76		10.54		12.67		12.55		PNA		14.22		12.79		12.58		10.56		11.36	
pH	6.92		7.54		6.97		**6.29**		PNA		**6.49**		6.95		**6.44**		**6.00**		**6.39**	
Spec. Cond	154		152		361		254		PNA		245		165		231		256		244	

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= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

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1.0 = Compound at standard.

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TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL	UNITS	GW	MW-3C																																			
PARAMETERS		STND*	April 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009		Oct. 2009		April 2010		Oct. 2010		April 2011		Oct. 2011		April 2012		Oct. 2012		April 2013		Oct. 2013			
Aluminum as Al	mg/L	NA	0.04		0.05		0.06		0.03		PNA		0.0	B	PNA		0.0092	U	PNA		0.0268	B	PNA		0.0082	U	PNA		0.0369	B	PNA		0.0095	U	PNA			
Antimony as Sb	mg/L	0.003 #	0.01	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0028	U	PNA		0.0021	U	PNA		0.0011	U	PNA		0.0036	B	PNA			
Arsenic as As	mg/L	0.025	0.004	U	0.005	U	0.005	U	0.005	U	PNA		0.0	U	PNA		0.0028	U	PNA		0.0028	U	PNA		0.0019	U	PNA		0.0044	U	PNA		0.0028	U	PNA			
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		0.0437	B	PNA		0.0376	B	PNA		0.0417	B	PNA		0.0403	BE	PNA		0.04	B	PNA		0.0248	B	PNA			
Beryllium as Be	mg/L	0.003	0.001	U	0.001	U	PNA		0.001	U	PNA		0.0	U	PNA		0.00016	U	PNA		0.00017	U	PNA		0.00013	U	PNA		0.00012	U	PNA		0.0001	U	PNA			
Boron as B	mg/L	1.0	0.02		0.03		PNA		0.03		PNA		0.0	B	PNA		0.0034	B	PNA		0.0167	B	PNA		0.0154	BE	PNA		0.0113	B	PNA		0.0175	B	PNA			
Cadmium as Cd	mg/L	0.005	0.005	U	0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U	0.0034	U	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.00018	U	0.000087	U	0.0001	U	0.00015	U		
Calcium as Ca	mg/L	NA	10		17		18		19		22.2		18.9		18.9		16.7		16.4		16.1		16.8		16.5		16.6		13.8		14.1		12		11			
Chromium as Cr	mg/L	0.05	0.016		0.014		PNA		0.02		PNA		**0.0726**		PNA		**0.0507**		PNA		0.0167		PNA		0.0034	B	PNA		0.0254		PNA		0.0029	B	PNA			
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0017	U	PNA		0.0012	U	PNA		0.0012	U	PNA		0.00049	U	PNA		0.00052	U	PNA		0.0004	U	PNA			
Copper as Cu	mg/L	0.2	0.01	U	0.01	U	PNA		0.02		PNA		0.0	U	PNA		0.0012	U	PNA		0.0068	B	PNA		0.00065	B	PNA		0.0024	B	PNA		0.0004	U	PNA			
Cyanide as CN	mg/L	0.20	0.02	U	0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA			
Iron as Fe	mg/L	0.3	0.16		0.16		0.16		0.29		**0.823**		**0.354**		0.182		0.283		0.107		0.0769	B	0.0584	B	0.0358	B	**0.323**		0.115		0.171		0.0185	B	0.0619	U		
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0015	U	0.0018	U	**0.0321**		0.0157		0.0015	U	0.0128		0.0118		0.0012	B	0.0084		0.0167			
Magnesium	mg/L	35 #	PNA		PNA		7.8		PNA		10.6		9.56		9.84		8.73		8.34		7.84		8.36		8.75		5.23		6.48		6.35		5.66		5.08			
Manganese as Mn	mg/L	0.3	0.03		0.06		0.07		0.06		0.181		0.099		0.0756		0.0628		0.0587		0.054		0.0677		0.0759		0.142	E	0.0517		0.053		0.0406		0.0488			
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.00011	B	PNA		0.0001	U	PNA			
Nickel as Ni	mg/L	0.1	0.03		0.04		PNA		0.03		PNA		0.0	B	PNA		0.0098	B	PNA		0.0066	B	PNA		0.0094	B	PNA		0.0056	B	PNA		0.0044	B	PNA			
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		1.27	B	1.17	B	1.21	B	1.29	BE	1.36	B	1.34	B	1.78	B	1.69	B	1.3	B	1.32	B	1.01	B	1.03	B	1.56	B		
Selenium as Se	mg/L	0.01	0.004	U	0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0042	U	PNA		0.0026	U	PNA		0.0028	U	PNA		0.0023	U	PNA			
Silver as Ag	mg/L	0.05	0.005	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U	PNA		0.0005	U	PNA		0.00052	U	PNA		0.00032	U	PNA		0.0002	U	PNA			
Sodium as Na	mg/L	20	11		15		PNA		17		18.2		18.6		18.7		16.5		18		18.4		19.1		**22.1**		17.4		17		15.7		13.2		12.4			
Thallium as Tl	mg/L	0.0005 #	0.004	U	0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U	PNA		0.0056	U	PNA		0.0027	U	PNA		0.0032	U	PNA		0.0019	U	PNA			
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.00085	B	PNA		0.0004	B	PNA		0.0004	B	PNA			
Zinc as Zn	mg/L	2 #	0.01	U	0.02		PNA		0.02		PNA		0.0	B	PNA		0.0496		PNA		0.0047	B	PNA		0.0111	B	PNA		0.00044	U	PNA		0.0076	B	PNA			
Alkalinity tot CaCo3	mg/L	NA	46		70		88		82		97.6		87.2		82.5		73.6		77.5		76.9		90	D	81.8	D	69.3	D	70.4	D	61.9	D	56.1		54.2	D		
Chloride as Cl	mg/L	250.0	16		26		23		26		27.7		23.7		23.9		21		20		22.4		22.8		16.8		12.3		16.7		16.1		13.2		13.7			
Sulfate as SO4	mg/L	250.0	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U		
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
BOD5	mg/L	NA	2	U	2	U	2	U	3	U	2	U	13		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U		
COD	mg/L	NA	60		40	U	PNA		40	U	10	U	10	U	39.2		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U		
Color	units	NA	5	U	5	U	5	U	10		PNA		5		PNA		5	U	PNA		5		PNA		5	U	PNA		5		PNA		5	U	PNA			
Chromium hex as Cr	mg/L	0.05	0.02	U	0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.02	U	PNA		0.02	U	NA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA			
Hardness as CaC03	mg/L	NA	45		70		77		76		91		86		78		150		72		78		86	D	74	D	84	D	64	D	60	D	53		60	D		
Ammonia as N	mg/L	2.0	0.05	U	0.05	U	0.05	U	0.05	U	0.1	U	0.1	U	0.1	U	0.15		0.1	U	0.1	U	0.1	U	0.1	U	0.16		0.1	U	0.1	U	0.1	U	0.1	U		
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Nitrate as N	mg/L	10	0.5	U	0.5	U	PNA		0.5	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.16		0.1	U	0.1		0.1		0.12			
Phenols as Phenol	mg/L	0.001	**0.002**		**0.002**		0.001	U	0.001	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U		
Tot Dissolved Solids	mg/L	NA	100		130		PNA		210		187		141		132		129		147		132		130		139		95		120		123		97		97			
Tot. Kjeldahl Nitrogen	mg/L	NA	0.6		1.6		PNA		1.2		0.3		0.1	U	0.13		0.2		0.1	U	0.1	U	1.51		0.1	U	0.28		0.1	U	0.1	U	0.1	U	0.21			
Tot Organic Carbon	mg/L	NA	1	U	1	U	1.5		1	U	1.4		1.1		1	U	1		1	U	1	U	1		1	U	20.4		1	U	1	U	15.9		1	U		
Turbidity	NTU	NA	1.6		1.2		2.2		2.2		2		9.6		27		4.9		7		0		7.7		PNA		12.0		0.0		0.0		0		2.2			
Temperature	deg.C	NA	13		15		13		13		12.5		12.67		12.47		12.4		11.56		12.59		11.95		PNA		13.11		16.55		12.71		12.57		11.87			
pH	units	6.5-8.5	6.6		**6.3**		6.7		6.6		**8.58**		**6.24**		**6.48**		6.55		**6.27**		6.78		**5.95**		PNA		6.80		**6.23**		6.98		7.15		6.62			
Spec. Cond	umho/cm	NA	150		200		320		260		PNA		PNA		187		170		256		264		195		PNA		210		210		197		191		181			

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.
1.0 = Compound at standard.
NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-4A																																			
			April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009		Oct. 2009		April 2010		Oct. 2010		April 2011		Oct. 2011		April 2012		Oct. 2012		April 2013		Oct. 2013		April 2014	
Aluminum as Al	mg/L	NA	1.0		0.5		1.3		0.2		0.47		PNA		0.1	B	PNA		0.0092	U	PNA		0.0869	BJ	PNA		0.243		PNA		0.146	B	PNA		0.243		PNA		0.253	
Antimony as Sb	mg/L	0.003 #	0.01	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0028	U	PNA		0.0021	U	PNA		0.0011	U	PNA		0.0012	U	PNA		0.0019	U
Arsenic as As	mg/L	0.025	0.005	U	0.004	U	0.005	U	0.005	U	0.006		PNA		0.0	U	PNA		0.0028	U	PNA		0.0028	U	PNA		0.00019	U	PNA		0.0044	U	PNA		0.0028	U	PNA		0.0011	U
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0275	B	PNA		0.0304	B	PNA		0.0719	B	PNA		0.0465	BE	PNA		0.12	B	PNA		0.206		PNA		0.183	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0	B	PNA		0.00016	U	PNA		0.00017	U	PNA		0.00013	U	PNA		0.0002	B	PNA		0.0002	B	PNA		0.0006	B
Boron as B	mg/L	1.0	0.04		PNA		0.05	U	PNA		0.02		PNA		0.0	B	PNA		0.0022	U	PNA		0.0286	B	PNA		0.0216	BE	PNA		0.0241	B	PNA		0.0212	B	PNA		0.0271	B
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U	0.00034	U	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.00018	U	0.0004	B	0.0003	B	0.00015	U	0.0002	B
Calcium as Ca	mg/L	NA	4.6		6.4		6.0		6.3		8.3		5.88		4.18	B	7.38		18.1		9.04		11.2		7.06		7.45		7.51		8.36		23.5		13.9		10.3		11.3	
Chromium as Cr	mg/L	0.05	**0.056**		PNA		**0.064**		PNA		0.041		PNA		0.0084	B	PNA		**0.171**		PNA		0.0033	B	PNA		0.0302		PNA		0.0041	B	PNA		0.0046	B	PNA		0.0042	B
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0017	U	PNA		0.0028	B	PNA		0.0012	U	PNA		0.00049	U	PNA		0.00052	U	PNA		0.0004	U	PNA		0.00019	U
Copper as Cu	mg/L	0.2	0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0	U	PNA		0.0054	B	PNA		0.0068	B	PNA		0.0014	B	PNA		0.0007	U	PNA		0.0004	U	PNA		0.00076	U
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U
Iron as Fe	mg/L	0.3	**1.7**		**1.1**		**2.1**		0.29		**1.1**		0.107		0.176		0.0716	B	**0.499**		0.0704	B	0.0696	B	0.0196	B	**0.535**		**0.442**		0.0571	B	**2.2**		0.0631	B	0.124		0.0796	B
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0015	U	0.0018	U	0.0213	J	0.008		0.0015	U	0.0061		0.0057		0.0034		0.0063		0.0105		0.0038	B
Magnesium	mg/L	35 #	PNA		4.7		PNA		4		PNA		3.28	B	2.75	B	4.52	B	9.31		4.74	B	4.44	B	2.8	B	3.5	B	2.83	B	3.11	B	8.53		4.57	B	3.34	B	3.87	B
Manganese as Mn	mg/L	0.3	0.19		0.08		0.15		0.04		0.01	U	0.0254		0.0137	B	0.0316		0.0278		0.0643		0.137		0.0659		0.0623		0.0712	E	0.0709		**0.33**		0.133		0.0853		0.113	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	mg/L	0.1	0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0	B	PNA		**0.154**		PNA		0.0048	B	PNA		0.0026	B	PNA		0.0038	B	PNA		0.0056	B	PNA		0.0051	B
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		1.91	B	1.49	B	2.48	B	1.44	BE	2.53	B	4.23	B	3.59	B	3.4	B	1.77	B	3.56	B	6.69		4.36	B	4.11	B	3.87	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0042	U	PNA		0.0026	U	PNA		0.0028	U	PNA		0.0023	U	PNA		0.0011	U
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U	PNA		0.0005	U	PNA		0.00052	U	PNA		0.00032	U	PNA		0.0002	U	PNA		0.00043	U
Sodium as Na	mg/L	20	12		PNA		10		PNA		13		10.5		14.2		**25.8**		19.6		16.1		19.2		14.8		17.9		15.1		15.1		**37.5**		18.3		15.2		**23**	
Thallium as Tl	mg/L	0.0005 #	0.004	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U	PNA		0.0056	U	PNA		0.0027	U	PNA		0.0032	U	PNA		0.0019	U	PNA		0.0013	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.00088	B	PNA		0.00023	U	PNA		0.0003	U	PNA		0.00039	U
Zinc as Zn	mg/L	2 #	0.01		PNA		0.01		PNA		0.02		PNA		0.0	B	PNA		0.0148	B	PNA		0.0122	B	PNA		0.0116	B	PNA		0.0005	B	PNA		0.0125	B	PNA		0.017	B
Alkalinity tot CaCo3	mg/L	NA	6.0		20.0		4.0		18.0		8.0		4.4		13.4		13.4		31.5		7.8		6.8		5.5		10.2		4.4		6.55		8.2		2.2		4.85		6.5	
Chloride as Cl	mg/L	250.0	19		33		16		25		19		19.2		13.9		35.4		47.8		25.5		30.3		20.7		18.2		22.4		25.3		36		31.5		29.8		41.5	
Sulfate as SO4	mg/L	250.0	10		11		30		10		11		13.1		14		12.0		5	U	11.7		16	J	17.3		10.9		11.4		12.3		14.4		12		14.9		11.1	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	2	U	2.4		2	U	2		2	U	2	U	12		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
COD	mg/L	NA	40	U	PNA		40	U	PNA		40	U	10	U	11.9		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U
Hardness as CaC03	mg/L	NA	26		35		31		32		39		29		26		32		140		40		47		30	D	33		33		35		45		52	D	48	D	40	D
Ammonia as N	mg/L	2.0	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	mg/L	10	2.3		PNA		4.9		PNA		7.4		2.65		1.5		3.97		0.1	U	7.01		6.33		3.59	D	4.55	D	3.3	D	4.3	D	7.03	D	12.2	D	5.57	D	8.25	D
Phenols as Phenol	mg/L	0.001	**0.004**		0.001	U	0.001	U	0.001	U	0.001	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	84		PNA		110		PNA		130		97		68		111		176		134		133		76		103		79		103		153		175		124		142	
Tot. Kjeldahl Nitrogen	mg/L	NA	0.4		PNA		1.8		PNA		1.4		0.24		0.1	U	0.2		0.18		0.12		0.1	UJ	0.1	U	0.5	UD	0.11		0.1	U	0.1	U	0.1	U	0.14		0.18	
Tot Organic Carbon	mg/L	NA	1	U	1.4		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2.5		1	U	1	U	1.9		1.6		1	U
Turbidity	NTU	NA	2.2		3.7		15		1		1.3		0		10.9		23.1		2.1		0.2		0		4.6		PNA		16.2		0.4		13.2		0.1		3.8		1.1	
Temperature	deg.C	NA	12		15		12		14		12		13.4		12.58		13.33		12.24		13.55		11		13.06		PNA		13.83		11.85		13.3		11.17		13.66		10.41	
pH	units	6.5-8.5	**5.5**		**5.7**		**5.6**		**6.5**		**5.8**		8.46		**4.90**		**5.29**		**5.17**		**4.68**		**5.27**		**4.62**		PNA		**5.28**		**5.42**		**5.71**		**6.04**		**5.35**		**5.61**	
Spec. Cond	umho/cm	NA	130		200		170		340		210		PNA		PNA		167		137		214		244		124		PNA		181		186		231		268		205		244	
Color	units	NA	5	U	5	U	5	U	5	U	5	U	PNA		5		PNA		10		PNA		5		PNA		5	U	PNA		5	U	PNA		5	U	PNA		5	U		

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Aluminum as Al	mg/L	NA	0.03		0.04		0.03		0.02		0.03		PNA		0.1	B	PNA		0.0092	U	PNA		0.049	BJ	PNA		0.0118	B	PNA		0.0287	B	PNA		0.0095	U	PNA		0.0511	B
Antimony as Sb	mg/L	0.003 #	0.01	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0028	U	PNA		0.0043	B	PNA		0.0011	U	PNA		0.0012	U	PNA		0.0019	U
Arsenic as As	mg/L	0.025	0.007		0.004	U	0.007		0.005	U	0.007		PNA		0.0	B	PNA		0.0037	B	PNA		0.0069	B	PNA		0.0041	B	PNA		0.0044	U	PNA		0.0028	U	PNA		0.0024	B
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0893	B	PNA		0.103	B	PNA		0.135	B	PNA		0.0747	BE	PNA		0.0921	B	PNA		0.0662	B	PNA		0.0921	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0	U	PNA		0.00016	U	PNA		0.00017	U	PNA		0.00013	U	PNA		0.00012	U	PNA		0.0001	U	PNA		0.00014	U
Boron as B	mg/L	1.0	0.12		PNA		0.1		PNA		0.1		PNA		0.1	B	PNA		0.0772	B	PNA		0.108		PNA		0.0817	BE	PNA		0.0749	B	PNA		0.0761	B	PNA		0.0779	B
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U	0.00034	U	0.00024	U	0.0003	B	0.00027	U	0.00017	U	0.00018	U	0.000087	U	0.0001	U	0.00015	U	0.0002	B
Calcium as Ca	mg/L	NA	31		31		29		27		28		27.3		26		27.3		22.9		21.7		19.8		17.2		17.8		21.6		19		36.2		21.4		21.4		19.8	
Chromium as Cr	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.006		PNA		0.0022	B	PNA		0.0075	B	PNA		**0.0611**		PNA		0.0168		PNA		0.0051	B	PNA		0.003	B	PNA		0.0254	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0036	B	PNA		0.0037	B	PNA		0.0049	B	PNA		0.0039	B	PNA		0.0029	B	PNA		0.0029	B	PNA		0.0041	B
Copper as Cu	mg/L	0.2	0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0	U	PNA		0.0012	U	PNA		0.0065	B	PNA		0.00055	U	PNA		0.0016	B	PNA		0.0004	U	PNA		0.0037	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U
Iron as Fe	mg/L	0.3	**2.1**		**1.6**		**1.4**		**0.53**		**2.4**		**2.17**		**3.74**		**4.7**		**6.16**		**8.56**		**11.3**		**6.54**		**7**		**1.28**		**4.94**		**11.7**		**4.1**		**0.854**		**11.5**	
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0015	U	0.0018	U	0.0242	J	0.0091		0.0015	U	0.0103		0.0099		0.0013	B	0.007		0.0131		0.0028	B
Magnesium	mg/L	35 #	PNA		16		PNA		15		PNA		14.2		14.3		15.4		12.9		11.8		10.4		9.41		10.2		10.8		9.7		17.9		11.2		11.3		9.62	
Manganese as Mn	mg/L	0.3	**0.67**		**1**		**0.31**		0.24		**0.49**		**0.689**		**0.84**		**1.05**		**0.936**		**1.07**		**1.32**		**1.05**		**1.02**		0.265	E	**0.87**		**2.11**		**0.815**		0.212		**1.64**	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U	PNA		0.01	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	mg/L	0.1	0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0	B	PNA		0.0049	B	PNA		0.0042	B	PNA		0.0054	B	PNA		0.0045	B	PNA		0.0057	B	PNA		0.0052	B
Potassium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		4.01	B	4.38	B	4.38	B	5.69	E	5.83		8.23		6.93		6.21		2.72	B	6.3		8.53		4.83	B	2.78	B	5.97	
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0042	U	PNA		0.0026	U	PNA		0.0028	U	PNA		0.0031	B	PNA		0.0011	U
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U	PNA		0.0005	U	PNA		0.00052	U	PNA		0.00032	U	PNA		0.0002	U	PNA		0.00043	U
Sodium as Na	mg/L	20	**31**		PNA		**34**		PNA		**30**		**27.6**		**28.6**		**27.4**		**26.6**		**27.8**		**29.9**		**23.6**		**26.7**		**23.1**		**20.9**		**35**		**21.3**		18.7		**21.6**	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U	PNA		0.0056	U	PNA		0.0027	U	PNA		0.0032	U	PNA		0.0019	U	PNA		0.0014	B
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.00092	B	PNA		0.0005	B	PNA		0.0003	U	PNA		0.0017	B
Zinc as Zn	mg/L	2 #	0.02		PNA		0.01		PNA		0.02		PNA		0.0437		PNA		0.0092	B	PNA		0.0136	B	PNA		0.01	B	PNA		0.00044	U	PNA		0.0073	B	PNA		0.0174	B
Alkalinity tot CaCo3	mg/L	NA	160		160		150		150		140		135		134		124		130		147		146		120	D	105	D	108	D	119	D	92.2	D	110	D	111	D	107	
Chloride as Cl	mg/L	250.0	42		39		37		36		39		32		28.6		27.9		28.2		30.1		29.7		22.5		18		22		20.4		19.6		26.2		22		23	
Sulfate as SO4	mg/L	250.0	9.0		7.0		9.0		6.0		5.0		9.2		11.1		11.2		10.8		8.47		9.74	J	9.24		8.26		5.15		9.25		10.3		8.34		7.45		11.3	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	7.6		13		4.2		2.5		2.2		2	U	13		0.5	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
COD	mg/L	NA	100		PNA		40	U	PNA		40	U	10	U	11.9		16.9		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	11.4	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U
Hardness as CaC03	mg/L	NA	150		140		140		130		130		125		118		96		160		116		105		94	D	88	D	116	D	104	D	94	D	112	D	130	D	92	D
Ammonia as N	mg/L	2.0	**3.0**		**3.2**		**2.0**		0.98		0.62		1.88		1.64		1.43		**4.76**		**4.21**		**6.25**		**3.96**	**D**	**2.99**		0.37		**2.84**	**D**	**2.82**		**3.95**	**D**	0.1	U	**5.32**	**D**
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.10	U	0.10	U
Nitrate as N	mg/L	10	0.5		PNA		1.3		PNA		0.5	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.13		0.1	U	0.1	U	0.72		0.1	U	0.1	U	0.14		0.49		0.11	
Phenols as Phenol	mg/L	0.001	**0.002**		0.001	U	**0.007**		0.001	U	0.002	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	260		PNA		260		PNA		270		232		200		194		189		207		188		174		158		140		149		147		159		156		154	
Tot. Kjeldahl Nitrogen	mg/L	NA	3.2		8.4		2.0		2.8		2.8		2.6		2.7		2.83		5.49		7.22		6.06	J	6.15	D	3.53	D	0.54		6.3	D	3.39	D	5.94	D	0.32		5.95	D
Tot Organic Carbon	mg/L	NA	4.0		3.3		3.9		3.3		2.7		3.4		3		3.3		3.1		3.9		4.6		2.3		2.1		29.5		2.1		1.8		31.1		2.4		3	
Turbidity	NTU	NA	7.1		PNA		6.7		PNA		4.1		1		9		25.2		0.2		2.6		0		3.9		PNA		11.3		0		22.4		0		1.8		0	
Temperature	deg.C	NA	14		14		14		14		13		13.5		13.32		13.35		13.23		12.81		13.55		13.8		PNA		13.87		12.65		13.4		13.19		13.41		11.86	
pH	units	6.5-8.5	**6.1**		6.7		**6.5**		6.6		6.6		**8.52**		**6.24**		**6.42**		6.54		**5.72**		6.8		7.33		PNA		**6.28**		6.5		6.59		7.36		**6.37**		6.6	
Spec. Cond	umho/cm	NA	440		430		460		440		440		PNA		PNA		298		304		906		452		242		PNA		306		354		316		362		314		359	

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Aluminum as Al	mg/L	NA	0.02		0.03		0.02		0.01		0.03		PNA		0.0	B	PNA		0.0548	B	PNA		0.0302	BJ	PNA		0.0112	B	PNA		0.0267	B	PNA		0.0126	B	PNA		0.0354	B
Antimony as Sb	mg/L	0.003 #	0.01	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0028	U	PNA		0.004	B	PNA		0.0011	U	PNA		0.0012	U	PNA		0.0019	U
Arsenic as As	mg/L	0.025	0.004	U	0.004	U	0.006		0.005	U	0.005	U	PNA		0.0	U	PNA		0.0028	U	PNA		0.0028	U	PNA		0.0019	U	PNA		0.0044	U	PNA		0.0028	U	PNA		0.0046	B
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0312	B	PNA		0.0489	B	PNA		0.0337	B	PNA		0.0388	BE	PNA		0.0393	B	PNA		0.0391	B	PNA		0.0504	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0	U	PNA		0.00016	U	PNA		0.00017	U	PNA		0.00013	U	PNA		0.00012	U	PNA		0.0001	U	PNA		0.00014	U
Boron as B	mg/L	1.0	0.02		PNA		0.05	U	PNA		0.01	U	PNA		0.0	B	PNA		0.015	B	PNA		0.0101	U	PNA		0.0084	BE	PNA		0.0072	B	PNA		0.0108	B	PNA		0.0083	B
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U	0.0034	U	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.00018	U	0.000087	U	0.0001	U	0.00015	U	0.00011	U
Calcium as Ca	mg/L	NA	12		12		15		14		15		17.1		17		16.5		7.98		17.2		17.3		17.9		20		18.7		21.4		30.6		23.2		22.5		26.2	
Chromium as Cr	mg/L	0.05	0.036		PNA		**0.14**		PNA		**0.23**		PNA		**0.0714**		PNA		0.0048	B	PNA		**0.125**		PNA		**0.355**		PNA		**0.258**		PNA		**0.187**		PNA		**1.31**	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0017	U	PNA		0.0012	U	PNA		0.0024	B	PNA		0.0056	B	PNA		0.0057	B	PNA		0.005	B	PNA		0.0228	B
Copper as Cu	mg/L	0.2	0.01	U	PNA		0.01	U	PNA		0.01		PNA		0.0	U	PNA		0.0012	U	PNA		0.0089	B	PNA		0.0067	B	PNA		0.0058	B	PNA		0.0043	B	PNA		0.0225	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U
Iron as Fe	mg/L	0.3	0.28		0.29		**0.33**		0.16		**0.65**		**0.587**		0.245		0.391		0.0769	B	0.232		**0.357**		**0.432**		**0.962**		**0.908**		**0.809**		**1.92**		**0.77**		0.184		**3.97**	
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0021	B	0.0018	U	**0.0301**	**J**	0.0128		0.0015	U	0.0096		0.0123		0.00096	U	0.008		0.0129		0.0097	
Magnesium	mg/L	35 #	PNA		5.7		PNA		6.9		PNA		7.95		8.44		8.51		3.38	B	8.65		8.24		8.66		10.4		8.06		9.85		13.7		10.6		10.6		11.9	
Manganese as Mn	mg/L	0.3	0.02		0.03		0.02		0.04		0.02		0.0296		0.0191		0.0292		0.0706		0.0219		0.0242		0.0335		0.0457		0.0621	E	0.0444		0.0778		0.0381		0.0048	B	0.154	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U	PNA		0.01	U	PNA		0.01	U	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	mg/L	0.1	**0.2**		PNA		**0.36**		PNA		**0.46**		PNA		**0.122**		PNA		0.0025	B	PNA		**0.2**		PNA		**0.249**		PNA		**0.206**		PNA		**0.344**		PNA		**0.359**	
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		1.07	B	1.17	B	1.2	B	2.87	BE	1.45	B	1.47	B	1.72	B	1.93	B	0.846	B	1.53	B	1.56	B	1.33	B	1.92	B	1.6	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U	PNA		0.0045	B	PNA		0.0026	U	PNA		0.0028	U	PNA		0.0023	U	PNA		0.0011	U
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U	PNA		0.0005	U	PNA		0.00052	U	PNA		0.00032	U	PNA		0.0002	U	PNA		0.00043	U
Sodium as Na	mg/L	20	12		PNA		19		PNA		16		15.8		**21**		**20.4**		16.9		19.7		**20.9**		**21.7**		**26**		19.7		**22**		**30.8**		**24.9**		**23.7**		**28.7**	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U	PNA		0.0056	U	PNA		0.0027	U	PNA		0.0032	U	PNA		0.0019	U	PNA		0.0013	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.0015	B	PNA		0.0003	B	PNA		0.0003	U	PNA		0.0033	B
Zinc as Zn	mg/L	2 #	0.02		PNA		0.01	U	PNA		0.04		PNA		0.0	B	PNA		0.0114		PNA		0.007	B	PNA		0.0144	B	PNA		0.00044	U	PNA		0.0129	B	PNA		0.0178	B
Alkalinity tot CaCo3	mg/L	NA	34		42		40		50		40		33.4		36		33.4		6.6		33.8		32		31	D	32.1		30.3		36.1	D	35.2	D	33.2		36.9		33.9	
Chloride as Cl	mg/L	250.0	30		32		39		44		53		55.8		54.6		58.4		26.5		55.1		60.9		70	D	60.6	D	64.8	D	72	D	94	D	82.6	D	85.7	D	100	D
Sulfate as SO4	mg/L	250.0	5	U	5		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	2	U	2.8		2	U	2	U	2	U	2	U	11		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
COD	mg/L	NA	60		PNA		40	U	PNA		40	U	10	U	10	U	11.9		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.01	U	PNA		0.02		PNA		0.0	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U
Hardness as CaC03	mg/L	NA	53		53		68		64		65		78		78		64		120		75		80		84	D	90	D	114	D	102	D	106	D	116	D	130	D	108	D
Ammonia as N	mg/L	2.0	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.1	U	0.1	U	0.1	U	0.28		0.1	U	0.1	U	0.1	U	0.1	U	0.12		0.1	U	0.1	U	0.1	U	0.1	U	0.15	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	mg/L	10	0.5	U	PNA		0.5	U	PNA		0.5	U	0.1	U	0.1	U	0.1	U	0.54		0.1	U	0.1	U	0.1	U	0.1	U	0.11		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Phenols as Phenol	mg/L	0.001	**0.001**		0.001	U	**0.003**		0.001	U	0.001	U	0.005	U	0.005	U	0.005	U	0.005	U	5	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	110		PNA		150		PNA		190		178		165		158		117		185		183		211		232		196		223		268		250		234		298	
Tot. Kjeldahl Nitrogen	mg/L	NA	0.2		PNA		0.8		PNA		3.6		0.15		0.1	U	0.16		0.34		0.23		0.32	J	0.25		0.5	UD	0.25		0.1	U	0.1	U	0.1	U	0.2		0.29	
Tot Organic Carbon	mg/L	NA	3.2		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	8.6		3.2		1	U	9.9		1	U	1	U
Turbidity	NTU	NA	1.8		1.8		1.7		1.5		2.5		1		9.6		31.5		9.4		2		0		12.4		PNA		14.8		7.1		48.5		1.4		1.3		1.5	
Temperature	deg.C	NA	13		13		13		13		12		12.8		12.69		12.61		12.43		12.1		12.01		12.49		PNA		13.82		12.55		13.04		12.85		13.27		11.54	
pH	units	6.5-8.5	6.6		7.0		6.9		7.0		6.7		**8.51**		6.70		6.68		7		6.63		7.09		6.87		PNA		7.01		6.71		6.7		8.08		6.7		7.95	
Spec. Cond	umho/cm	NA	180		230		250		300		260		PNA		PNA		207		208		302		315		250		PNA		324		354		414		391		381		311	

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-6AR April 2007		Oct. 2007		Oct. 2008		Oct. 2009		Oct. 2010 Unfiltered		Oct. 2010 Filtered		Oct. 2011		Oct. 2012 Unfiltered		Oct. 2012 Filtered		Oct. 2013		MW-6B Oct. 2007		Oct. 2008		Oct. 2009		Oct. 2010		Oct. 2011		Oct. 2012		Oct. 2013	
Aluminum as Al	mg/L	NA	1.2		6.73		0.0	U	0.339		0.158	B	0.0061	U	0.809		0.966		0.0422	B	0.0767	B	0.114	B	0.0	U	0.247		0.0241	B	0.0044	U	0.0336	B	0.0049	U
Antimony as Sb	mg/L	0.003 #	0.005	U	0.0023	U	0.0	U	0.0021	U	0.0029	U	0.0029	U	0.0022	U	0.0018	U	0.0018	U	0.002	U	0.0023	U	0.0	U	0.0021	U	0.0029	U	0.0022	U	0.0018	U	0.002	U
Arsenic as As	mg/L	0.025	0.005		0.009	B	0.0	U	0.0023	U	0.0027	U	0.0027	U	0.0076	B	0.0015	U	0.0015	U	0.001	U	0.0018	U	0.0	U	0.0023	U	0.0027	U	0.0018	U	0.0015	U	0.001	U
Barium	mg/L	1	PNA		0.128	B	0.1	BE	0.0873	B	0.0783	B	0.0715	B	0.0789	B	0.0507	B	0.0389	B	0.0508	B	0.0122	B	0.0	BE	0.014	B	0.013	B	0.0139	B	0.0123	B	0.0098	B
Beryllium as Be	mg/L	0.003	0.001	U	0.00048	B	0.0	U	0.00026	U	0.0002	B	0.00016	U	0.00013	U	0.00012	U	0.00012	U	0.00022	U	0.00022	B	0.0	U	0.00026	U	0.00016	U	0.00013	U	0.00012	U	0.00022	U
Boron as B	mg/L	1.0	0.08		0.0297	B	0.0	B	0.0197	B	0.0144	B	0.015	B	0.003	U	0.0161	B	0.0167	B	0.0087	B	0.0086	B	0.0	B	0.0092	B	0.0054	B	0.003	U	0.01	B	0.0054	B
Cadmium as Cd	mg/L	0.005	0.005	U	0.00032	U	0.0	U	0.00034	U	0.0003	B	0.00025	U	0.00017	U	0.000087	U	0.000087	U	0.00015	U	0.00032	U	0.0	U	0.00034	U	0.00025	U	0.0005	B	0.000087	U	0.00015	U
Calcium as Ca	mg/L	NA	36		21.6		12.5		25.4		19.8		20.2		13.5		16.1		14.6		17.7		3.35	B	2.9	B	3.22	B	3.01	B	3.35	B	3.99	B	3.45	B
Chromium as Cr	mg/L	0.05	0.025		0.0338		0.0	B	0.0042	B	0.0008	U	0.0014	B	0.0109		0.0144	E	0.0034	B	0.0014	B	0.0378		0.018		**0.164**		0.0093	B	**0.0933**		0.011	E	0.0066	B
Cobalt	mg/L	NA	PNA		0.0055	B	0.0	U	0.003	B	0.0013	U	0.0013	U	0.009	B	0.004	B	0.00028	U	0.00035	U	0.0011	U	0.0	U	0.0016	B	0.0013	U	0.0031	B	0.00028	U	0.00035	U
Copper as Cu	mg/L	0.2	0.01		0.0197	B	0.0	B	0.0022	B	0.0031	U	0.0031	U	0.0054	B	0.0084	B	0.0028	B	0.0007	U	0.00087	U	0.0	B	0.0053	B	0.0045	B	0.0094	B	0.0059	B	0.001	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.0	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		0.0	U	PNA		PNA		PNA		PNA		PNA	
Iron as Fe	mg/L	0.3	**6.8**		**21.3**		0.1	B	**1.25**		0.297		0.021	B	**4.06**		**2.78**		0.0721	B	0.188		**0.303**		0.195		**1.24**		0.141		**0.464**		0.105		0.101	
Lead as Pb	mg/L	0.025	0.005	U	0.0105		0.0	U	0.0026	B	0.0117		0.0103		0.0109		0.0023	B	0.00096	U	0.0118		0.0019	B	0.0	U	0.0029	B	0.0087		0.0101		0.00096	U	0.0109	
Magnesium	mg/L	35 #	PNA		9.5		5.7		14.1		7.86		7.74		4.77	B	5.05		4.48	B	7.98		1.93	B	1.9	B	2.04	B	1.82	B	1.65	B	2.21	B	1.98	B
Manganese as Mn	mg/L	0.3	**0.77**		**0.338**		0.1		**1.32**		0.0684		0.0509		**0.927**	**E**	**0.301**		0.0192		0.0369		0.0253		0.0189		0.0251		0.0079	B	0.0489	E	0.0061	B	0.0136	B
Mercury as Hg	mg/L	0.0007	0.00025	U	0.0001	U	0.0	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
Nickel as Ni	mg/L	0.1	0.01		0.018	B	0.0	B	0.0091	B	0.0017	B	0.0016	B	0.0071	B	0.0064	B	0.0022	B	0.0023	B	0.0371	B	0.0	B	0.0481		0.0308	B	0.0533		0.0331	B	0.0355	B
Potasium	mg/L	NA	PNA		2.72	B	3.4	B	2.12	B	2.13	B	1.36	B	3.85	B	1.29	B	1.1	B	1.93	B	0.617	B	0.6	B	0.932	B	1.16	B	0.0489	U	0.675	B	0.892	B
Selenium as Se	mg/L	0.01	0.004	U	0.0024	U	0.0	U	0.0025	U	0.0032	U	0.0032	U	0.0028	U	0.004	B	0.0021	U	0.0018	U	0.0024	U	0.0	U	0.0025	U	0.0032	U	0.0028	U	0.0021	U	0.0018	U
Silver as Ag	mg/L	0.05	0.005	U	0.00059	B	0.0	U	0.00083	U	0.00043	U	0.00043	U	0.00042	U	0.0045	B	0.00029	U	0.00043	U	0.00041	U	0.0	U	0.00083	U	0.00043	U	0.00042	U	0.00029	U	0.00043	U
Sodium as Na	mg/L	20	**33**		8.87		9.1		14.7		10.4		9.21		8.36		7.17		6.59		9.41		6.42		7.53		8.1		8.74		8.4		8.3		6.82	
Thallium as Tl	mg/L	0.0005 #	0.005	U	0.0023	U	0.0	U	0.0032	U	0.0036	U	0.0036	U	0.0034	U	0.0029	U	0.0029	U	0.0019	U	0.0023	U	0.0	U	0.0032	U	0.0036	U	0.0034	U	0.0029	U	0.0019	U
Vanadium	mg/L	NA	PNA		0.0202	B	0.0	U	0.0014	U	0.0013	U	0.0013	U	0.006	B	0.0043	B	0.0002	B	0.0005	B	0.00089	U	0.0	U	0.0014	U	0.0013	U	0.00021	U	0.0002	B	0.00028	U
Zinc as Zn	mg/L	2 #	0.04		0.0429		0.0	B	0.0134	B	0.0137	B	0.0032	B	0.0208		0.0287		0.0198	B	0.0506		0.0056	B	0.0	B	0.0096	B	0.0456		0.0194	B	0.0132	B	0.0302	
Alkalinity tot CaCo3	mg/L	NA	130		60.8		44.4		105		74	D	PNA		43.4	D	41	D	PNA		56.1		7.8		8.6		8		8.4		10.4		10.2		9.9	
Chloride as Cl	mg/L	250.0	30		12.2		11.6		13.6		10.4		PNA		8.82		10.5		PNA		14		10.5		10.7		9.53		10.2		9.01		11.1		10.9	
Sulfate as SO4	mg/L	250.0	19		13.9		11.1		16.9		13.2		PNA		7.9		9.97		PNA		12.5		8.3		8.7		7.2		7.72		6.25		8.14		8.27	
Bromide	mg/L	2 #	PNA		0.5	U	0.5	U	0.5	U	0.5	U	PNA		0.5	U	0.5	U	PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	2.6		2	U	2.0	U	2	U	2	U	PNA		2	U	2	U	PNA		2	U	2	U	2.0	U	2	U	2	U	2	U	2	U	2	U
COD	mg/L	NA	40	U	147		10.0	U	10	U	10	U	PNA		10	U	10	U	PNA		10	U	10	U	10.0	U	10	U	10	U	10	U	10	U	10	U
Color	units	NA	5	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Hardness as CaC03	mg/L	NA	170		86		50.0		126		84	D	PNA		148	D	60	D	PNA		60	D	15		19.0		15		26		23		20		18	
Ammonia as N	mg/L	2.0	0.05	U	0.1	U	0.1	U	0.1	U	0.1	U	PNA		0.15		0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.12		0.1	U	0.1	U
Nitrite as N	mg/L	NA	PNA		PNA		0.1	U	0.1	U	0.1	U	PNA		0.1	U	0.1	U	PNA		0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	mg/L	10	1.8		2.48		1.2		1		2.22		PNA		0.55		0.55		PNA		0.82		0.1	U	0.1	U	0.1	U	0.1	U	0.17		0.1		0.1	U
Phenols as Phenol	mg/L	0.001	**0.002**		0.005	U	0.0	U	0.005	U	0.005	U	PNA		0.005	U	0.005	U	PNA		0.005	U	0.005	U	0.0	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	320		150		87.0		168		134		PNA		69		112		PNA		123		64		41.0		48		36		41		65		57	
Tot. Kjeldahl Nitrogen	mg/L	NA	3.4		0.19		0.2		0.1	U	0.15		PNA		0.43		0.1	U	PNA		0.3		0.1	U	0.22		0.3		0.26		0.38		0.1	U	0.23	
Tot Organic Carbon	mg/L	NA	1.2		1	U	1.0	U	1.3		1	U	PNA		11.8		1	U	PNA		2.5		1	U	1.0	U	1	U	1	U	3.7		1	U	1.6	
Turbidity	NTU	NA	240		50		10.1		34.1		60.2		PNA		33.4		118		PNA		44.7		1		21.2		31.6		1.9		10.5		0		0	
Temperature	deg.C	NA	12		12.2		11.8		11.07		11.75		PNA		12.34		12.45		PNA		13.09		11.4		11.37		11.2		11.0		11.86		11.51		11.94	
pH	units	6.5-8.5	**6.2**		8.45		**5.7**		**5.74**		**5.7**		PNA		**6.00**		6.60		PNA		**5.82**		8.43		**5.89**		**5.73**		**6.44**		**6.15**		**6.47**		**5.82**	
Spec. Cond	umho/cm	NA	360		PNA		124		336		167		PNA		145		160		PNA		210		PNA		59		89		63		83		80		90	

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6 NYCRR Part 703

= Guidance value, no standard exists.

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E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.
1.0 = Compound at standard.
NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-8 April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		Oct. 2008 Unfiltered		Oct. 2008 Filtered		Oct. 2009		Oct. 2010		Oct. 2011		Oct. 2012		Oct. 2013 Unfiltered		Oct. 2013 Filtered	
Aluminum as Al	mg/L	NA	1.1		0.63		0.76		0.27		0.16		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Antimony as Sb	mg/L	0.003 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Arsenic as As	mg/L	0.025	0.017		0.005	U	0.0078		0.005	U	0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Boron as B	mg/L	1.0	0.08		PNA		0.05	U	PNA		0.02		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.0	U	0.0	U	0.00034	U	0.00025	U	0.00017	U	0.000087	U	0.00015	U	0.00015	U
Calcium as Ca	mg/L	NA	10		8.9		17		20		8.7		9.58		8.13		8.14		9.66		8.1		12.2		10.8		12.7		12	
Chromium as Cr	mg/L	0.05	0.01		PNA		0.008		PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Copper as Cu	mg/L	0.2	0.03		PNA		0.01		PNA		0.02		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Iron as Fe	mg/L	0.3	**11.0**		**10.0**		**8.1**		**41**		**17**		**2.57**		0.201		0.043	B	**0.849**		0.249		**4.23**		0.262		**11.4**		0.0619	U
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.007		0.006		0.005	U	0.0014	U	0.0	U	0.0	U	0.0018	U	0.0102		0.0102		0.00096	U	0.0088		0.0063	
Magnesium	mg/L	35 #	PNA		3.6		PNA		5.6		PNA		4.46	B	4.7	B	4.7	B	4.72	B	4.21	B	5.16		4.79	B	4.52	B	4.19	B
Manganese as Mn	mg/L	0.3	**0.76**		**0.63**		**1.4**		**1.2**		**0.41**		0.255		0.0441		0.0557		0.209		0.101		0.248	E	0.0249		**0.649**		0.115	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Nickel as Ni	mg/L	0.1	0.02		PNA		0.02		PNA		0.01	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		1.1	B	1.1	B	1.1	B	1.35	B	1.5	B	0.805	B	1.04	B	2.35	B	1.74	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Sodium as Na	mg/L	20	11		PNA		13		PNA		8.3		7.34		8.02		8.05		7.91		9.03		8.99		8.83		8.15		9.19	
Thallium as Tl	mg/L	0.0005 #	0.004	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Zinc as Zn	mg/L	2 #	0.04		PNA		0.02		PNA		0.02		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Alkalinity tot CaCo3	mg/L	NA	38		46		52		140		36		31.4		27.1		PNA		32.5		28	D	41.9	D	26.6	D	40.9		PNA	
Chloride as Cl	mg/L	250.0	10		8		13		6		8.0		9.3		9.5		PNA		9.02		97.7	D	8.93		11.4		10.5		PNA	
Sulfate as SO4	mg/L	250.0	13		12		15		5		6		9.6		9.9		PNA		9.9		98.3	D	5.98		10.2		11.4		PNA	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	PNA		0.5	U	5	UD	0.5	U	0.5	U	0.5	U	PNA	
BOD5	mg/L	NA	2.9		5.5		2	U	6.5		2	U	2	U	2.0	U	PNA		2	U	2	U	2	U	2	U	2	U	PNA	
COD	mg/L	NA	80		PNA		40	U	PNA		40	U	10	U	10.0	U	PNA		10	U	10	U	10	U	10	U	10	U	PNA	
Color	units	NA	5	U	5	U	5	U	5	U	10		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Hardness as CaC03	mg/L	NA	41		37		73		74		34		44		38		PNA		48		19		66	D	40	D	68	D	PNA	
Ammonia as N	mg/L	2.0	0.07		0.07		0.05	U	0.3		0.11		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.13		0.1	U	0.1	U	PNA	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	PNA	
Nitrate as N	mg/L	10	1.0		PNA		3.2		PNA		0.5	U	0.78		0.7		PNA		1.28		0.48		1.37		1.38		1.45	D	PNA	
Phenols as Phenol	mg/L	0.001	0.001	U	**0.001**		**0.003**		0.001	U	0.001	U	0.005	U	0.0	U	PNA		0.0005	U	0.005	U	0.005	U	0.005	U	0.005	U	PNA	
Tot Dissolved Solids	mg/L	NA	83		PNA		150		PNA		110		82		65		PNA		90		64		73		82		101		PNA	
Tot. Kjeldahl Nitrogen	mg/L	NA	1.4		PNA		1.8		PNA		5.2		0.12		0.2		PNA		0.31		0.35		0.44		0.1	U	0.53		PNA	
Tot Organic Carbon	mg/L	NA	3.0		1.9		1	U	8.9		1.2		1	U	1.0	U	PNA		1	U	1	U	11.8		1	U	1.1		PNA	
Turbidity	NTU	NA	6.9		43		28		280		74		20		54.9		PNA		27.2		26.8		12.4		40.2		530.0		PNA	
Temperature	deg.C	NA	15		13		12		13		12		11.7		12.5		PNA		11.3		11.6		12.40		12.10		13.65		PNA	
pH	units	6.5-8.5	**6.1**		**6.0**		**6.1**		**6.1**		7.1		8.37		**6.2**		PNA		**5.31**		**5.52**		**5.38**		**6.08**		7.73		PNA	
Spec. Cond	umho/cm	NA	100		280		160		150		100		PNA		94		PNA		161		97		151		150		170		PNA	

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TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-9 April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		Oct. 2008 Unfiltered		Oct. 2008 Filtered		Oct. 2009		Oct. 2010		Oct. 2011		Oct. 2012		Oct. 2013	
Aluminum as Al	mg/L	NA	0.74		0.12		1.8		0.83		1.3		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Antimony as Sb	mg/L	0.003 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Arsenic as As	mg/L	0.025	0.005		0.005	U	0.014		0.005	U	0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Boron as B	mg/L	1.0	0.06		PNA		0.05	U	PNA		0.02		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.0	U	0.0	BF	0.00034	U	0.00025	U	0.00017	U	0.000087	U	0.00015	U
Calcium as Ca	mg/L	NA	18		7		17		22		21		14.2		3.9		4.2	BF	13.3		6.74		9.38		14.5		5.27	
Chromium as Cr	mg/L	0.05	0.011		PNA		0.011		PNA		0.013		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Copper as Cu	mg/L	0.2	0.03		PNA		0.02		PNA		0.03		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Iron as Fe	mg/L	0.3	**7.1**		**3.3**		**18**		**10**		**9.0**		**2.47**		**1.79**		0.0209	BF	**2.44**		**0.82**		**15.8**		**0.785**		**0.995**	
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.009		0.005	U	0.005	U	0.0014	U	0.0	U	0.0013	UF	0.0018	U	0.0081		0.0032		0.0021	B	0.0114	
Magnesium	mg/L	35 #	PNA		2.7		PNA		9.6		PNA		5.37		2.2	B	2.3	BF	5.77		2.91	B	4.15	B	7.76		2.84	B
Manganese as Mn	mg/L	0.3	**3.0**		**0.59**		**1**		**1.2**		**1.1**		**0.452**		0.122		0.1	F	0.145		0.0728		**1.43**	**E**	0.117		0.0506	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Nickel as Ni	mg/L	0.1	0.02		PNA		0.02		PNA		0.02		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		1.2	B	1.1	B	1.1	BF	1.58	B	1.51	B	0.404	B	2.1	B	1.69	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Sodium as Na	mg/L	20	17		PNA		6.2		PNA		10		7.35		7.1		7.2	F	7.45		7.58		9.37		**20.3**		6.56	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Zinc as Zn	mg/L	2 #	0.03		PNA		0.13		PNA		0.03		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Alkalinity tot CaCo3	mg/L	NA	78		40		36		110		98		42.3		14		PNA		44.2		20		37.1	D	17.2	D	16	
Chloride as Cl	mg/L	250.0	13		13		13		10		11		10.3		6.67		PNA		9.25		10.6		11		13.5		12	
Sulfate as SO4	mg/L	250.0	20		8		13		12		10		9.4		9.8		PNA		8.74		10.7		10.2		8.77		7.38	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	2	U	2.4		2	U	3.7		2	U	2	U	2.0	U	PNA		2	U	2	U	2	U	2	U	2	U
COD	mg/L	NA	80		PNA		40	U	PNA		40	U	10	U	10.0	U	PNA		10	U	10	U	10	U	10	U	10	U
Color	units	NA	5	U	5	U	5	U	5	U	40		PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		PNA		PNA		PNA		PNA		PNA		PNA	
Hardness as CaC03	mg/L	NA	94		29		61		95		91		53		0.1	U	PNA		58		34	D	64	D	30	D	48	D
Ammonia as N	mg/L	2.0	0.05	U	0.05	U	0.05	U	0.1	U	0.09		0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.16		0.1	U	0.1	U
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	mg/L	10	7.1		PNA		0.7		PNA		1.5		0.46		0.17		PNA		1.28		0.17		0.27		0.3		0.46	
Phenols as Phenol	mg/L	0.001	0.001	U	0.001	U	**0.001**		0.001	U	0.001	U	0.005	U	0.0	U	PNA		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	170		PNA		100		PNA		200		86		45		PNA		88		46		75		65		64	
Tot. Kjeldahl Nitrogen	mg/L	NA	1.0		PNA		1.6		PNA		2		0.1		0.17		PNA		0.16		0.29		0.22		0.1	U	0.22	
Tot Organic Carbon	mg/L	NA	2.8		1	U	2.5		2.7		1.1		1	U	1.0	U	PNA		1	U	1	U	9.1		1	U	1	U
Turbidity	NTU	NA	7.8		6.7		94		32		42		44		74.6		PNA		42.7		27.2		40.2		44.8		44.0	
Temperature	deg.C	NA	18		15		15		15		14		13.8		13.84		PNA		13.24		13.11		13.50		13.38		14.52	
pH	units	6.5-8.5	**6.4**		**6.2**		**5.8**		**6.0**		**6.4**		8.28		**5.52**		PNA		**5.41**		**6.19**		**4.86**		**5.81**		6.67	
Spec. Cond	umho/cm	NA	180		130		130		170		130		PNA		64		PNA		188		79		136		110		110	

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-11A

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005	Oct. 2005	April 2006	Oct. 2006	April 2007	Oct. 2007	April 2008
Aluminum as Al	mg/L	NA	1	0.24	2.1	0.58	0.98	0.15 B	0.0552 B
Antimony as Sb	mg/L	0.003 #	0.01 U	PNA	**0.017**	PNA	**0.009**	0.0023 U	**0.0051 B**
Arsenic as As	mg/L	0.025	**0.084**	0.024	**0.047**	0.021	**0.033**	0.0182	**0.0372**
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	0.221	0.41
Beryllium as Be	mg/L	0.003	0.001 U	PNA	0.001 U	PNA	0.001 U	0.00025 B	0.00013 B
Boron as B	mg/L	1.0	**2.6**	PNA	0.05	PNA	0.29	0.0366 B	0.0444 B
Cadmium as Cd	mg/L	0.005	**0.019**	PNA	0.005 U	PNA	0.005 U	0.00032 U	0.00045 B
Calcium as Ca	mg/L	NA	79	44	50	50	63	17	37.3
Chromium as Cr	mg/L	0.05	0.012	PNA	0.02	PNA	0.018	0.0031 B	0.005 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.015 B	0.0214 B
Copper as Cu	mg/L	0.2	0.01 U	PNA	0.02	PNA	0.01	0.0039 B	0.0237 B
Cyanide as CN	mg/L	0.20	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.01 U
Iron as Fe	mg/L	0.3	**480**	**400**	**440**	**200**	**290**	**66.9**	**253**
Lead as Pb	mg/L	0.025	0.005 U	**0.027**	**0.033**	**0.027**	**0.032**	0.0054	0.0023 U
Magnesium	mg/L	35 #	PNA	16	PNA	17	PNA	9.29	12.3
Manganese as Mn	mg/L	0.3	**14**	**13**	**16**	**7.9**	**20**	**3.74**	**5.17**
Mercury as Hg	mg/L	0.0007	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.0001 U	0.0001 U
Nickel as Ni	mg/L	0.1	0.01	PNA	0.02	PNA	0.02	0.0053 B	0.0127 B
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	7.66	6.91
Selenium as Se	mg/L	0.01	0.004 U	PNA	0.004 U	PNA	0.004 U	0.0024 U	0.0043 U
Silver as Ag	mg/L	0.05	0.005 U	PNA	0.005 U	PNA	0.005 U	0.0008 B	0.0013 B
Sodium as Na	mg/L	20	17	PNA	15	PNA	14	7.72	11.8
Thallium as Tl	mg/L	0.0005 #	0.004 U	PNA	0.005 U	PNA	0.005 U	0.0023 U	**0.0128**
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.0027 B	0.0084 B
Zinc as Zn	mg/L	2 #	0.08	PNA	0.1	PNA	0.06	0.0118 B	0.0357
Alkalinity tot CaCo3	mg/L	NA	310	220	260	260	230	77.6	133
Chloride as Cl	mg/L	250.0	16	15	16	20	12	11	13.6
Sulfate as SO4	mg/L	250.0	19	17	31	12	9.0	16.5	14.0
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	PNA	0.5 U	0.5 U
BOD5	mg/L	NA	13	20	14	5	3 U	<2	12
COD	mg/L	NA	180	PNA	70	PNA	60	25.7	26.8
Color	units	NA	5 U	5 U	10	15	10	PNA	50
Chromium hex as Cr	mg/L	0.05	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	mg/L	NA	290	170	190	200	240	200	150
Ammonia as N	mg/L	2.0	1.4	0.9	1.2	**2.6**	0.88	0.18	0.1 U
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.1 U
Nitrate as N	mg/L	10	1.8	PNA	1.6	PNA	0.5 U	0.1 U	0.18
Phenols as Phenol	mg/L	0.001	**0.03**	0.002 U	0.001 U	0.002 U	0.001 U	0.005 U	0.005 U
Tot Dissolved Solids	mg/L	NA	340	PNA	300	PNA	330	147	198
Tot. Kjeldahl Nitrogen	mg/L	NA	5.6	PNA	4.2	PNA	6.4	0.63	0.84
Tot Organic Carbon	mg/L	NA	19	9.6	16	8.1	8.2	1.9	4.4
Turbidity	NTU	NA	3.5	3500	3200	1500	1200	227	>1,000
Temperature	deg.C	NA	15	16	16	16	14	14.8	15.93
pH	units	6.5-8.5	7.3	**6.4**	**6.3**	7.9	6.6	8.21	**5.84**
Spec. Cond	umho/cm	NA	520	440	530	530	510	PNA	PNA

ANALYTICAL PARAMETERS	Oct. 2008		April 2009		Oct. 2009		April 2010		Oct. 2010	
	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
Aluminum as Al	0.0249 B	0.0087 UF	0.0092 U	0.0 B	0.174 B	0.177 U	0.0406 BJ	0.0196 U	0.0348 B	0.0061 U
Antimony as Sb	**0.0071 B**	0.0023 UF	0.0027 U	**0.0 B**	0.0055 B	0.0021 U	0.0028 U	0.0028 U	0.0029 U	0.0029 U
Arsenic as As	**0.0331**	0.0018 UF	0.0123	0.0 U	**0.0431**	0.0023 U	0.0071 B	0.0028 U	0.017	0.0027 U
Barium	0.493 E	0.177 BF	0.194 B	0.1 B	0.36	0.126 B	0.16 B	0.0730 B	0.181 B	0.111 B
Beryllium as Be	0.00012 B	0.000096 UF	0.00016 U	0.0 B	0.00026 U	0.00026 U	0.00017 U	0.00017 U	0.00016 U	0.00016 U
Boron as B	0.0406 B	0.0446 BF	0.0416 B	0.0 B	0.0336 B	0.04 B	0.0437 B	0.0461 B	0.0129 B	0.0252 B
Cadmium as Cd	0.00035 U	0.002 BF	0.00023 U	0.0 B	0.00034 U	0.00034 U	0.00024 U	0.00024 U	0.0005 B	0.00025 U
Calcium as Ca	39.2	36 F	37.9	33.30	28.5	26.8	32.4	28.8	23.4	22.8
Chromium as Cr	0.0034 B	0.00043 BF	0.0014 B	0.0 B	0.0079 B	0.00044 U	0.0013 B	0.0007 B	0.0008 U	0.0008 U
Cobalt	0.028 B	0.0141 BF	0.0094 B	0.0 B	0.0302 B	0.0172 B	0.0097 B	0.0074 B	0.0188 B	0.0141 B
Copper as Cu	0.0363	0.0065 BF	0.0057 B	0.0 B	0.0218 B	0.0011 B	0.0028 B	0.0030 B	0.0031 U	0.0031 U
Cyanide as CN	0.01 U	PNA	0.01 U	PNA	PNA	PNA	0.01 U	PNA	PNA	PNA
Iron as Fe	**210**	0.0443 BF	**60.2**	**9.8**	**227**	**4.56**	**50.9**	**1.49**	**60.9**	**5.59**
Lead as Pb	0.0139	0.0013 UF	0.0015 U	0.0 U	0.0238	0.0018 U	0.0019 BJ	0.0169	0.0173 U	0.0052
Magnesium	19	18.9 F	16.9	15.2	12.5	12.3	10.6	9.44	9.81	9.28
Manganese as Mn	**7.44**	**5.3 F**	**3.81**	**3.00**	**6.43**	**4.06**	**2.1**	**1.31**	**2.11**	**1.74**
Mercury as Hg	0.00013 U	0.00013 UF	0.0001 U	0.0 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Nickel as Ni	0.011 B	0.0059 B	0.0038 B	0.0 B	0.0199 B	0.0086 B	0.001 U	0.0039 B	0.0045 B	0.0071 B
Potasium	7.92	7.93 F	5.99 E	5.4	5.42	5.25	4.9 B	3.99 B	5.02	3.86 B
Selenium as Se	0.0019 U	0.0019 UF	0.0027 U	0.0 U	0.0025	0.0025 U	0.0042 U	0.0042 U	0.0032 U	0.0032 U
Silver as Ag	0.0019 B	0.0013 BF	0.00086 B	0.0 B	0.00083 U	0.00083 U	0.0005 U	0.0005 U	0.00043 U	0.00043 U
Sodium as Na	11.2	11.3 F	12.3	10.70	9.5	9.24	9.83	8.5	8.33	7.07
Thallium as Tl	**0.0131**	**0.0032 BF**	**0.0045 B**	0.0 U	0.0261	0.0032 U	0.0056 U	0.0056 U	0.0036 U	0.0036 U
Vanadium	0.0073 B	0.00074 UF	0.0024 B	0.0 B	0.009 B	0.0014 U	0.0012 U	0.0012 U	0.0013 U	0.0013 U
Zinc as Zn	0.0383	0.32 F	0.0086 B	0.0 B	0.0337	0.0166 B	0.0192 B	0.0049 B	0.0277	0.0072 B
Alkalinity tot CaCo3	148	PNA	154	PNA	0.41	PNA	131	PNA	100 D	PNA
Chloride as Cl	13.5	PNA	12	PNA	10.9	PNA	9.02	PNA	8.82	PNA
Sulfate as SO4	10.8	PNA	10.2	PNA	9.97	PNA	9.92 J	PNA	7.64	PNA
Bromide	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA
BOD5	4	PNA	3	PNA	2	PNA	2 U	PNA	2 U	PNA
COD	39.2	PNA	10 U	PNA	18.2	PNA	10 U	PNA	10 U	PNA
Color	PNA	PNA	80	PNA	PNA	PNA	40	PNA	PNA	PNA
Chromium hex as Cr	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U	PNA	PNA	PNA
Hardness as CaC03	190	PNA	280	PNA	110	PNA	135	PNA	140 D	PNA
Ammonia as N	0.1 U	PNA	0.43	PNA	0.41	PNA	0.53	PNA	0.43	PNA
Nitrite as N	0.1 U	PNA	PNA	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA
Nitrate as N	0.1 U	PNA	0.27	PNA	0.22	PNA	0.48	PNA	0.2	PNA
Phenols as Phenol	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA
Tot Dissolved Solids	198	PNA	198	PNA	176	PNA	160	PNA	138	PNA
Tot. Kjeldahl Nitrogen	1.64	PNA	1.28	PNA	1.03	PNA	0.66 J	PNA	0.83	PNA
Tot Organic Carbon	7.2	PNA	3.1	PNA	2	PNA	1 U	PNA	1	PNA
Turbidity	1,000	PNA	>1,000	PNA	178	PNA	>1,000	PNA	>1,000	PNA
Temperature	15	PNA	13.96	PNA	12	PNA	14.28	PNA	13.87	PNA
pH	**6.12**	PNA	**6.42**	PNA	**5.96**	PNA	6.61	PNA	7.31	PNA
Spec. Cond	538	PNA	334	PNA	124	PNA	347	PNA	237	PNA

ANALYTICAL PARAMETERS	April 2011		Oct. 2011		April 2012		Oct. 2012		April 2013		Oct. 2013		Apr-14	
	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
Aluminum as Al	0.0576 B	0.0187 B	0.0044 U	0.0216 B	0.0865 B	0.0308 B	0.133 B	0.0253 B	0.0179 B	0.0308 B	0.0049 U	0.0049 U	0.0329 B	0.0224 U
Antimony as Sb	0.0056 B	0.0021 U	0.008 B	0.0022 B	0.0011 U	0.0011 U	0.007 B	0.0044 B	0.0016 B	0.0013 BJ	0.002 U	0.0020 U	0.0019 U	0.0019 U
Arsenic as As	0.0106	0.0019 U	**0.0529**	0.0018 B	0.0121	0.0044 U	**0.0299**	0.0015 U	0.0044 B	0.0028 U	0.0038 B	0.0010 U	0.0021 B	0.0011 U
Barium	0.208 E	0.0989 B	0.851	0.0751 B	0.212	0.1570 B	0.497	0.1470 B	0.164 B	0.1410 B	0.16 B	0.0784 B	0.089 B	0.0714 B
Beryllium as Be	0.00013 U	0.00013 U	0.00013 U	0.00013 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.0001 U	0.00090 B	0.00022 U	0.00022 U	0.00014 U	0.00014 U
Boron as B	0.0391 B	0.0500 B	0.003 U	0.0334 B	0.0194 B	0.0342 B	0.0639 B	0.0319 B	0.0419 BR	0.0508 BR	0.0041 U	0.0041 U	0.0304 B	0.0360 B
Cadmium as Cd	0.00027 U	0.00027 U	0.0032 B	0.00017 U	0.0004 B	0.00020 B	0.000087 U	0.00009 U	0.0001 U	0.00080 B	0.00015 U	0.00015 U	0.0004 B	0.00020 B
Calcium as Ca	39.3	41.4	44.7	32.6	30.7	27.5	97.2	30.6	42.6	41.2	28.8	26.1	25.6	24.4
Chromium as Cr	0.0031 B	0.0025 B	0.0032 B	0.0005 B	0.0283	0.0053 B	0.0149 E	0.0039 B	0.0046 B	0.0033 B	0.0056 B	0.0006 B	0.002 B	0.0011 U
Cobalt	0.0083 B	0.0040 B	0.0181 B	0.0031 B	0.0166 B	0.0132 B	0.0532	0.0159 B	0.0107 B	0.0113 B	0.025 B	0.0151 B	0.0384 B	0.0338 B
Copper as Cu	0.00055 U	0.0079 B	0.0007 U	0.0007 U	0.0034 B	0.0007 U	0.00052 U	0.0005 U	0.0004 U	0.0016 B	0.0007 U	0.0007 U	0.0052 B	0.0014 B
Cyanide as CN	0.01 U	PNA	PNA	PNA	0.01 U	PNA	PNA	PNA	0.01 U	PNA	PNA	PNA	0.01 U	PNA
Iron as Fe	**10.1**	**3.54**	**526**	**8.53**	**46.1**	**7.68**	**120**	**5.59**	**22.4**	**4.54**	**38.1**	0.0619 U	**13.4**	0.1460
Lead as Pb	**0.0251**	0.0015 U	**0.0327 U**	0.0033	0.0132	0.0069	0.00096 U	0.00096 U	0.0049	0.0064	0.00072 U	0.0024 BJ	0.0041 B	0.0149
Magnesium	13.9	15.10	10.7	10.70	12.3	11.40	33.6	10.6	15.8	15.00	10.5	9.70	9.44	9.03
Manganese as Mn	**4.6**	**3.14**	**18.1 E**	**3.15**	**2.56**	**2.15**	**7.33**	**2.27**	**2.02**	**1.83**	**1.85**	**0.974**	**1.08**	**0.871**
Mercury as Hg	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 B	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Nickel as Ni	0.0036 B	0.0049 B	0.00066 U	0.0025 B	0.0107 B	0.0073 B	0.0118 B	0.0056 B	0.0045 B	0.0056 B	0.0181 B	0.0150 B	0.0198 B	0.0215 B
Potasium	6.83	7.56	0.0489 U	6.10 E	6.25	5.97	11.2	3.74 B	5.05 J	5.10 J	4.83 B	4.29 B	3.67 B	3.85 B
Selenium as Se	0.0026 U	0.0026 U	0.0282 U	0.0028 U	0.0028 U	0.0028 U	0.0022 B	0.0021 U	0.0023 UJ	0.0023 U	0.0034 B	0.0018 U	0.0011 U	0.0026 B
Silver as Ag	0.00052 U	0.0007 B	0.00042 U	0.0004 U	0.00032 U	0.00032 U	0.00098 B	0.00029 U	0.0002 U	0.00045 B	0.0023 B	0.00043 U	0.00043 U	0.00043 U
Sodium as Na	9.76	11.1	10.6	10.9	12.1	11.5	**40.5**	12.8	13.9	12.9	7.79	8.26	8.54	8.34
Thallium as Tl	0.0027 U	0.0027 U	0.0034 U	0.0034 U	0.0032 U	0.0032 U	0.0029 U	0.0029 U	0.0019 U	0.0019 U	0.0047 B	0.0042 BJ	0.0013 U	0.0013 U
Vanadium	0.0039 B	0.00096 B	0.00021 U	0.00021 U	0.0008 B	0.00023 U	0.0005 B	0.00018 U	0.0003 U	0.00030 U	0.00028 U	0.00028 U	0.00039 U	0.00039 U
Zinc as Zn	0.0159 B	0.0312	0.0457	0.0078 B	0.0171 B	0.0069 B	0.0614	0.0163 B	0.0103 B	0.0129 B	0.0299	0.0188 BJ	0.0217	0.0117 B
Alkalinity tot CaCo3	148 D	PNA	97.6 D	PNA	118 D	PNA	111 D	PNA	174 D	PNA	104 D	PNA	96.8	PNA
Chloride as Cl	8.33	PNA	14.4	PNA	16.4	PNA	27.3	PNA	14.8	PNA	11.8	PNA	12.4	PNA
Sulfate as SO4	6.97	PNA	9.14	PNA	21.6	PNA	32.9	PNA	23.1	PNA	18	PNA	7.03	PNA
Bromide	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA
BOD5	2 U	PNA	3	PNA	2 U	PNA	2 U	PNA	2 U	PNA	2 U	PNA	8 S	PNA
COD	12.4	PNA	29.9	PNA	10 U	PNA	10 U	PNA	10 U	PNA	10 U	PNA	10 U	PNA
Color	25	PNA	PNA	PNA	20	PNA	PNA	PNA	50 D	PNA	PNA	PNA	10	PNA
Chromium hex as Cr	0.02 U	PNA	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U	PNA
Hardness as CaC03	180 D	PNA	116 D	PNA	144 D	PNA	164 D	PNA	190 D	PNA	132 D	PNA	164 D	PNA
Ammonia as N	0.19	PNA	0.36	PNA	0.3	PNA	0.55	PNA	0.32	PNA	0.15	PNA	0.23	PNA
Nitrite as N	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA
Nitrate as N	0.36	PNA	0.37	PNA	0.16	PNA	0.28	PNA	0.1 U	PNA	0.18	PNA	0.11	PNA
Phenols as Phenol	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA
Tot Dissolved Solids	186	PNA	157	PNA	177	PNA	213	PNA	232	PNA	166	PNA	137	PNA
Tot. Kjeldahl Nitrogen	0.52	PNA	2.84	PNA	0.64	PNA	0.97	PNA	0.44	PNA	0.7	PNA	0.63	PNA
Tot Organic Carbon	4.4	PNA	33.4	PNA	1.5	PNA	2.1	PNA	45.4	PNA	2.5	PNA	1.4	PNA
Turbidity	>1,000	PNA	>1,000	PNA	172	PNA	44.8	PNA	79.9	PNA	292	PNA	23.6	PNA
Temperature	13.85	PNA	14.01	PNA	13.94	PNA	13.79	PNA	13.86	PNA	14.24	PNA	12.39	PNA
pH	**6.09**	PNA	**5.93**	PNA	**6.01**	PNA	**6.19**	PNA	6.7	PNA	**6.19**	PNA	**5.94**	PNA
Spec. Cond	364	PNA	223	PNA	385	PNA	406	PNA	469	PNA	316	PNA	279	PNA

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

S - Recovery exceeded control limits for this analyte.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-11B

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005	Oct. 2005	Oct. 2006	April 2007	Oct. 2007	April 2008	Oct. 2008 Unfiltered	Oct. 2008 Filtered
Aluminum as Al	mg/L	NA	0.44	1.1	0.82	0.51	21.5	0.793	0.411	0.0087 UF
Antimony as Sb	mg/L	0.003 #	0.01 U	PNA	PNA	0.005 U	0.0089 B	0.0044 U	0.0023 U	0.0023 UF
Arsenic as As	mg/L	0.025	0.005 U	0.005 U	0.008	0.007	**0.121**	0.0029 U	0.0056 B	0.0018 UF
Barium	mg/L	1	PNA	PNA	PNA	PNA	0.497	0.0346 B	0.0281 BE	0.0137 BF
Beryllium as Be	mg/L	0.003	0.001 U	PNA	PNA	0.001 U	0.0015 B	0.0001 U	0.000096 U	0.000096 UF
Boron as B	mg/L	1.0	0.86	PNA	PNA	0.15	0.0999 B	0.0219 B	0.0139 B	0.0148 BF
Cadmium as Cd	mg/L	0.005	**0.005**	PNA	PNA	0.005 U	0.00032 U	0.00027 U	0.00035 U	0.00035 UF
Calcium as Ca	mg/L	NA	70	36	68	72	37.8	12.3	10.5	10.3 F
Chromium as Cr	mg/L	0.05	0.005	PNA	PNA	0.012	**0.28**	0.0192	0.0137	0.0024 BF
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	0.026 B	0.002 B	0.00097 B	0.00088 UF
Copper as Cu	mg/L	0.2	0.01 U	PNA	PNA	0.01	0.16	0.005 B	0.0053 B	0.00057 BF
Cyanide as CN	mg/L	0.20	0.02 U	PNA	PNA	0.02 U	PNA	0.01 U	0.01 U	PNA
Iron as Fe	mg/L	0.3	**140**	**65**	**75**	**44**	**34.7**	**16.1**	**14.3**	0.0294 BF
Lead as Pb	mg/L	0.025	0.005 U	0.014	0.015	0.011	**0.151**	0.0051	0.0028 B	0.0013 UF
Magnesium	mg/L	35 #	PNA	5.7	17	PNA	14.4	3.48	3.29 B	3.18 BF
Manganese as Mn	mg/L	0.3	**4.0**	**0.3**	**6.1**	**1.3**	**2.7**	**0.442**	0.257	0.0223 F
Mercury as Hg	mg/L	0.0007	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.0001 U	0.0001 U	0.00013 U	0.00013 UF
Nickel as Ni	mg/L	0.1	0.01 U	PNA	PNA	0.01	**0.166**	0.011 B	0.0053 B	0.0037 BF
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	7.15	2.52 B	2.25 B	2.4 BF
Selenium as Se	mg/L	0.01	0.004 U	PNA	PNA	0.004 U	0.0024 U	0.0043 U	0.002 B	0.0019 UF
Silver as Ag	mg/L	0.05	0.005 U	PNA	PNA	0.005 U	0.0029 B	0.00089 U	0.00054 U	0.00054 UF
Sodium as Na	mg/L	20	12	PNA	PNA	14	9.59	7.63	8.11	8.27 F
Thallium as Tl	mg/L	0.0005 #	0.004 U	PNA	PNA	0.005 U	**0.0141**	0.0025 U	0.0019 U	**0.0037** BF
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	0.0848	0.0033 B	0.0022 B	0.00074 UF
Zinc as Zn	mg/L	2 #	0.05	PNA	PNA	0.04	0.272	0.0156 B	0.0156 B	0.0228 F
Alkalinity tot CaCo3	mg/L	NA	340	110	360	270	25.5	36.7	34.4	PNA
Chloride as Cl	mg/L	250.0	9.0	7.0	2 U	13	10.8	10.2	10.3	PNA
Sulfate as SO4	mg/L	250.0	10	120	8	10	13.5	8.37	8.31	PNA
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	0.5 U	0.5 U	0.5 U	PNA
BOD5	mg/L	NA	18	12	9.4	6.4	3	14	2 U	PNA
COD	mg/L	NA	200	PNA	PNA	40 U	150	31.7	10 U	PNA
Color	units	NA	60	15	15	20	PNA	50	PNA	PNA
Chromium hex as Cr	mg/L	0.05	0.02 U	PNA	PNA	0.02 U	PNA	0.02 U	PNA	PNA
Hardness as CaC03	mg/L	NA	240	110	240	250	48	60	68	PNA
Ammonia as N	mg/L	2.0	**12**	0.43	**6.8**	0.24	0.1 U	0.1 U	0.1 U	PNA
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA
Nitrate as N	mg/L	10	0.5 U	PNA	PNA	4.9	0.25	0.52	0.3	PNA
Phenols as Phenol	mg/L	0.001	**0.01**	0.001 U	0.002 U	**0.003**	0.005 U	0.005 U	0.005 U	PNA
Tot Dissolved Solids	mg/L	NA	340	PNA	PNA	400	85	83	75	PNA
Tot. Kjeldahl Nitrogen	mg/L	NA	17	PNA	PNA	4.4	2.3	0.79	0.8	PNA
Tot Organic Carbon	mg/L	NA	18	16	16	7.0	11.0	2.1	2.0	PNA
Turbidity	NTU	NA	2.7	580	460	250	300	112	120	PNA
Temperature	deg.C	NA	15	15	15	14	14.5	14.22	13	PNA
pH	units	6.5-8.5	6.8	**6.0**	7.8	**6.5**	8.49	**5.81**	**6.13**	PNA
Spec. Cond	umho/cm	NA	610	230	700	590	PNA	PNA	103	PNA

ANALYTICAL PARAMETERS	April 2009 Unfiltered	April 2009 Filtered	Oct. 2009 Unfiltered	Oct. 2009 Filtered	April 2010 Unfiltered	April 2010 Filtered	Oct. 2010 Unfiltered	Oct. 2010 Filtered	April 2011
Aluminum as Al	14.1	0.0 U	1.55	0.0177 U	7.03 J	0.0333 B	3.02	0.0626 B	1.7
Antimony as Sb	**0.0031** **B**	0.0 U	0.0021 U	0.0021 U	0.0028 U	0.0028 U	0.0029 U	0.0029 U	0.0031 B
Arsenic as As	0.0115	0.0 U	0.0023 U	0.0023 U	0.0028 U	0.0028 U	0.0027 U	0.0027 U	0.0019 U
Barium	0.134 B	0.0 B	0.0203 B	0.0083 B	0.0824 B	0.0104 B	0.0429 B	0.0076 B	0.0516 BE
Beryllium as Be	0.00055 B	0.0 U	0.00026 U	0.00026 U	0.00017 U	0.0002 U	0.00016 U	0.00016 U	0.0003 B
Boron as B	0.0219 B	0.0 B	0.0128 B	0.0122 B	0.0112 B	0.0128 B	0.0063 BJ	0.0074 B	0.074 BE
Cadmium as Cd	0.00023 U	0.0 U	0.00034 U	0.00034 U	0.0003 B	0.0002 U	0.0007 B	0.00025 U	0.00027 U
Calcium as Ca	27.1	21.70	6.18	5.33	22.5	19.50	11.3	9.12	113
Chromium as Cr	**0.0618**	0.0 B	0.0156	0.00044 U	0.0276	0.0009 B	0.0147	0.0011 B	0.02
Cobalt	0.009 B	0.0 U	0.0013 B	0.0012 U	0.0042 B	0.0012 U	0.0017 B	0.0013 U	0.0014 B
Copper as Cu	0.0574	0.0 B	0.007 B	0.00083 U	0.0276	0.0054 B	0.0153 B	0.0036 B	0.0074 B
Cyanide as CN	0.01 U	PNA	PNA	PNA	0.01 U	PNA	PNA	PNA	0.01 U
Iron as Fe	**36**	0.036 B	**5.8**	0.231	**14.2**	0.047 B	**5.89**	0.188	**2.26**
Lead as Pb	**0.0975**	0.0 B	0.0114	0.0018 U	**0.106** **J**	0.0161	**0.0434**	0.0071	0.0106
Magnesium	9.74	5.3	2.34 B	1.73	4.02 B	1.6 B	2.79 B	1.39 B	12.6
Manganese as Mn	**1.09**	0.0793	0.137	0.0961	**0.545**	0.203	0.237	0.0811	0.0936
Mercury as Hg	0.00028	0.0 U	0.0001 U	0.0001 U	0.00012 B	0.0001 U	0.0001 U	0.0001 U	0.01 U
Nickel as Ni	0.0352 B	0.0 B	0.009 B	0.0024 B	0.0117 B	0.0010 U	0.0079 B	0.0013 B	0.0072 B
Potasium	5.2 E	3.66B	1.62 B	1.39 B	3 B	1.7 B	2.32 B	1.2 B	8.19
Selenium as Se	0.0027 U	0.0 U	0.0025 U	0.0025 U	0.0042 U	0.0042 U	0.0032 U	0.0032 U	0.0026 U
Silver as Ag	0.0006 U	0.0 U	0.00083 U	0.00083 U	0.0005 U	0.0005 U	0.00043 U	0.00043 U	0.0006 B
Sodium as Na	7.73	7.59	7.86	7.08	6.02	5.37	7.69	6.48	7.59
Thallium as Tl	0.0033 U	0.0 U	0.0032 U	0.0032 U	0.0056 U	0.0056 U	0.0036 U	0.0036 U	0.0034 B
Vanadium	0.0326 B	0.0 U	0.0037 B	0.0014 U	0.0155 B	0.0012 U	0.0078 B	0.0013 U	0.0058 B
Zinc as Zn	0.156	0.0 B	0.0224	0.0084 B	0.0885	0.0040 B	0.0484	0.0098 B	0.03
Alkalinity tot CaCo3	61.8	PNA	20.2	PNA	69.6	PNA	26	PNA	301 D
Chloride as Cl	10.1	PNA	9.29	PNA	6.91	PNA	9.58	PNA	6.44
Sulfate as SO4	7.52	PNA	6.74	PNA	7.05 J	PNA	8.65	PNA	7.25
Bromide	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U
BOD5	3	PNA	2 U	PNA	2 U	PNA	2 U	PNA	2 U
COD	276	PNA	30.3	PNA	107	PNA	99	PNA	15.7
Color	160	PNA	PNA	PNA	50	PNA	PNA	PNA	20
Chromium hex as Cr	0.02 U	PNA	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U
Hardness as CaC03	180	PNA	27	PNA	75	PNA	50 D	PNA	310 D
Ammonia as N	0.21	PNA	0.36	PNA	0.15	PNA	0.16	PNA	0.1 U
Nitrite as N	PNA	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U
Nitrate as N	0.57	PNA	0.26	PNA	0.22	PNA	0.1 U	PNA	1.04
Phenols as Phenol	0.005 U	PNA	5 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U
Tot Dissolved Solids	120	PNA	83	PNA	104	PNA	60	PNA	360
Tot. Kjeldahl Nitrogen	72	PNA	0.75	PNA	1.88 J	PNA	1.37	PNA	0.31
Tot Organic Carbon	4.4	PNA	1 U	PNA	9.6	PNA	1.6	PNA	4.3
Turbidity	954	PNA	1,000	PNA	>1,000	PNA	>1,000	PNA	60
Temperature	12.89	PNA	13.88	PNA	13.06	PNA	7.13	PNA	13.73
pH	**6.3**	PNA	**5.76**	PNA	7.13	PNA	12.72	PNA	**4.81**
Spec. Cond	356	PNA	371	PNA	204	PNA	89	PNA	565

ANALYTICAL PARAMETERS	Oct. 2011 Unfiltered	Oct. 2011 Filtered	April 2012 Unfiltered	April 2012 Filtered	Oct. 2012 Unfiltered	Oct. 2012 Filtered	April 2013 Unfiltered	April 2013 Filtered	Oct. 2013 Unfiltered	Oct. 2013 Filtered	Apr-14
Aluminum as Al	5.24	0.0686 B	2.22	0.0457 B	7.48	0.077 B	2.15	0.0095 U	0.797	0.0049 U	0.0339
Antimony as Sb	0.0022 U	0.0023 B	0.0016 B	0.0052 B	**0.0041** **B**	0.0018 U	0.0012 U	0.0109 B	0..002 U	0.002 U	0.0019 U
Arsenic as As	0.0121	0.0018 U	0.0044 U	0.0044 U	0.0116	0.0015 U	0.0052 B	0.0028 B	0.001 U	0.0015 B	0.0011 U
Barium	0.164 B	0.0274 B	0.0297 B	0.0084 B	0.0944 B	0.012 B	0.0293 B	0.0096 B	0.0302 B	0.0137 B	0.026 B
Beryllium as Be	0.00013 U	0.00013 U	0.00012 U	0.00012 U	0.0002 B	0.00012 U	0.0001 U	0.0001 U	0.00022 U	0.00022 U	0.00014 U
Boron as B	0.0351 BJ	0.0733 B	0.0083 B	0.0113 B	0.0301 B	0.0161 B	0.0151 B	0.0192 B	0.0048 B	0.0041 U	0.0101 B
Cadmium as Cd	0.0016 B	0.00017 U	0.00018 U	0.00018 U	0.000087 U	0.000087 U	0.0001 U	0.0002 B	0.00015 U	0.00015 U	0.00011 U
Calcium as Ca	46.1	42.3	5.48	4.69 U	21.5	6.44	14.9	14.2	10.1	10.4	11.1
Chromium as Cr	**0.0895**	0.035	0.0186	0.0017 B	**0.074** **E**	0.0041 B	0.0313	0.0023 B	0.0108	0.002 B	0.0069 B
Cobalt	0.006 B	0.00044 U	0.0011 B	0.00052 U	0.0053 B	0.00028 U	0.0014 B	0.0004 U	0.0009 B	0.0007 B	0.0002 B
Copper as Cu	0.016 B	0.0007 B	0.008 B	0.0027 B	0.0365	0.0034 B	0.009 B	0.0004 U	0.007 B	0.0007 U	0.0045 B
Cyanide as CN	PNA	PNA	0.01 U	PNA	PNA	PNA	0.01 U	PNA	PNA	PNA	0.01 U
Iron as Fe	**50.4**	**0.433**	**5.01**	0.107	**36.2**	0.176	**12.7**	0.0487 B	**6.54**	0.0619 U	**3.65**
Lead as Pb	**0.0343**	0.0083	**0.0275**	0.0077	**0.0525**	0.00096 U	**0.0254**	0.0031	0.018	0.0064	0.0072
Magnesium	11.8	10.9	2.46 B	1.64 B	8.71	2.18 B	4.49 B	3.8 B	3.75 B	3.58 B	4.46 B
Manganese as Mn	**4.82** **EJ**	0.0408	0.0953	0.0298	**0.774**	0.0265	0.273	0.0276	0.281	0.0211	0.156
Mercury as Hg	0.0001 U	0.0001 U	0.00014 B	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Nickel as Ni	0.0598	0.0051 B	0.0055 B	0.0007 B	0.031 B	0.0022 B	0.0081 B	0.0046 B	0.0078 B	0.0042 B	0.0034 B
Potasium	7.43	7.61 J	1.62 B	1.41 B	3.96 B	1.36 B	2.12 B	2.05 B	2.53 B	2.34 B	1.71 B
Selenium as Se	0.0028 U	0.0028 U	0.0028 U	0.0035 B	0.0027 B	0.0021 U	0.0023 U	0.0153	0.0018 U	0.0018 U	0.0011 U
Silver as Ag	0.00042 U	0.00042 U	0.00032 U	0.00032 U	0.00034 B	0.00029 U	0.0002 U	0.0002 U	0.0054 B	0.00043 U	0.00043 U
Sodium as Na	10.2	10.9	8.33	7.82	**24.4**	7.62	7.07	7.42	7.57	9.44	11.5
Thallium as Tl	0.0034 U	0.0034 U	0.0032 U	0.0032 U	0.0029 U	0.0029 U	0.0019 U	0.0019 U	0.0019 U	0.0045 B	0.0013 U
Vanadium	0.0165 B	0.00021 U	0.0052 B	0.0004 B	0.0211 B	0.00018 U	0.006 B	0.0009 B	0.0019 B	0.00028 U	0.0017 B
Zinc as Zn	0.0699	0.0103 B	0.0257	0.0029 B	0.124	0.017 B	0.0293	0.0091 B	0.0444	0.0347	0.0218
Alkalinity tot CaCo3	163 D	PNA	12.8	PNA	16.5	PNA	47 D	PNA	35	PNA	30.8
Chloride as Cl	8.72	PNA	10.4	PNA	11.6	PNA	10.5	PNA	11.7	PNA	12.8
Sulfate as SO4	5 U	PNA	7.7	PNA	9.13	PNA	6.66	PNA	13.4	PNA	14.9
Bromide	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U
BOD5	2 U	PNA	2 U	PNA	2 U	PNA	2 U	PNA	2 U	PNA	2 U
COD	101	PNA	10 U	PNA	10 U	PNA	10 U	PNA	10 U	PNA	10 U
Color	PNA	PNA	35	PNA	PNA	PNA	75 D	PNA	PNA	PNA	10
Chromium hex as Cr	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U	PNA	PNA	PNA	0.02 U
Hardness as CaC03	228 D	PNA	30	PNA	34	PNA	68 D	PNA	88 D	PNA	48 D
Ammonia as N	0.19	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.13
Nitrite as N	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U
Nitrate as N	1.25	PNA	0.17	PNA	0.23	PNA	0.51	PNA	0.44	PNA	0.43
Phenols as Phenol	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U
Tot Dissolved Solids	175	PNA	56	PNA	58	PNA	89	PNA	94	PNA	86
Tot. Kjeldahl Nitrogen	3.15	PNA	0.44	PNA	0.74	PNA	0.65	PNA	0.67	PNA	0.57
Tot Organic Carbon	44.1	PNA	1 U	PNA	1 U	PNA	14.4	PNA	1.3	PNA	1 U
Turbidity	347	PNA	60.2	PNA	61	PNA	126	PNA	122	PNA	19.5
Temperature	13.18	PNA	13.84	PNA	13.57	PNA	13.35	PNA	13.58	PNA	11.5
pH	**6.47**	PNA	**6.02**	PNA	6.51	PNA	7.52	PNA	**6.25**	PNA	**6.28**
Spec. Cond	90	PNA	95	PNA	112	PNA	167	PNA	176	PNA	191

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-12A

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008	
Aluminum as Al	mg/L	NA	0.11		0.09		0.31		0.17		0.21		PNA		0.1	B	PNA	
Antimony as Sb	mg/L	0.003 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA	
Arsenic as As	mg/L	0.025	**0.031**		0.005	U	0.021		0.008		0.013		PNA		0.0	B	PNA	
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0	B	PNA	
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0	B	PNA	
Boron as B	mg/L	1.0	0.18		PNA		0.06		PNA		0.1		PNA		0.0	B	PNA	
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U
Calcium as Ca	mg/L	NA	29		14		22		32		42		15.9		10.9		19.1	
Chromium as Cr	mg/L	0.05	0.005	U	PNA		0.011		PNA		0.011		PNA		0.0	B	PNA	
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0	B	PNA	
Copper as Cu	mg/L	0.2	0.01		PNA		0.01	U	PNA		0.01		PNA		0.0	B	PNA	
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA	
Iron as Fe	mg/L	0.3	**19**		**16**		**29**		**8.5**		**19**		**2.96**		**13.8**		**0.604**	
Lead as Pb	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U
Magnesium	mg/L	35 #	PNA		3.9		PNA		9.3		PNA		4.93B		3.5	B	6.98	
Manganese as Mn	mg/L	0.3	**0.7**		**0.34**		**1.2**		**1.1**		**1.7**		0.194		0.125		0.217	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA	
Nickel as Ni	mg/L	0.1	0.01	U	PNA		0.01		PNA		0.02		PNA		0.0	B	PNA	
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		4.64	B	2.55	B	3.31	B
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0	U	PNA	
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA	
Sodium as Na	mg/L	20	14		PNA		12		PNA		17		8.46		8.94		11.7	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA	
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0	B	PNA	
Zinc as Zn	mg/L	2 #	0.03		PNA		0.02		PNA		0.02		PNA		0.0	B	PNA	
Alkalinity tot CaCo3	mg/L	NA	88		44		68		110		130		36		27		57.8	
Chloride as Cl	mg/L	250.0	13		12		11		16		20		12.1		11		14.3	
Sulfate as SO4	mg/L	250.0	55		27		24		35		34		20		17.3		26	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	2.6		2.5		2	U	2.3		4.8		2		13		2	U
COD	mg/L	NA	60		PNA		40	U	PNA		40	U	10	U	10	U	10	U
Color	units	NA	5	U	5	U	10		5	U	10		PNA		70		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA	
Hardness as CaC03	mg/L	NA	110		51		85		120		150		61		60		52	
Ammonia as N	mg/L	2.0	**2.2**		0.07		0.19		0.14		1.0		0.1	U	0.1	U	0.1	U
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U
Nitrate as N	mg/L	10	1.5		PNA		1.6		PNA		1.6		0.86		0.6		0.66	
Phenols as Phenol	mg/L	0.001	0.001	U	0.001	U	0.001	U	**0.001**		0.001	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	170		PNA		150		PNA		300		112		92		126	
Tot. Kjeldahl Nitrogen	mg/L	NA	0.6		PNA		0.4		PNA		5.6		1.66		0.19		0.31	
Tot Organic Carbon	mg/L	NA	2.1		1.5		2.5		3.4		2.7		1.4		1.5		1.1	
Turbidity	NTU	NA	5.2		62		140		35		22		12.8		44.2		13.5	
Temperature	deg.C	NA	15		14		14		14		13		12.7		13.46		12.94	
pH	units	6.5-8.5	6.6		**6.5**		**6.3**		7.6		6.6		6.82		**5.82**		**6.17**	
Spec. Cond	umho/cm	NA	240		150		200		270		390		PNA		PNA		167	

ANALYTICAL PARAMETERS	April 2009 Unfiltered		April 2009 Filtered		Oct. 2009 Unfiltered		Oct. 2009 Filtered		April 2010 Unfiltered		April 2010 Filtered		Oct. 2010	
Aluminum as Al	0.0245	B	0.0	U	PNA		PNA		0.389		0.0196	U	PNA	
Antimony as Sb	0.0027	U	0.0	U	PNA		PNA		0.0028	U	0.0028	U	PNA	
Arsenic as As	0.0028	U	0.0	U	PNA		PNA		0.0216		0.0028	U	PNA	
Barium	0.0427	B	0.0	B	PNA		PNA		0.0815	B	0.0368	B	PNA	
Beryllium as Be	0.00016	U	0.0	U	PNA		PNA		0.00017	U	0.0002	U	PNA	
Boron as B	0.0462	B	0.0	B	PNA		PNA		0.0307	B	0.0336	B	PNA	
Cadmium as Cd	0.00027	B	0.0	U	0.00034	U	0.00034	U	0.00024	U	0.0002	U	0.00025	U
Calcium as Ca	25.8		27.10		22.9		22.8		17.5		16.40		16.1	
Chromium as Cr	0.0011	B	0.0	B	PNA		PNA		0.0135		0.0006	B	PNA	
Cobalt	0.0012	B	0.0	B	PNA		PNA		0.0083	B	0.0042	B	PNA	
Copper as Cu	0.0016	B	0.0	B	PNA		PNA		0.0083	B	0.0049	B	PNA	
Cyanide as CN	0.1	U	PNA		PNA		PNA		0.01	U	PNA		PNA	
Iron as Fe	**2.74**		0.220		**5.08**		0.0902	B	**28.4**		0.041	B	**0.537**	
Lead as Pb	0.0015	U	0.0	U	0.0018	U	0.0018	U	0.013		0.0194		0.012	
Magnesium	9.82		10.3		7.64		7.56		4.94	B	4.7	B	4.4	B
Manganese as Mn	0.15		0.16		0.179		0.179		**2.56**		**2.30**		**1.6**	
Mercury as Hg	0.0001	U	0.0	U	PNA		PNA		0.0001	U	0.0001	U	PNA	
Nickel as Ni	0.0036	B	0.0	B	PNA		PNA		0.0089	B	0.0025	B	PNA	
Potasium	4.87	BE	5.1		3.26	B	3.34	B	3.31	B	2.8	B	6.36	
Selenium as Se	0.0027	U	0.0	U	PNA		PNA		0.0042	U	0.0042	U	PNA	
Silver as Ag	0.0006	U	0.0	U	PNA		PNA		0.0005	U	0.0005	U	PNA	
Sodium as Na	12		12.60		11.3		10.9		10.3		9.08		11	
Thallium as Tl	0.0033	U	0.0	U	PNA		PNA		0.0056	U	0.0056	U	PNA	
Vanadium	0.0025	B	0.0	U	PNA		PNA		0.0136	B	0.0012	U	PNA	
Zinc as Zn	0.0163	B	0.0	B	PNA		PNA		0.0201		0.0030	B	PNA	
Alkalinity tot CaCo3	78		PNA		69.9		PNA		54.2		PNA		50	D
Chloride as Cl	14.2		PNA		11.4		PNA		10.2		PNA		12.8	
Sulfate as SO4	28.8		PNA		21.7		PNA		21.6		PNA		20.3	
Bromide	0.5	U	PNA		0.5	U	PNA		0.5	U	PNA		0.5	U
BOD5	2	U	PNA		2	U	PNA		2	U	PNA		2	U
COD	10	U	PNA		10	U	PNA		10	U	PNA		10	U
Color	30		PNA		PNA		PNA		40		PNA		PNA	
Chromium hex as Cr	0.02	U	PNA		PNA		PNA		<0.02	U	PNA		PNA	
Hardness as CaC03	190		PNA		90		PNA		75		PNA		62	
Ammonia as N	1.09		PNA		0.1	U	PNA		0.36		PNA		1.0	
Nitrite as N	PNA		PNA		0.1	U	PNA		0.1	U	PNA		0.1	U
Nitrate as N	0.78		PNA		1.41		PNA		0.24		PNA		0.96	
Phenols as Phenol	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.005	U
Tot Dissolved Solids	170		PNA		133		PNA		122		PNA		109	
Tot. Kjeldahl Nitrogen	0.97		PNA		0.7		PNA		0.65		PNA		1.69	
Tot Organic Carbon	1.9		PNA		1	U	PNA		1.5		PNA		1	U
Turbidity	115		PNA		71.5		PNA		338		PNA		4.9	
Temperature	12.29		PNA		11.97		PNA		12.67		PNA		12.3	
pH	**6.28**		PNA		**5.5**		PNA		**6.03**		PNA		**6.40**	
Spec. Cond	225		PNA		275		PNA		208		PNA		145	

ANALYTICAL PARAMETERS	April 2011 Unfiltered		April 2011 Filtered		Oct. 2011		April 2012 Unfiltered		April 2012 Filtered		Oct. 2012		April 2013 Unfiltered		April 2013 Filtered		Oct. 2013		April 2014	
Aluminum as Al	0.225		0.107	B	PNA		0.0548	B	0.0391	B	PNA		0.09	B	0.0214	B	PNA		0.0616	B
Antimony as Sb	0.0021	U	0.0022	B	PNA		0.0011	U	0.0013	B	PNA		0.0012	U	0.0012	U	PNA		0.0019	U
Arsenic as As	0.0141		0.0019	U	PNA		0.0044	U	0.0044	U	PNA		0.0064	B	0.0028	U	PNA		0.0011	U
Barium	0.0747	BE	0.0640	B	PNA		0.0535	B	0.0475	B	PNA		0.0465	B	0.0421	B	PNA		0.0432	B
Beryllium as Be	0.00013	U	0.00017	B	PNA		0.00012	U	0.00012	U	PNA		0.0001	U	0.0001	U	PNA		0.00014	U
Boron as B	0.0721	BE	0.0794	B	PNA		0.0695	B	0.0692	B	PNA		0.0479	B	0.0491	B	PNA		0.0539	B
Cadmium as Cd	0.00027	U	0.00035	B	0.00017	U	0.00018	U	0.00018	U	0.000087	U	0.0001	U	0.0001	U	0.00015	U	0.0002	B
Calcium as Ca	25		25.2		15.8		26.3		24.3		46.4		25.1		25.1		30.5		24.4	
Chromium as Cr	0.0127		0.0138	B	PNA		0.0038	B	0.0014	B	PNA		0.0063	B	0.0018	B	PNA		0.0047	B
Cobalt	0.0072	B	0.0052	B	PNA		0.0062	B	0.0051	B	PNA		0.0043	B	0.0036	B	PNA		0.0064	B
Copper as Cu	0.005	B	**0.262**		PNA		0.0016	B	0.0009	B	PNA		0.0025	B	0.0025	B	PNA		0.0026	B
Cyanide as CN	0.01	U	PNA		PNA		0.01	U	PNA		PNA		0.01	U	PNA		PNA		0.01	U
Iron as Fe	**16.8**		**4.730**		**2.61**		**2.08**		0.134		**10.3**		**6.78**		0.236		**5.28**		**3.26**	
Lead as Pb	0.0025	B	0.0121	B	0.0079		0.0046		0.0056		0.00096	U	0.0042		0.0056		0.0057		0.0024	B
Magnesium	7.51		7.61		3.93	B	7.27		6.8		12.5		6.79		6.73		8.5		6.18	
Manganese as Mn	**3.9**		**3.630**		**1.98**	**E**	**4.3**		**3.86**		**5.93**		**3.72**		**3.61**		**3.78**		**4.16**	
Mercury as Hg	0.0001	U	0.0001	U	PNA		0.0001	U	0.00017	B	PNA		0.0001	U	0.0001	U	PNA		0.0001	U
Nickel as Ni	0.0153	B	0.0369	B	PNA		0.0084	B	0.0071	B	PNA		0.0105	B	0.0066	B	PNA		0.0104	B
Potasium	9.9		10.2		5.78		8.16		7.58		8.7		6.34		6.28		7.27		5.8	
Selenium as Se	0.0026	U	0.0026	U	PNA		0.0028	U	0.0028	U	PNA		0.0023	U	0.0023	U	PNA		0.0011	U
Silver as Ag	0.00073	B	0.00052	U	PNA		0.0005	B	0.00037	B	PNA		0.00022	B	0.00045	B	PNA		0.00043	U
Sodium as Na	13.1		15.00		10.1		12.8		11.8		**21**		9.97		9.7		11.9		11.3	
Thallium as Tl	0.0027	U	0.0027	U	PNA		0.0032	U	0.0032	U	PNA		0.0019	B	0.0019	U	PNA		0.0014	B
Vanadium	0.0121	B	0.0045	B	PNA		0.0016	B	0.00023	U	PNA		0.0033	B	0.0003	U	PNA		0.0029	B
Zinc as Zn	0.0094	B	0.404		PNA		0.0016	B	0.0071	B	PNA		0.0172	B	0.0104	B	PNA		0.0329	
Alkalinity tot CaCo3	94	D	PNA		52.8	D	97	D	PNA		67.8	D	85.4	D	PNA		101	D	76	
Chloride as Cl	11.2		PNA		10.9		36.6		PNA		11.7		11.9		PNA		16.4		13.9	
Sulfate as SO4	22.8		PNA		14		19		PNA		20.1		19.4		PNA		27.4		20.7	
Bromide	0.5	U	PNA		0.5	U	0.5	U	PNA		0.5	U	0.5	U	PNA		0.5	U	0.5	U
BOD5	3		PNA		2	U	2	U	PNA		2	U	2	U	PNA		2	U	2	U
COD	10	U	PNA		10	U	10	U	PNA		10	U	10	U	PNA		10	U	10	U
Color	40		PNA		PNA		20		PNA		PNA		75	D	PNA		PNA		10	
Chromium hex as Cr	0.02	U	PNA		PNA		0.02	U	PNA		PNA		0.02	U	PNA		PNA		0.02	U
Hardness as CaC03	105	D	PNA		86	D	104	D	PNA		88	D	116	D	PNA		132	D	100	D
Ammonia as N	**2.68**		PNA		0.85		1.82		PNA		0.94		1.56		PNA		1.31		1.24	
Nitrite as N	0.1	U	PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U	PNA		0.1	U	0.1	U
Nitrate as N	0.74		PNA		0.51		0.74		PNA		0.84		0.34		PNA		1		0.72	
Phenols as Phenol	0.005	U	PNA		0.005	U	0.005	U	PNA		0.005	U	0.005	U	PNA		0.005	U	0.005	U
Tot Dissolved Solids	160		PNA		95		144		PNA		125		140		PNA		176		141	
Tot. Kjeldahl Nitrogen	3.63		PNA		1.24		3.38		PNA		1.42		1.89		PNA		1.82		1.84	
Tot Organic Carbon	2.3		PNA		15.4		1	U	PNA		1.2		22.3		PNA		2.7		1.7	
Turbidity	PNA		PNA		54.3		60.5		PNA		36.1		81.5		PNA		29.6		16.9	
Temperature	PNA		PNA		13.86		13.05		PNA		12.76		12.86		PNA		13.23		11.17	
pH	PNA		PNA		**5.78**		**6.12**		PNA		**6.43**		7.53		PNA		**6.11**		**6.03**	
Spec. Cond	PNA		PNA		199		325		PNA		241		286		PNA		328		263	

NOTES:

* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703

= Guidance value, no standard exists.

NA = Not available.

PNA = parameter not analyzed for.

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

1.0 = Compound exceeded standard.

1.0 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
October 2013

MW-12B

ANALYTICAL PARAMETERS	UNITS	GW STND*	April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009	
Aluminum as Al	mg/L	NA	0.26		0.45		0.07		0.1		0.14		PNA		0.6		PNA		0.0955	B
Antimony as Sb	mg/L	0.003 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0027	U
Arsenic as As	mg/L	0.025	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	PNA		0.0	U	PNA		0.0028	U
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		PNA		0.0	B	PNA		0.0333	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	PNA		0.0	B	PNA		0.00016	U
Boron as B	mg/L	1.0	0.07		PNA		0.02		PNA		0.01		PNA		0.1	B	PNA		0.0591	B
Cadmium as Cd	mg/L	0.005	0.005	U	PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00027	U	0.00035	U	0.00023	U
Calcium as Ca	mg/L	NA	15		10		8.9		8.9		11		8.18		24.8		18.1		23.8	
Chromium as Cr	mg/L	0.05	0.047		PNA		0.011		PNA		0.022		PNA		0.0201		PNA		0.0027	B
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0	U	PNA		0.0012	U
Copper as Cu	mg/L	0.2	0.04		PNA		0.01		PNA		0.03		PNA		0.0	B	PNA		0.0015	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.01	U
Iron as Fe	mg/L	0.3	**4.8**		**4.1**		**1**		**1.1**		**2.3**		0.235		**2.52**		0.138		**0.4**	
Lead as Pb	mg/L	0.025	0.006		0.009		0.005	U	0.005	U	0.005	U	0.0014	U	0.0023	U	0.0013	U	0.0017	B
Magnesium	mg/L	35 #	PNA		2.8		PNA		2.8		PNA		4.32	B	11.1		7.09		13.2	
Manganese as Mn	mg/L	0.3	0.17		0.11		0.09		0.11		0.07		0.0052	B	0.0263		0.0083	B	0.0152	
Mercury as Hg	mg/L	0.0007	0.00025	U	0.00025	U	0.00025	U	0.00025	U	0.00025	U	PNA		0.0	U	PNA		0.0001	U
Nickel as Ni	mg/L	0.1	0.05		PNA		0.01		PNA		0.03		PNA		0.0	B	PNA		0.0075	B
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.832	B	3.48	B	2.02	B	2.25	BE
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	PNA		0.0	U	PNA		0.0027	U
Silver as Ag	mg/L	0.05	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0006	U
Sodium as Na	mg/L	20	10		PNA		7.9		PNA		9.5		6.68		12.8		10		14.2	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		0.0	U	PNA		0.0033	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.0	B	PNA		0.0014	B
Zinc as Zn	mg/L	2 #	0.04		PNA		0.01		PNA		0.03		PNA		0.0	B	PNA		0.0173	B
Alkalinity tot CaCo3	mg/L	NA	40		42		30		34		32		25.6		91.8		55		69.6	
Chloride as Cl	mg/L	250.0	13		8		11		8		11		10.2		14.3		12.2		17.5	
Sulfate as SO4	mg/L	250.0	32		14		11		16		15		11	U	22		17.5		43.7	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U
BOD5	mg/L	NA	4.0		7.5		2	U	9.6		4.3		2	U	13		2	U	2	U
COD	mg/L	NA	40		PNA		40	U	PNA		40	U	10	U	16.9		10	U	10	U
Color	units	NA	5	U	5	U	10		5	U	10		PNA		20		PNA		5	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.0	U	PNA		0.02	U
Hardness as CaC03	mg/L	NA	58		37		34		34		41		39		100		84		160	
Ammonia as N	mg/L	2.0	0.22		0.05	U	0.05	U	0.1	U	0.05	U	0.1	U	0.1	U	0.1	U	0.14	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA	
Nitrate as N	mg/L	10	0.5	U	PNA		0.5	U	PNA		0.5		0.63		1.02		0.56		0.25	
Phenols as Phenol	mg/L	0.001	0.001	U	**0.002**		**0.006**		**0.001**		0.001	U	0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	120		PNA		93		PNA		160		95		168		104		173	
Tot. Kjeldahl Nitrogen	mg/L	NA	1.0		PNA		0.4		PNA		1.6		0.1	U	1.06		0.22		0.29	
Tot Organic Carbon	mg/L	NA	5.5		3.6		2.1		11		3.1		1	U	2		1	U	1.7	
Turbidity	NTU	NA	2.4		30		7.0		13.0		15		6.62		38.7		13.5		17.4	
Temperature	deg.C	NA	15		13		13		14		13		12.3		12.9		12.94		11.79	
pH	units	6.5-8.5	**6.3**		6.6		**6.1**		7.3		6.8		6.96		**5.64**		**6.17**		**6.2**	
Spec. Cond	umho/cm	NA	330		120		150		120		190		PNA		PNA		167		224	

ANALYTICAL PARAMETERS	Oct. 2009		April 2010		Oct. 2010		April 2011		Oct. 2011		April 2012 Unfiltered		April 2012 Filtered		Oct. 2012		April 2013		Oct. 2013		April 2014	
Aluminum as Al	0.14	B	0.34		PNA		0.0656	B	PNA		1.61		0.0362	B	PNA		0.0161	B	PNA		0.0402	B
Antimony as Sb	0.0021	U	0.0028	U	PNA		0.0041	B	PNA		0.0015	B	0.0011	U	PNA		0.0018	B	PNA		0.0019	U
Arsenic as As	0.0023	U	0.0028	U	PNA		0.0019	U	PNA		0.0044	U	0.0044	U	PNA		0.0028	U	PNA		0.0011	U
Barium	0.114	B	0.0286	B	PNA		0.0141	BE	PNA		0.16	B	0.137	B	PNA		0.0977	B	PNA		0.0694	B
Beryllium as Be	0.00026	U	0.00017	U	PNA		0.00013	U	PNA		0.00012	U	0.00012	U	PNA		0.0001	U	PNA		0.00014	U
Boron as B	0.106		0.0188	B	PNA		0.0111	BE	PNA		0.103		0.101		PNA		0.0743	B	PNA		0.0689	B
Cadmium as Cd	0.00034	U	0.00024	U	0.00025	U	0.00027	U	0.00017	U	0.00018	U	0.00018	U	0.000087	U	0.0001	U	0.00015	U	0.00011	U
Calcium as Ca	32.5		8.67		6.32		8.22		15.8		41.6		39.2		25.1		25.2		30.6		28.5	
Chromium as Cr	0.0029	B	0.0086	B	PNA		0.0014	B	PNA		0.0397		0.0013	B	PNA		0.0014	B	PNA		0.0017	B
Cobalt	0.0012	U	0.0012	U	PNA		0.00049	U	PNA		0.0033	B	0.0007	B	PNA		0.0004	U	PNA		0.0006	B
Copper as Cu	0.0032	B	0.0069	B	PNA		0.00055	U	PNA		0.0109	B	0.002	B	PNA		0.0016	B	PNA		0.0021	B
Cyanide as CN	PNA		0.01	U	PNA		0.01	U	PNA		0.01	U	PNA		PNA		0.01	U	PNA		0.01	U
Iron as Fe	**0.565**		**1**		0.216		0.182		0.0516	U	**4.91**		0.027	B	0.103		0.0274	B	0.0776	B	0.0922	B
Lead as Pb	0.0018	U	0.0239		0.0094		0.0015	U	0.0078		0.0144		0.0078		0.0011	B	0.0055		0.0094		0.0036	B
Magnesium	11.1		2.46	B	1.76	B	2.56	B	5.49		12.3		11.6		8.33		7.03		8.71		8.86	
Manganese as Mn	0.0348		0.199		0.0346		0.0102	B	0.0057	BE	**0.92**		**0.818**		0.112		0.124		**0.4**		**0.981**	
Mercury as Hg	PNA		0.0001	U	PNA		0.0001	U	PNA		0.0001	U	0.0001	U	PNA		0.0001	U	PNA		0.0001	U
Nickel as Ni	0.0096	B	0.0089	B	PNA		0.0014	B	PNA		0.0386	B	0.0181	B	PNA		0.0085	B	PNA		0.0146	B
Potasium	10.5		4.83	B	3.94	B	2.28	B	0.77	B	10.7		10.1		6.64		10	U	12.9		6.37	
Selenium as Se	0.0025	U	0.0042	U	PNA		0.0026	U	PNA		0.0028	U	0.0031	BJ	PNA		0.0023	U	PNA		0.0011	U
Silver as Ag	0.00083	U	0.0005	U	PNA		0.00052	U	PNA		0.00032	U	0.00032	U	PNA		0.00023	B	PNA		0.00043	U
Sodium as Na	16.5		8.47		8.22		8.96		11.8		19.2		19.9		13.4		11	U	15.1		13.5	
Thallium as Tl	0.0032	U	0.0056	U	PNA		0.0028	B	PNA		0.0032	U	0.0032	U	PNA		0.0019	U	PNA		0.0001	U
Vanadium	0.0014	U	0.0029	B	PNA		0.0014	B	PNA		0.0096	B	0.0008	B	PNA		0.0012	B	PNA		0.0013	B
Zinc as Zn	0.0095	B	0.0142	B	PNA		0.0128	B	PNA		0.0109	B	0.0035	B	PNA		0.0073	B	PNA		0.0176	B
Alkalinity tot CaCo3	110		25.7		19	D	208		41.7		147	D	PNA		50.1	D	82.6	D	107	D	78.9	
Chloride as Cl	17.3		10.6		9.85		8.01		13.7		24.1		PNA		10.9		14.7		20		17.5	
Sulfate as SO4	46.7		10.6		8.47		8.56		19.9		47.2		PNA		20.1		29.3		45.5		36	
Bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	PNA		0.5	U	0.5	U	0.5	U	0.5	U
BOD5	2	U	2	U	2	U	2	U	2	U	2	U	PNA		2	U	2	U	2	U	2	UJ
COD	10	U	10	U	10	U	10	U	10	U	10	U	PNA		10	U	10	U	10	U	10.8	
Color	PNA		10		PNA		5	U	PNA		20		PNA		PNA		5	U	PNA		5	U
Chromium hex as Cr	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		0.02	U	PNA		0.02	U
Hardness as CaC03	130		33		26	D	28	D	68	D	158	D	PNA		68	D	94	D	116	D	100	D
Ammonia as N	0.1	U	0.35		0.1	U	0.1	U	0.1	U	**2.52**		PNA		1.15		**2.44**		1.08		1	
Nitrite as N	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	PNA		0.1	U	0.1	U	0.1	U	0.1	U
Nitrate as N	0.43		0.71		0.42		0.63		0.71		0.1	U	PNA		2.07	D	1.17		0.1	U	0.89	
Phenols as Phenol	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	PNA		0.005	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	217		72		56		69		97		246		PNA		117		164		192		173	
Tot. Kjeldahl Nitrogen	4.94		0.35		0.26		0.5	UD	0.19		4.6		PNA		1.32	D	3.99		6	D	1.46	
Tot Organic Carbon	2.3		1	U	1	U	1	U	11.4		2.4		PNA		1	U	20.6		3.3		1.7	
Turbidity	23.6		6.4		18.1		PNA		12.7		100		PNA		0		1.32		0.2		0.4	
Temperature	11.7		12.27		11.96		PNA		13.76		14.05		PNA		12.45		13.85		13.02		10.9	
pH	**5.55**		**6**		**6.16**		PNA		**5.95**		**6.12**		PNA		6.58		7.67		**6.17**		**6.24**	
Spec. Cond	999		130		82		PNA		195		455		PNA		226		2		386		312	

NOTES:
* = NYSDEC, Class GA Groundwater Standards
6 NYCRR Part 703
# = Guidance value, no standard exists.
NA = Not available.
PNA = parameter not analyzed for.
B = This flag is used when the analyte is found in the associated blank as in the sample.
E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
F - This flag indicates the results of a filtered metal analysis.
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.
1.0 = Compound exceeded standard.
1.0 = Compound at standard.
NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 2
ORGANIC GROUNDWATER QUALITY RESULTS
April 2014

Parameters	Units	GW Standard*	MW-1A		MW-1B		MW-1C		MW-3A		MW-3B		MW-4A		MW-4B		MW-4C		MW-11A		MW-11B		MW 12A		MW 12B	
Chloromethane	mg/L	NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Vinyl chloride	mg/L	0.002	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
Bromomethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Chloroethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Acrylonitrile	mg/L	0.005	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Trichlorofluoromethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,1-Dichloroethene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Iodomethane	mg/L	NA	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Vinyl acetate	mg/L	0.005	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Acetone	mg/L	NA	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Carbon disulfide	mg/L	NA	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Methylene chloride	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
trans-1,2-Dichloroethene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,1-Dichloroethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
cis-1,2-Dichloroethene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
2-Butanone	mg/L	0.005	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Bromochloromethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Chloroform	mg/L	0.007	0.005	U	0.002	J	0.002	J	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.002	J	0.005	U	0.005	U
1,1,1-Trichloroethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Carbon tetrachloride	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Benzene	mg/L	0.001	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloroethane	mg/L	0.005	0.005	UJ	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Trichloroethene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-Dichloropropane	mg/L	0.001	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Dibromomethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Bromodichloromethane	mg/L	NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
cis-1,3-Dichloropropene	mg/L	0.0004	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U
4-Methyl-2-pentanone	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Toluene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
trans-1,3-Dichloropropene	mg/L	0.0004	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
1,1,2-Trichloroethane	mg/L	0.001	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Tetrachloroethene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
2-Hexanone	mg/L	NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Dibromochloromethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-Dibromoethane	mg/L	NA	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Chlorobenzene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.001	J	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
trans-1,4-Dichloro-2-butene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Ethylbenzene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,1,1,2-Tetrachloroethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Xylene (total)	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Styrene	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Bromoform	mg/L	NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,1,2,2-Tetrachloroethane	mg/L	0.005	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,4-Dichlorobenzene	mg/L	0.003	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.001	J	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U
1,2-Dichlorobenzene	mg/L	0.003	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U	0.003	U
1,2-Dibromo-3-chloropropane	mg/L	0.0004	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U

NOTES:

@ = A compound is presented if it has been detected in one or more locations.

***** = New York State Department of Environmental Conservation, Class GA Groundwater Standards, 6 NYCRR Part 703

^ Standard was taken for total phenols

U - the analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Indicates compound is at the standard

Indicates compound exceeds the standard

= Guidance Value, no standard exists

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 3
LEACHATE QUALITY RESULTS
April 2014

Analytical Parameter	Leachate Collection (Primary)																		
Units mg/L	**April 2005**	**October 2005**	**April 2006**	**October 2006**	**April 2007**	**October 2007**	**April 2008**	**October 2008**	**April 2009**	**October 2009**	**April 2010**	**October 2010**	**April 2011**	**October 2011**	**April 2012**	**October 2012**	**April 2013**	**October 2013**	**April 2014**
Arsenic as As	NA	NA	NA	NA	NA	0.0398	0.0407	0.0021	0.0028B	0.158	<0.0028	<0.0027	0.0023 B	0.0048 B	< 0.0044	0.0048 B	<0.0028	0.0052 B	0<0.0011
Cadmium as Cd	<0.025	<0.005	<0.005	<0.005	<0.005	0.0012B	0.0014 B	< 0.00035	<0.00023	0.0034	<0.00024	<0.00025	0.001 B	< 0.00017	0.0002 B	<0.000087	<0.0001	<0.00015	<0.00011
Calcium as Ca	82	59	160	110	99	115	99.8	73.1	69.8	291	57.4	80.9	68	70.3	72	100	71.6	111	52.6
Iron as Fe	39	1.7	67	38	41	115	422	36.9	47	2930	25.8	33.5	21.2	42.1	36.1	25.7	13.6	10.5	13.8
Lead as Pb	<0.025	<0.005	0.007	<0.005	<0.005	0.0764	<0.0023	0.0014 B	<0.0015	0.116	0.0071	<0.0017	0.0066	< 0.0033	0.0089	<0.00096	0.0058	0.0072	<0.0019
Magnesium as Mg	22	6.8	26	28	21	46.7	20.6	19.1	17.1	37.6	12.6	18.9	17.9	14	17	33.7	21.4	21	10.2
Manganese as Mn	3.4	0.4	3.6	2.9	3.2	3.11	4.97	3.05	3.09	167	2.83	2.01	2.03	2.66	2.94	2.59	2.06	2.89	1.26
Potassium as K	85	25	810	140	96	236	76.2	71.9	60.1	141	48.9	83.7	67.4	41.3	67.7	160	86.1	105	29.8
Sodium as Na	180	10	170	250	170	506	146	141	123	328	99.4	186	137	99.4	148	419	186	236	58.6
Alkalinity total CaCO3	1100	140	980	1300	980	2710	884	778	653	1640	556	820	771	605	808 D	1,860 D	948 D	1,100 D	380 D
BOD5	NA	NA	NA	NA	NA	68	96	17	53	117	9	47	20	15	< 2	31	21	20	13 S
COD	180	220	210	240	150	629	455	178	69.2	549	62.6	163	125	94.4	141	382 D	148 D	261 D	33
Chloride as Cl	210	16	160	250	210	495	310	168	152	399	107	227	156 D	122 D	193 D	475 D	207 D	284 D	78.4 D
Hardness as CaCO3	300	180	600	390	330	580	330	350	500	870	225	300	280 D	272 D	272 D	450 D	360 D	500 D	310 D
Ammonia as N	140	1.6	110	160	110	263	9.92	107	1.66	179	81.4	99.8	46.7 D	41.4 D	75.3 D	164 D	145 D	180 D	60.7 D
Nitrite as N	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	<.1	<0.10	0.3	0.12	< 0.10	< 0.10	< 0.10	< 0.10	<0.10	<0.10
Nitrate as N	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	0.89	< 0.10	5.73	0.15	<0.10	1.27	0.72 D	0.43	0.23	0.11	0.41	<1.00 D	0.38
Bromide	NA	NA	NA	NA	NA	2.8	0.85	0.92	0.69	1.84	0.58	1.03	< 0.50	0.6	0.71	3.33 D	0.91	1.74	<0.50
Total Recoverable Phenolics	NA	NA	NA	NA	NA	16,600	8,700	8	<0.0005	0.013	<0.005	0.0133	< 0.005	0.0114	< 0.005	0.0056	0.0077	0.0051	0.0055
Sulfate as SO4	35	74	100	10	19	121	25.5	9.91	16.7	24.5	8.29	39.1	18	< 5.00	7.64	20.3	10.5	46.8	12.8
Total Dissolved Solids	930	340	1300	1300	970	2180	772	690	710	1520	570	925	875	592 D	782 D	2,050 D	948 D	1,380 D	400
Total Organic Carbon	66	28	63	76	51	111	53.5	59.2	38.7	123	32.1	56.6	38.6	152 D	51.4	104 D	246 D	16.6	37.3 D
Total Kjeldahl Nitorgen	NA	NA	NA	NA	NA	521	38.3	129	5.08	392	86.1	149	113 D	85.5 D	137 D	328 D	171 D	206 D	60.5 D
Turbidity NTU	6.5	5.8	440	570	610	NA	NA	NA	NA	1,000	250	815	900	> 1,000	244	187	104	57.6	50.5

Analytical Parameter	Leachate Detection (Secondary)																		
Units mg/L	**April 2005**	**October 2005**	**April 2006**	**October 2006**	**April 2007**	**October 2007**	**April 2008**	**October 2008**	**April 2009**	**October 2009**	**April 2010**	**October 2010**	**April 2011**	**October 2011**	**April 2012**	**October 2012**	**April 2013**	**October 2013**	**April 2014**
Arsenic as As	NA	NA	NA	NA	NA	0.217	0.102	0.0148	<0.0028	0.0875	<0.0028	<0.0027	< 0.0019	0.0038 B	< 0.0044	0.0074 B	0.0035 B	<0.001	0.0013 B
Cadmium as Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.00032	0.0011 B	< 0.00035	<0.00023	<0.00034	<0.00024	<0.00025	< 0.00027	< 0.00017	< 0.00018	<0.000087	<0.0001	<0.00015	<0.00011
Calcium as Ca	83	61	96	82	75	583	117	111	71.5	142	63	104	67.8	85.5	74.6	150	68.8	71.4	63.6
Iron as Fe	0.25	0.35	0.73	0.2	11	496	127	20.2	0.957	101	5.71	0.692	0.99	0.573	0.147	5.41	14.2	26.7	2.32
Lead as Pb	<0.005	<0.005	<0.005	<0.005	<0.005	0.108	0.0272	0.0044	0.0024B	3.06	0.0173	0.0164	< 0.0015	0.0113	0.0108	0.0024 B	0.0033	<0.00072	0.0104
Magnesium as Mg	14	5.8	9.4	8	11	48.7	11.9	15.3	10	15.5	7.52	12.3	11.3	12.8	10.7	25.9	8.08	17.2	9
Manganese as Mn	3.5	0.02	0.38	0.02	0.79	6.06	3.24	2.43	0.368	2.92	4.31	0.436	0.991	0.727 E	0.163	2.33	5.71	2.32	1.22
Potassium as K	58	17	39	19	36	214	20.5	32.3	10.7E	43.6	16.2	35.3	35.6	35.8	22.4	109	134 E	65.9	22
Sodium as Na	94	6.1	49	11	52	455	39	61.3	17.5	84.5	27.4	55.7	62.1	66.8	21.2	283	176	151	14.6
Alkalinity total CaCO3	570	130	300	210	480	2000	438	389	202	489	256	340	350 D	386 D	204 D	986 D	236 D	815 D	164 D
BOD5	NA	NA	NA	NA	NA	NA	NA	257	42	555	<10	10	16	16	< 2	47	< 2	15	7 S
COD	120	380	<40	50	70	2600	257	138	154	743	<10	56.1	69.3	75.7	35.7	181 D	31.1	142	97.2
Chloride as Cl	100	5	58	10	64	496	46.1	56.6	20.8	100	29.4	52.8	57.3 D	73.7 D	33.1	288 D	29.8	206 D	33.4
Hardness as CaCO3	260	180	280	240	230	1000	330	320	620	440	210	310	230 D	272 D	260 D	460 D	250 D	280 D	200 D
Ammonia as N	58	0.07	23	<0.1	44	276	2.1	20.8	83.2	27.8	13.9	13.9	24.1 D	19.2 D	2.08 D	77.8 D	12.9 D	136 D	0.8
Nitrite as N	NA	NA	NA	NA	NA	NA	NA	0.29	NA	0.23	<0.10	<0.10	0.21	0.25	0.19	0.2	< 0.10	<0.10	<0.10
Nitrate as N	<0.5	4.5	10	3.6	<0.5	1.04	2.71	2.47	0.29	8.62	<0.10	6.96	1.84 D	4.08 D	5.73 D	10.6 D	< 0.10	<0.10	0.58
Bromide	NA	NA	NA	NA	NA	2.6	<0.5	< 0.50	<0.5	0.53	<0.50	<0.50	< 0.50	< 0.50	< 0.50	1.06	< 0.50	1.2	<0.50
Total Recoverable Phenolics	NA	NA	NA	NA	NA	18,200	10,300	5	0.0058	0.0079	<0.005	<0.005	< 0.005	0.0143	< 0.005	0.0052	< 0.005	<0.005	0.0087
Sulfate as SO4	<25	52	80	45	20	282	64.4	65.6	45.3	105	15.4	48.8	22.3	13.4	15.9	44.7	10.8	14.1	16.8
Total Dissolved Solids	610	280	730	390	480	2350	468	465	332	762	302	559	508	488 D	357	1,550 D	292	904 D	299
Total Organic Carbon	27	13	14	13	20	122	39.6	27.5	12.2	41.3	8.9	21.2	23.2	96.4 D	14.1	63.3 D	67.1 D	11.9	47.6 D
Total Kjeldahl Nitorgen	NA	NA	NA	NA	NA	474	10.7	26.2	120	103	14.9	22.5	40.0 D	37.9 D	5.67 D	128 D	13.6	138 D	3.30 D
Turbidity NTU	5.9	5.5	15	2.4	120	NA	NA	NA	NA	976	20.9	77.3	78	55	20.8	5.2	21.1	104	34.4

B = This flag is used when the analyte is found in the associated blank as in the sample.

E - This flag identified compunds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

F - This flag indicates the results of a filtered metal analysis.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U -The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ - The analyte was not detected above the reported sample wuantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

S - Recovery exceeded control limits for this analyte.

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL

TABLE 4

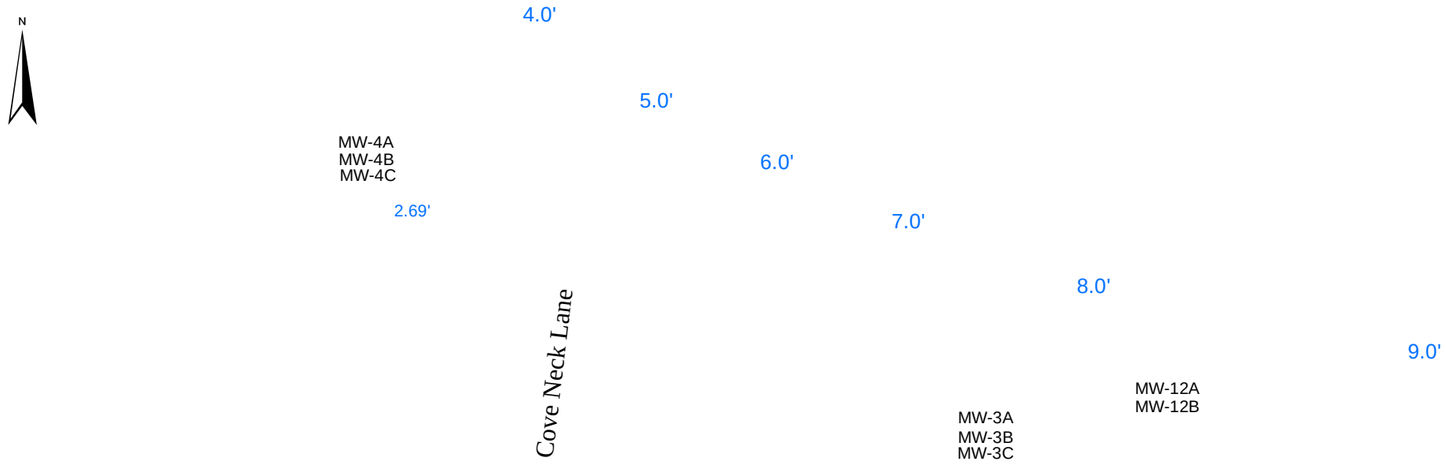
GROUNDWATER ELEVATIONS
April 2014

Monitoring Well Number	* Casing Elevation	April 2005		October 2005		April 2006		October 2006		April 2007		October 2007		April 2008		October 2008		April 2009		October 2009		April 2010		October 2010		April 2011		October 2011		April 2012		October 2012		April 2013		October 2013		April 2014	
		DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE
MW-1A	113.87	102.40	11.47	103.22	10.65	102.03	11.84	101.36	12.51	101.23	12.64	102.55	11.32	102.50	11.37	104.12	9.75	103.34	10.53	102.76	11.11	101.22	12.65	102.43	11.44	103.49	10.38	104.13	9.74	104.12	9.75	104.12	9.75	104.53	9.75	104.80	9.07	104.58	9.29
MW-1B	115.09	103.61	11.48	104.43	10.66	103.24	11.85	102.58	12.51	102.45	12.64	103.78	11.31	103.01	12.08	105.38	9.71	104.56	10.53	103.96	11.13	103.00	12.09	103.64	11.45	104.66	10.43	105.34	9.75	105.30	9.79	105.30	9.79	105.77	9.79	105.69	9.40	105.78	9.31
MW-1C	114.99	104.57	10.42	105.31	9.68	104.49	10.50	103.94	11.05	103.83	11.16	105.22	9.77	104.98	10.01	106.28	8.71	105.43	9.56	105.16	9.83	103.10	11.89	105.06	9.93	105.52	9.47	106.27	8.72	106.15	8.84	106.15	8.84	106.44	8.84	106.60	8.39	106.36	8.63
MW-2	74.8	64.22	10.58	64.81	9.99	63.46	11.34	63.36	11.44	63.31	11.49	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MW-3A	55.3	46.39	8.91	NM	--	46.22	9.08	45.59	9.71	45.47	9.83	47.09	8.21	47.45	7.85	47.89	7.41	47.27	8.03	47.20	8.10	47.30	8.00	46.89	8.41	47.43	7.87	47.90	7.40	47.96	7.34	47.96	7.34	47.93	7.37	48.19	7.11	47.51	7.79
MW-3B	51.9	43.11	8.79	NM	--	42.95	8.95	42.35	9.55	42.20	9.70	43.81	8.09	44.45	7.45	44.70	7.20	43.97	7.93	43.90	8.00	43.03	8.87	43.59	8.31	44.15	7.75	44.59	7.31	44.66	7.24	44.66	7.24	44.62	7.28	44.88	7.02	44.25	7.65
MW-3C	51.4	42.97	8.43	NM	--	42.95	8.45	42.57	8.83	42.21	9.19	43.88	7.52	43.91	7.49	44.28	7.12	43.62	7.78	43.72	7.68	43.66	7.74	43.59	7.81	43.73	7.67	44.26	7.14	44.23	7.17	44.23	7.17	44.22	7.18	44.50	6.90	NM	--
MW-4A	16	13.21	2.79	12.89	3.11	13.47	2.53	12.93	3.07	13.11	2.89	13.78	2.22	13.66	2.34	13.51	2.49	13.63	2.37	13.63	2.37	12.68	3.32	13.02	2.98	13.10	2.90	13.42	2.58	13.66	2.34	13.87	2.13	13.80	2.20	13.34	2.66	13.31	2.69
MW-4B	16.1	13.21	2.89	12.37	3.73	13.85	2.25	13.03	3.07	13.25	2.85	11.06	5.04	13.63	2.47	13.64	2.46	13.81	2.29	13.87	2.23	12.82	3.28	13.14	2.96	13.27	2.83	13.51	2.59	13.73	2.37	14.50	1.60	13.89	2.21	13.64	2.46	13.45	2.65
MW-4C	16	8.40	7.60	8.36	7.64	8.74	7.26	8.03	7.97	8.15	7.85	9.34	6.66	9.20	6.80	9.61	6.39	9.01	6.99	9.15	6.85	7.14	8.86	8.62	7.38	9.11	6.89	9.37	6.63	9.48	6.52	10.25	5.75	9.40	6.60	9.79	6.21	9.31	6.69
MW-5A	74.27	64.11	10.16	64.77	9.50	63.92	10.35	63.09	11.18	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MW-5B	75.25	NM	--	NM	--	65.67	9.58	65.39	9.86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MW-5C	74.33	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MW-6A	NS	NM	--	NM	--	NM	--	NM	--	88.75	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MW-6AR	100.72	NM	--	NM	--	NM	--	91.28	9.44	NM	--	90.23	10.49	91.13	9.59	91.67	9.05	90.82	9.90	90.47	10.25	88.80	11.92	90.12	10.60	90.99	9.73	91.67	9.05	91.58	9.14	92.62	8.10	91.99	8.73	92.11	8.83	89.89	11.05
MW-6B	103.46	92.55	10.91	92.97	10.49	91.97	11.49	91.28	12.18	91.13	12.33	92.62	10.84	93.54	9.92	94.06	9.40	93.25	10.21	92.85	10.61	91.23	12.23	92.43	11.03	93.55	9.91	94.04	9.42	93.97	9.49	94.94	8.52	94.32	9.14	94.40	9.06	94.29	9.17
MW-7A	92.83	82.11	10.72	82.49	10.34	81.69	11.14	80.94	11.89	80.78	12.05	NM	--	NM	--	NM	--	82.83	10.00	82.48	10.35	80.58	12.25	82.20	10.63	82.94	9.89	83.61	9.22	83.60	9.23	84.61	8.22	83.69	9.14	83.76	9.07	83.89	8.94
MW-7B	92.72	81.67	11.05	82.47	10.25	81.57	11.15	80.85	11.87	80.66	12.06	NM	--	NM	--	83.52	9.20	82.63	10.09	NM	--	NM	--	NM	--	82.86	9.86	83.48	9.24	83.50	9.22	84.52	8.20	83.82	8.90	83.93	8.79	83.83	8.89
MW-7C	93.31	83.73	9.58	84.22	9.09	83.66	9.65	83.11	10.20	82.77	10.54	NM	--	NM	--	NM	--	84.41	8.90	NM	--	NM	--	NM	--	84.54	8.77	85.27	8.04	85.12	8.19	86.10	7.21	85.03	8.28	85.52	7.79	83.61	9.70
MW-8	86.02	74.99	11.03	75.79	10.23	74.75	11.27	73.99	12.03	73.90	12.12	75.72	10.30	76.21	9.81	76.68	9.34	75.91	10.11	75.43	10.59	73.72	12.30	75.06	10.96	76.02	10.00	76.62	9.40	76.68	9.34	77.65	8.37	76.91	9.11	77.06	8.96	76.88	9.14
MW-9	82.56	71.99	10.57	72.86	9.70	71.88	10.68	71.06	11.50	70.98	11.58	72.49	10.07	73.23	9.33	73.65	8.91	72.91	9.65	72.58	9.98	70.57	11.99	72.25	10.31	73.05	9.51	73.61	8.95	73.69	8.87	74.63	7.93	73.81	8.75	74.05	8.51	73.79	8.77
MW-11A	80.78	70.56	10.22	71.32	9.46	70.32	10.46	69.52	11.26	69.43	11.35	70.97	9.81	71.61	9.17	72.05	8.73	71.57	9.21	71.11	9.67	71.90	8.88	70.88	9.90	71.46	9.32	72.03	8.75	72.06	8.72	72.98	7.80	73.59	7.19	72.66	8.12	72.75	8.03
MW-11B	78.32	43.85	34.47	59.19	19.13	NM	--	47.72	30.60	51.04	27.28	63.68	14.64	69.10	9.22	69.57	8.75	67.16	11.16	68.64	9.68	62.79	15.53	67.68	10.64	68.81	9.51	69.50	8.82	69.61	8.71	74.43	7.89	73.59	4.73	73.92	4.40	73.51	4.81
MW-12A	87.95	78.31	9.64	78.61	9.34	78.36	9.59	77.48	10.47	77.46	10.49	78.87	9.08	79.41	8.54	79.90	8.05	79.22	8.73	79.05	8.90	76.42	11.53	78.76	9.19	79.42	8.53	79.91	8.04	79.96	7.99	80.75	7.20	79.96	7.99	80.24	7.71	79.73	8.22
MW-12B	88.28	79.19	9.09	79.47	8.81	79.23	9.05	78.37	9.91	78.35	9.93	79.46	8.82	80.04	8.24	80.50	7.78	79.82	8.46	79.64	8.64	77.01	11.27	79.34	8.94	80.02	8.26	80.50	7.78	80.80	7.48	81.30	6.98	80.57	7.71	80.81	7.47	80.34	7.94

NOTES:

* = SURVEYED TO MEAN SEA LEVEL
GWE = GROUNDWATER ELEVATION
DTW = DEPTH TO WATER
NM = NOT MONITORED
NS = NOT SURVEYED

FIGURES



UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING AND RELATED DOCUMENTS IS A VIOLATION OF SEC. 7209 OF THE N.Y.S. EDUCATION LAW

Groundwater Monitoring Well

Actual, 08/28/2014

Inferred, 08/28/2014

Landfill Boundary

Cells

SITE PLAN - APRIL 2014

NORTH SEA LANDFILL
SOUTHAMPTON, NY

0 650 1,300 1,950 2,600 Feet

TOWN OF SOUTHAMPTON
1370 MAJORS PATH
SOUTHAMPTON, NY 11968
April 2014

DRAWING INFORMATION:

Project:	SHP1401	Designed by:	ICB
Date:	08/28/2014	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	DE

FIGURE NO:

1

SHEET:

Document Path: Z:\GIS\Projects\SZ\SHP\1401\mapfiles\Groundwater Contour Map_Aug2014.mxd

Figure 2
Monitoring Well 11A
(1997 - 2013)

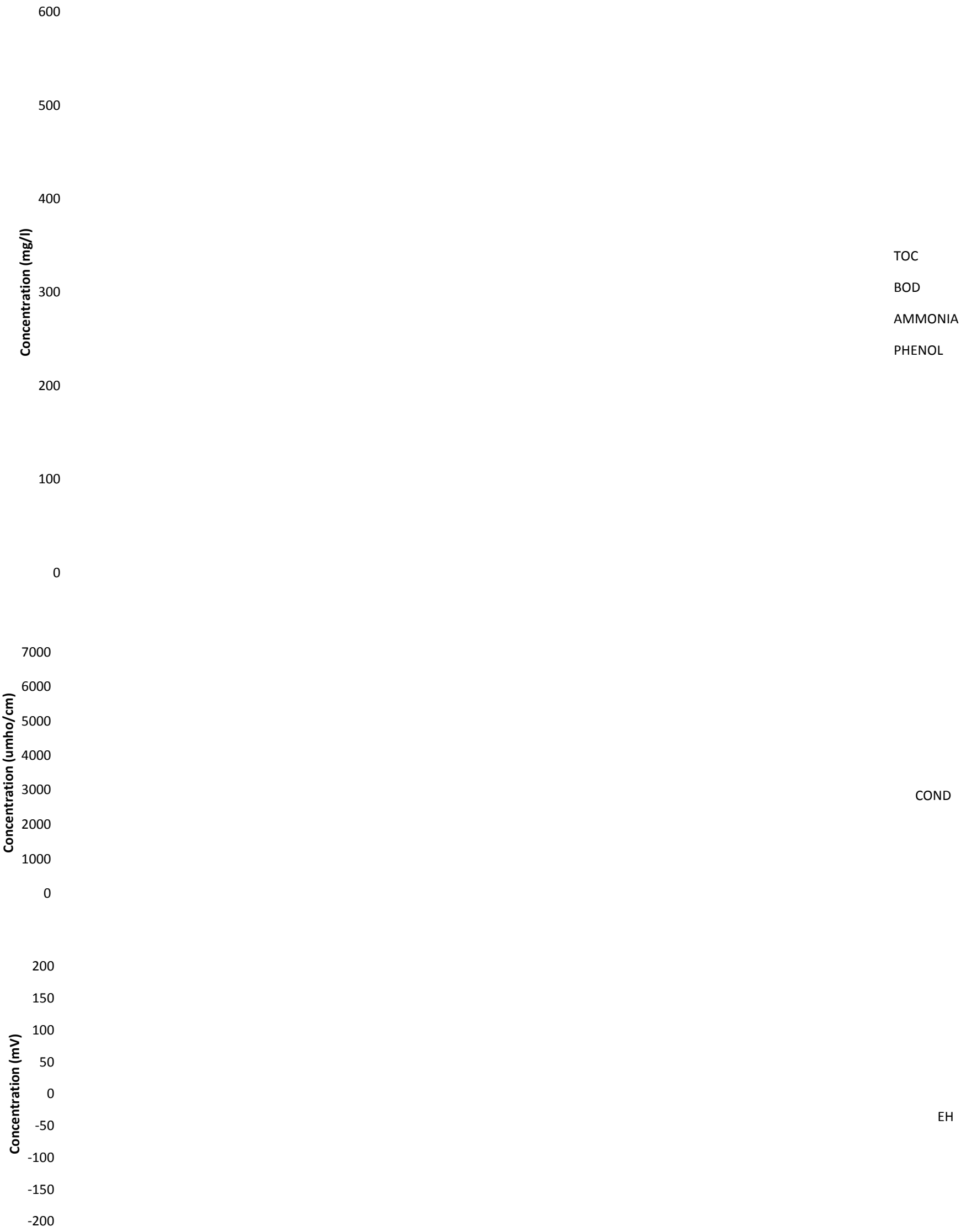
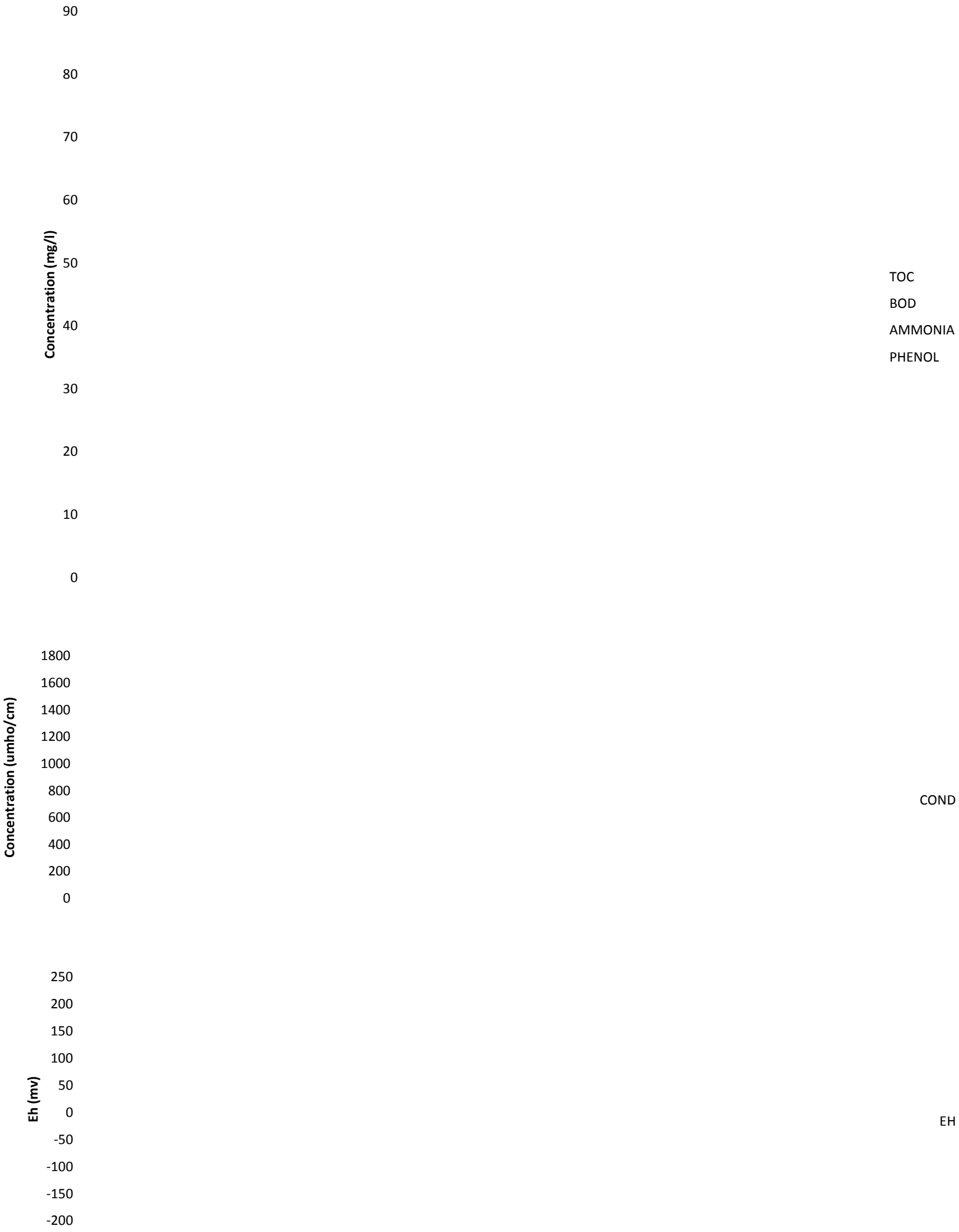


Figure 3
Monitoring Well 11B
(1997 - 2013)



APPENDIX A

LABORATORY ANAYTICAL REPORTS / DATA VALIDATION & USABILITY REPORT

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

SAMPLE DATA SUMMARY PACKAGE

TABLE OF CONTENTS

NORTH SEA LANDFILL
SAMPLES RECEIVED: 4/18/14
WATER SAMPLES
SDG NO.: TOS014/014F

1. NYS DEC SUMMARY FORMS

2. CHAIN OF CUSTODY DOCUMENTATION

3. SDG NARRATIVES

4. SAMPLE REPORTS
4.1 VOLATILES
4.2 TOTAL METALS
4.3 FILTERED METALS
4.4 WET CHEMISTRY

5. SURROGATE SPIKE ANALYSIS RESULTS

5.1 VOLATILES

6. MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY
6.1 VOLATILES

7. DUPLICATE SUMMARY RESULTS
7.1 TOTAL METALS
7.2 FILTERED METALS
7.3 WET CHEMISTRY

8. SPIKE SAMPLE RESULTS
8.1 TOAL METALS
8.2 FILTERED METALS
8.3 WET CHEMISTRY

9. BLANK SUMMARY DATA AND RESULTS
9.1 VOLATILES
9.2 TOTAL METALS
9.3 FILTERED METALS
9.4 WET CHEMISTRY

10. INTERNAL STANDARD AREA DATA
10.1 VOLATILES

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

1. NYS DEC SUMMARY FORMS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

SDG: TOS014

Customer Sample Code	Laboratory Sample Code	Analytical Requirements ME	MSVOA	WC
LEA-PRIMARY	1404E49-001	X		X
LEA-SECONDARY	1404E49-002	X		X
MW-1A	1404E49-003	X	X	X
MW-1B	1404E49-004	X	X	X
MW-1C	1404E49-005	X	X	X
MW-3A	1404E49-006	X	X	X
MW-3B	1404E49-007	X	X	X
MW-4A	1404E49-008	X	X	X
MW-4B	1404E49-009	X	X	X
MW-4C	1404E49-010	X	X	X
MW-11A	1404E49-011	X	X	X
MW-11B	1404E49-012	X	X	X
MW-12A	1404E49-013	X	X	X
MW-12B	1404E49-014	X	X	X
DUP 001	1404E49-015	X	X	X
EB	1404E49-016	X	X	X
TRIP BLANK	1404E49-017		X	
STORAGE BLANK	1404E49-018		X	

CLP, (Non-CLP) (Please indicate year of protocol)
TCL/TAL, HSL, Priority Pollutant,

ASP B 2000

SS 5/22/14

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

SDG: TOS014F

Analytical Requirements

Customer Sample Code	Laboratory Sample Code	ME
MW-11A	1404E50-001	X

CLP Non-CLP (Please indicate year of protocol)
TCL/TAL HSL Priority Pollutant,

ASP B 2000

SS 5/22/14

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

SDG: TOS014

Laboratory Samp ID	Client Sample ID	Matrix	Analytical Protocol	Date Collected	DateRecd at Lab	Date Extracted	Date Analyzed	Extraction Method	DF	Level	Aux Cleanup
1404E49-003A	MW-1A	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-004A	MW-1B	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-005A	MW-1C	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-006A	MW-3A	Aqueous	ASPB 8260	18-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-007A	MW-3B	Aqueous	ASPB 8260	18-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-008A	MW-4A	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-009A	MW-4B	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-009AMS	MW-4BMS	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-009AMSD	MW-4BMSD	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-010A	MW-4C	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-011A	MW-11A	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-012A	MW-11B	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-013A	MW-12A	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-014A	MW-12B	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-015A	DUP 001	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-016A	EB	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		24-Apr-14		1	LOW	
1404E49-017A	TRIP BLANK	Aqueous	ASPB 8260	17-Apr-14	18-Apr-14		23-Apr-14		1	LOW	
1404E49-018A	STORAGE BLANK	Aqueous	ASPB 8260	18-Apr-14	18-Apr-14		23-Apr-14		1	LOW	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

SDG : TOS014

Laboratory Samp ID	Client Sample ID	Matrix	Metals Requested	DateRecd at Lab	Date Analyzed
1404E49-001	LEA-PRIMARY	WATER	AS,CA,CD,FE,K,MG,MN,NA,PB,	18-Apr-14	05/14
1404E49-002	LEA-SECONDARY	WATER	AS,CA,CD,FE,K,MG,MN,NA,PB,	18-Apr-14	05/14
1404E49-003	MW-1A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-004	MW-1B	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-005	MW-1C	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-006	MW-3A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-007	MW-3B	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-008	MW-4A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-009	MW-4B	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-009DUP	MW-4BD	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-009MS	MW-4BS	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-010	MW-4C	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-011	MW-11A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-012	MW-11B	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-013	MW-12A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-014	MW-12B	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-015	DUP 001	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14
1404E49-016	EB	WATER	AG,AL,AS,B,BA,BE,CA,CD,CN,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	04/14 - 05/14

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

SDG : TOS014F

Laboratory Samp ID	Client Sample ID	Matrix	Metals Requested	DateRecd at Lab	Date Analyzed
1404E50-001	MW-11A	WATER	AG,AL,AS,B,BA,BE,CA,CD,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	05/14
1404E50-001DUP	MW-11AD	WATER	AG,AL,AS,B,BA,BE,CA,CD,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	05/14
1404E50-001MS	MW-11AS	WATER	AG,AL,AS,B,BA,BE,CA,CD,CO,CR,CU,FE,HG,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN,	18-Apr-14	05/14

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

SDG : TOS014

Laboratory Samp ID	Client Sample ID	Matrix	Tests	DateRecd at Lab	Date Analyzed
1404E49-001	LEA-PRIMARY	Leachate	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-002	LEA-SECONDARY	Leachate	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-003	MW-1A	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-004	MW-1B	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-005	MW-1C	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-006	MW-3A	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-007	MW-3B	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-008	MW-4A	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-009	MW-4B	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-009DUP	MW-4BDUP	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-009MS	MW-4BMS	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-010	MW-4C	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-011	MW-11A	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-012	MW-11B	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-013	MW-12A	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-014	MW-12B	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-015	DUP 001	Groundwater	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14
1404E49-016	EB	Equipment Blank	SELECT WET CHEMISTRY **	04/18/14	04/14 - 05/14

**** Alkalinity, Total (As CaCO3) ; Biochemical Oxygen Demand ; Bromide ; Chemical Oxygen Demand ; Chloride ; Chromium, Hexavalent ; Color ; Hardness (As CaCO3) ; Nitrate as N ; Nitrite as N ; Nitrogen, Ammonia (As N) ; Nitrogen, Kjeldahl, Total ; Phenolics, Total Recoverable ; Sulfate ; Total Dissolved Solids ; Total Organic Carbon ;**

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

2. CHAIN OF CUSTODY DOCUMENTATION

CHAIN OF CUSTODY RECORD

TOS014/014F

Pace Analytical®
www.pacelabs.com

LAB W.O #_____ Quote:_____ Page 1 of 2

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Z	Ziploc bag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other		TC	Terra-core

PPV Prepreserved vial
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other_____
40ml 500ml 250ml 125 ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Company Name: P.W. Grosser Consulting PO#
Address: 630 Johnson Ave., Ste 7
City: Bohemia State: NY Zip: 11716
Attn: Derek Eshad Fax# 631-589-8705
email: dereke@pwgrosser.com Phone: 631.589.6353
Project Name North Sea Landfill Proj # SHP1401
Sampler Signature
Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

LAB ANALYSIS

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	Baseline Parameters (6NYCRR Part 360-2.11 (d)(6))	Filtered Metals	Routine Parameters + Acetone (6NYCRR Part 360-2.11 (d)(6))						EXAMPLE Diss. Lead 6010
								Pres Codes									
								pH									
								TRC									
								Sample									
								# of Containers Size/Type									1 16ozP
1	LEA-PRI	4/17	0900	L							X						
2	LEA-SEC	4/17	0955	L					X		X						
3	MW-1A	4/17	1155	L					X								
4	MW-1B	4/17	1115	L					X								
5	MW-1C	4/17	1015	L					X								
6	MW-4A	4/17	1547	L					X								
7	MW-4B (MS/MSD)	4/17	1647	L					X								
8	MW-4C	4/17	1610	L					X								
9	MW-11A	4/17	1340	L					X	X						1404E50	
10	MW-11B	4/17	1305	L					X								

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H20	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other_____ (Please specify)
ML	Misc Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

REMARKS

1404E49-001
002
003
004
now 4/20/14 005
~~006~~ 008
~~007~~ 009
~~008~~ 010
~~009~~ 011
~~010~~ 012

Circle T.A.T. REQUEST (Rush Fees Apply)
Standard | Rush
Y N Today 1D 2D 3D 4D 5D ____

Short Hold: Y____ N____

Circle QA/QC Report Level: 1 2 3 4 CLP AFCEE QAPP Other_____

EDD (Fees May Apply): ADaPT SEDD ERPIMS TSV CSV Other_____

COC Condition: OK Incomplete

Required State Certification: FL GA SC NC NJ PA LA TX IL ____

Coolers #'s - Temp °C: 1 1.6 2 2.9 3 3.7 4 4.6 5 5.6

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1			4/18	0800		PACE	4/18/14	14.10
2		PACE	4/18	16:00		PACE	4-18-14	1600
3								
4								

Non-Conformance Found? ✓ —
Samples INTACT upon arrival? ✓ —
Received on Wet Ice? ✓ —
Proper Preservatives Indicated? — —
Received within holding time? ✓ —
Custody seals Intact? — —
Volatiles rec'd without headspace? ✓ —
Proper Containers Used? ✓ —

TOS014/014F S10

C.O.C. Serial # 67818

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

TOS014

LAB W.O #_____ Quote:_____ Page 2 of 2

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Z	Ziploc bag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other_____		TC	Terra-core

PPV Prepreserved vial
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other_____
40ml 500ml 250ml 125 ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Company Name: PWGC PO# ____
Address:
City: SAA State: Zip:
Attn: Fax#
email: Phone:
Project Name Proj #
Sampler Signature Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

LAB ANALYSIS

HNO3: 52159/53130 H2SO4: 52171
NaOH: B0847769239 / B0975869342
ZnAc: 2303C36 NH4Cl: 47072741
Na2SO3: K37648057 (Sulfite)
Na2S2O3: 2280C123 (Thiosulfate)
ChlorAC: 2303C36 HCl: 5231/53010

Sample / TRC / pH / Pres Codes / Parameters: Baseline

EXAMPLE Diss. Lead 6010

# of Containers / Size/Type: 1 16ozP

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H20	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other_____ (Please specify)
ML	Misc. Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	Baseline									REMARKS
1	MW-12A	4/17	0858	L					X									1404E49 ~~011~~ 013
2	MW-12B	4/17	0835	L					X									~~012~~ 014
3	Trip Blank	—	—	L					X									MW ~~013~~ ~~015~~ 017
4	DUP001	4/17	—	L					X									4-18-14 ~~013~~ 015
5	EB	4/17	1718	L					X									~~014~~ 016
6	MW-3A	4/18	0911	L					X									-006
7	MW-3B	4/18	0856	L					X									-007
8																		
9																		
10																		

Circle "A.T." REQUEST (Rush Fees Approval): Standard Y N; RUSH Today 1D 2D 3D 4D 5D ____
Short Hold: Y N____
Circle QA/QC Report Level: 1 2 3 4 CLP AFCEE QAPP Other____
EDD (Fees May Apply): ADaPT SEDD ERPIMS TSV CSV Other____
COC Condition: OK Incomplete
Required State Certification: FL GA SC NC NJ PA LA TX IL ____
Coolers #'s - Temp °C: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	[signature]		4/18	0601	[signature]	PACE	4/18/14	14:20
2	[signature]	PACE	4/18	16:00	[signature]	PACE	4-18-14	1600
3								
4								

Lab Use Only

	YES	NO	N/A
Non-Conformance Found?		✓	
Samples INTACT upon arrival?	✓		
Received on Wet Ice?	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatiles rec'd without headspace?	✓		
Proper Containers Used?	✓		

Pompano Lab 954-582-4300 Revision: F•ALL•C•007- Rev.00 C.O.C. Serial # 67819

TOS014/014F S11

TOS 014

PACE ANALYTICAL
575 Broad Hollow Road
Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
Website: www.pacelabs.com

Sample Receipt Checklist

Client Name **TOS** Date and Time Received: **4/18/2014 4:00:00 PM**

Work Order Number: **1404E49** RcptNo: 1 Received by **MelissaWatson**

Completed by: M. Wat Reviewed by:

Completed Date: 4/18/2014 8:34:44 PM Reviewed Date: 4/24/2014 4:05:46 PM

Carrier name: PACE Pickup

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐	NA	☐
Preservative added to bottles:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container labels complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☑	No ☐	NA	☐
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	NA	☐
Response when temperature is outside of range:				
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	1.6 To	5.6 °
Water - Were bubbles absent in VOC vials?	Yes ☑	No ☐	No Vials	☐
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	No Water	☐
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☐	Sticker ☐	Not Present	☑
Airbill No:				

Case Number: SDG: TOS014 SAS:

Any No response should be detailed in the comments section below, if applicable.

Client Contacted? ☐ Yes ☐ No ☑ NA Person Contacted:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

Comments:

CorrectiveAction:

INTERNAL CHAIN OF CUSTODY

CLIENT: TOS DELIVERABLES: B0-70D TURN AROUND TIME: 21 DAYS

SDG: TOS 014 CASE#: MATRIX: GW/Leachate pH CHECK Y or (N)

REMARKS: 087 TOS 07

RECEIVED BY: MCW SIGNATURE: [signature] DATE: 4-18-14 TIME: 1600

	CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED	
1.	MW-1A	1404E49 A03A	4-17-14	DH	2	8260_W_360B(SEL)	
2.	1B	004	↓	↓	↓	↓	
3.	1C	005	↓				
4.	3A	006	4-18-14				
5.	3B	007	↓				
6.	4A	008	4-17-14		↓		
7.	4B	009			6		MS/MSD
8.	4C	010			2		
9.	11A	011					
10.	11B	012					
11.	12A	013					
12.	12B	014					
13.	DUP 001	015					
14.	EB	016					
15.	TRIP BLANK	017	↓				
16.	STORAGE BLANK	018	4-18-14	↓	↓	↓	
17.							
18.			MCW 4-18-14				
19.							
20.							

CLIENT: TOS

SDG: TOS014

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT.
4-18-14	1900			DH	ANALYSIS	

MCW 4-18-14

INTERNAL CHAIN OF CUSTODY

CLIENT: ~~KEY~~ TOS DELIVERABLES: B0-700 TURN AROUND TIME: 21 DAYS

SDG: TOS 014 CASE#: _____ MATRIX: GW/Leachate pH CHECK (Y) or N

REMARKS: 087 TOS 07

RECEIVED BY: MCW SIGNATURE: ~~MCW~~ DATE: 4-18-14 TIME: 1600

	CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1.	LEA-PRIMARY	1404E49 001E	4-17-14	F_N	1	6010_W-PKG(SEL)
2.	LEA-SECONDARY	002E				↓
3.	MW-1A	003G				6010_W-PKG(SEL), HG-7470A-W
4.	1B	004				
5.	1C	005				
6.	3A	006	4-18-14			
7.	3B	007	↓			
8.	4A	008	4-17-14		↓	
9.	4B	009			3	MS/MSD
10.	4C	010			1	
11.	11A	011				
12.	11B	012				
13.	12A	013				
14.	12B	014				
15.	DUP001	015				
16.	EB	016				
17.						
18.						
19.			MCW 4-18-14			
20.						

CLIENT: TOS

SDG: TOS014

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT.
4-18-14	1900	[signature]	[signature]	FJ	DIG	[signature]

5/21/14 VS

INTERNAL CHAIN OF CUSTODY

CLIENT: TOS DELIVERABLES: SD-TOD TURN AROUND TIME: 21 DAYS

SDG: TOS 014 CASE#: MATRIX: GW/Leachate pH CHECK (Y) or N

REMARKS: 087 TOS 07

RECEIVED BY: MCW SIGNATURE: [signature] DATE: 4-18-14 TIME: 1600

	CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1.	LEA-PRIMARY	1404E49 001A	4-17-14	E	2	ALK-W-SM, ANION300.0-W(SEL), BOD5-W-SM, NO2-A-W, TDS-W-SM
2.	↓	001B	↓	H_S	1	COD-W, NH3-W-SM, NO3-W, PHENOLS-W, TKN-W
3.		001C		D_S	2	TOC-W-SM
4.		001D		F_N	1	HARD-WC-SM
5.	LEA-SECONDARY	002 A-D		ASABOVE	ASABOVE	AS ABOVE
6.	MW-1A	003B		D_S	2	TOC-9060-W
7.	↓	003C		F_N	1	HARD-WC-SM
8.		003D		H_S	1	COD-W, NH3-W-SM, NO3-W, PHENOLS-W, TKN-W
9.		003E		F_{SH}	1	CN9014-W
10.	↓	003F		E	2	ALK-W-SM, ANION300.0-W(SEL), BOD5-W-SM, COLOR-W-SM(SEL), CRG-W, NO2-A-W, TDS-W-SM
11.	MW-1B	004B-F		ASABOVE	ASABOVE	ASABOVE
12.	1C	005	↓	↓	↓	↓
13.	3A	006	4-18-14			
14.	3B	007	↓			
15.	4A	008	4-17-14		↓	
16.	4B	009			6,3,3,6	MS/MSD
17.	4C	010			2,1,1,1,2	
18.	11A	011				
19.	11B	012				
20.	↓ 12A 12B	013 014				
	DUP 001 EB	015 016	↓	↓	↓	↓

CLIENT: TOS

SDG: TOS 014

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT.
4-18-14	1900			E, Hg, E_{SH}, Ds, F_N	ANALYSIS	
4-19-14	700			E	NO$_3$, NO$_2$, Color, CrG/ Storage	
4/18/14	19:10			E	BOD/Storage	
4/23/14	1000			Hs	Phenol/Str	
4/22/14	11:00		Joseph Rosa	E	Alk/Storage	
4/25/14	1130			Hs	NH_3/Storage	
4/23/14	11:00		Joseph Rosa	Fs	Cn/Storage	
4/25/14	1400	Joseph Rosa		E	Amino/Storage	
5-1-14	12			F_N	Hard/Storage	
5/2/14	0400			Hs	TKN/Storage	
5/2/14	0900			D	TKN analysis	
4/24/14	1100			Hs	COD/Storage	

out of seq

out of seq

out of seq

CHAIN OF CUSTODY RECORD

TOS014/014F

Pace Analytical®
www.pacelabs.com

LAB W.O #_____ Quote:_____ Page 1 of 2

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Z	Ziploc bag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other__		TC	Terra-core
PPV	Prepreserved vial		

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other_____
40ml 500ml 250ml 125 ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Company Name: P.W. Grosser Consulting PO#
Address: 630 Johnson Ave, Ste 7
City: Bohemia State: NY Zip: 11716
Attn: Derek Ershad Fax# 631-589-8705
email: dereke@pwgrosser.com phone: 631 589 6353
Project Name North Sea Landfill Proj # SHP1401
Sampler Signature
Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

LAB ANALYSIS

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code	Field Filtered	Integrity OK (Y/N)	Total # of Containers	Parameters	Baseline Parameters (6NYCRR Part 360-2.11 (d)(6))	Filtered Metals	Routine Parameters + Arsenic (6NYCRR Part 360-2.11 (d)(6))							EXAMPLE Dis. Lead 6010
1	LEA-PRI	4/17	1000	L					☐	☐	☒	☐	☐	☐	☐	☐	☐	
2	LEA-SEC	4/17	0955	L					☒	☐	☒	☐	☐	☐	☐	☐	☐	
3	MW-1A	4/17	1155	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
4	MW-1B	4/17	1115	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
5	MW-1C	4/17	1015	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
6	MW-4A	4/17	1547	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
7	MW-4B/MS/MSD	4/17	1647	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
8	MW-4C	4/17	1610	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	
9	MW-11A	4/17	1340	L					☒	☒	☐	☐	☐	☐	☐	☐	☐	
10	MW-11B	4/17	1305	L					☒	☐	☐	☐	☐	☐	☐	☐	☐	

# of Containers / Size Type: 1 / 16ozP

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H2O	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other_____ (Please specify)
ML	Misc. Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

REMARKS

1404E49 -001
002
003
004
MCW 4-18-14 005
~~006~~ 008
~~007~~ 009
~~008~~ 010
~~009~~ 011
~~010~~ 012

1404E50

Circle T.A.T. REQUEST (Rush Fees Approved): Standard Y N; Today 1D 2D 3D 4D 5D ___
Short Hold: Y____ N____
Circle QA/QC Report Level: 1 2 3 4 CLP AFCEE QAPP Other____
EDD (Fees May Apply): ADaPT SEDD ERPIMS TSV CSV Other____
COC Condition: OK Incomplete
Required State Certification: FL GA SC NC NJ PA LA TX IL ____

Coolers #'s - Temp °C: 1 1.6 2 2.9 3 3.2 4 4.6 5 5.6

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	[signature]		4/18	0600	[signature]	PACE	4/18/14	14.10
2	[signature]	PACE	4/18	16:00	[signature]	PACE	4-18-14	1600
3								
4								

Lab Use Only

	YES	NO	N/A
Non-Conformance Found?		✓	
Samples INTACT upon arrival?	✓		
Received on Wet Ice?	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatiles rec'd without headspace?	✓		
Proper Containers Used?	✓		

Pompano Lab 954-582-4300 Revision: F•ALL•C•007- Rev.00

C.O.C. Serial # 67818

TOS014/014F S19

TOS 014F

PACE ANALYTICAL
575 Broad Hollow Road
Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
Website: www.pacelabs.com

Sample Receipt Checklist

Client Name TOS | Date and Time Received: 4/18/2014 4:00:00 PM

Work Order Number: 1404E50 | RcptNo: 1 | Received by MelissaWatson

Completed by: M. Watt | Reviewed by:

Completed Date: 4/18/2014 8:34:00 PM | Reviewed Date: 4/24/2014 5:37:12 PM

Carrier name: PACE Pickup

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐	NA	☐
Preservative added to bottles:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container labels complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☑	No ☐	NA	☐
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	NA	☐
Response when temperature is outside of range:				
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	1.6 To	5.6 °
Water - Were bubbles absent in VOC vials?	Yes ☐	No ☐	No Vials	☑
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	No Water	☐
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☐	Sticker ☐	Not Present	☑
Airbill No:				

Case Number: | SDG: TOS014F | SAS:

Any No response should be detailed in the comments section below, if applicable.

Client Contacted? ☐ Yes ☐ No ☑ NA Person Contacted:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

Comments:

CorrectiveAction:

INTERNAL CHAIN OF CUSTODY

CLIENT: TOS DELIVERABLES: B0-700 TURN AROUND TIME: 21 DAYS

SDG: TOS 014F CASE#: MATRIX: GW pH CHECK Y or N

REMARKS: 087 TOS 07

RECEIVED BY: MCW SIGNATURE: DATE: 4-18-14 TIME: 1600

	CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1.	MW-11A	1404E50 001A	4-17-14	J	2	TALMPKG-W DISS FILTER MS/MSD
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

MCW 4-18-14

CLIENT: TOS

SDG: TOS014F

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT.
4-18-14	1900			J	DIG / ANALYSIS	

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

3. SDG NARRATIVES

Pace Long Island

575 Broad Hollow Road tel 631.694.3040
Melville, NY 11747 fax 631.420.8436

SDG NARRATIVE FOR VOLATILE ANALYSES
SAMPLE RECEIVED: 4/18/14
SDG#: TOS014

For Sample(s):

MW-1A	MW-4B	MW-12B
MW-1B	MW-4C	DUP 001
MW-1C	MW-11A	EB
MW-3A	MW-11B	TRIP BLANK
MW-3B	MW-12A	STORAGE BLANK
MW-4A		

The above sample(s) and blank(s) was/were analyzed for a specific list of volatile organic analytes by EPA method 8260C according to the requirements of the NYSDEC ASP 2000, Category B.

All Q. C. data and calibrations met the requirements of the method, and no problems were encountered with sample analysis. The following should be noted:

Sample MW-4B was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis. All percent recoveries and RPDs of the MS/MSD and recoveries of the matrix spike blank (MSB) met the Q. C. limits. A lab fortified blank (LFB) was analyzed, and results indicate good method efficiency.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: May 12, 2014

****
* *
* *
****

Ursula Middel
Quality Analyst

Pace Long Island

SDG NARRATIVE FOR METALS ANALYSES
SAMPLE(S) RECEIVED: 4/18/14
SDG #: TOS014

For Sample(s):

LEA-PRIMARY	MW-4B
LEA-SECONDARY	MW-4C
MW-1A	MW-11A
MW-1B	MW-11B
MW-1C	MW-12A
MW-3A	MW-12B
MW-3B	DUP 001
MW-4A	EB

Sample(s) was/were received by Pace Analytical Services, Inc for cyanide and select metals analysis.

Samples were prepared and analyzed using EPA method 6010C with a TS ICAP 6000 instrument, method 7470A with a Leeman HYDRA mercury analyzer and 9010/9014 for cyanide analysis.

Sample MW-4B was utilized for QC analysis and reporting.

Spike analysis did not meet acceptance criteria for silver. The sample was post spiked, reanalyzed and recovered at 122.0%. Silver data was reported flagged "N" on forms 1 and 5a.

The ICP serial dilution analysis did not meet acceptance criteria for potassium. Potassium data was reported flagged "E" on forms 1 and 9.

No other issues were noted during the analysis of this sample group.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: May 21, 2014

****
* *
* *
****
Vincent Stancampiano

Pace Long Island

SDG NARRATIVE FOR METALS ANALYSES
SAMPLE(S) RECEIVED: 4/18/14
SDG #: TOS014F

For Sample(s):

MW-11A

Sample(s) was/were received by Pace Analytical Services, Inc for select metals analysis.

Samples were prepared and analyzed using EPA method 6010C with a TS ICAP 6000 instrument.

Sample MW-11A was utilized for QC analysis and reporting.

Spike analysis did not meet acceptance criteria for silver. The sample was post spiked, reanalyzed and recovered at 122.0%. Silver data was reported flagged "N" on forms 1 and 5a.

The ICP serial dilution analysis did not meet acceptance criteria for potassium. Potassium data was reported flagged "E" on forms 1 and 9.

No other issues were noted during the analysis of this sample group.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: May 21, 2014

****
* *
* *
****
Vincent Stancampiano

Pace Long Island

SDG NARRATIVE FOR WET CHEMISTRY ANALYSES
SAMPLE(S) RECEIVED: 4/18/14
SDG #: TOS014

For Sample(s):

LEA-PRIMARY	MW-1C	MW-4B	MW-12A
LEA-SECONDARY	MW-3A	MW-4C	MW-12B
MW-1A	MW-3B	MW-11A	DUP 001
MW-1B	MW-4A	MW-11B	EB

Sample(s) was/were received by Pace Analytical Services, Inc. for select wet chemistry analysis.

Samples were prepared and analyzed using the following methods:

Alkalinity	SM 2320 B	Ammonia	SM 4500-NH3 H
Anions- Cl, $S0_4$, Br	EPA 300.0	Nitrite	EPA 353.2
Biochemical Oxygen Demand	SM 5210 B	Nitrate	EPA 353.2
Chemical Oxygen Demand	EPA 410.4	Phenols	EPA 420.1
Hardness	SM 2340 C	Total Dissolved Solids	SM 2540 C
Color	SM 2120 B	Total Kjeldahl Nitrogen	EPA 351.2
Hexavalent Chromium	SM 3500-Cr D	Total Organic Carbon	EPA SW846 9060

Sample MW-4B was utilized for QC analysis and reporting.

BOD blank depletion exceeded 0.2 mg/l (0.4 mg/l) for samples received. This was noted on the final reports. BOD LCS standard analysis did not meet acceptance criteria. All positive BOD values were reported flagged "S".

Due to matrix interferences, sample MW-1C required a 1:20 dilution for bromide. The reporting limit was elevated to < 10.0 mg/l.

Samples were diluted and reanalyzed as required to keep instrument readings within calibration ranges or to minimize matrix interferences.

No other issues were noted during the analysis of this sample group.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: May 15, 2014

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****
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4. SAMPLE REPORTS

4.1 VOLATILES
4.2 TOTAL METALS
4.3 FILTERED METALS
4.4 WET CHEMISTRY

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

4.1 VOLATILES

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65196.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65196.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65196.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	2	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1C

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65198.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	2	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1C

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65198.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-1C

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65198.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65199.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65199.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-3A

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65199.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65200.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65200.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-3B

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65200.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65201.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65201.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-4A

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65201.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-009A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65202.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-009A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65202.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	1	J
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-4B

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-009A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65202.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4C

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-010A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65205.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4C

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-010A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65205.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-4C

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-010A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65205.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-011A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65206.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-011A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65206.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-11A

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-011A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65206.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-012A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65207.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	2	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-012A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65207.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-11B

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-012A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65207.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-013A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65208.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12A

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-013A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65208.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-12A

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-013A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65208.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-014A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65209.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-014A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65209.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

EPA SAMPLE NO.

MW-12B

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-014A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65209.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP 001

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-015A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65210.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	3	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP 001

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-015A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65210.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

DUP 001

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-015A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65210.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-016A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65211.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-016A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65211.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

EB

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-016A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65211.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/24/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-017A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65195.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-017A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65195.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

TRIP BLANK

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-017A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65195.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

STORAGE BLANK

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-018A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65194.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

STORAGE BLANK

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-018A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65194.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

STORAGE BLANK

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-018A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65194.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

4.2 TOTAL METALS

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

LEA-PRIMARY

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-001

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.1	U		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	52600			P
7439-89-6	Iron	13800			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	10200			P
7439-96-5	Manganese	1260			P
7440-09-7	Potassium	29800		E	P
7440-23-5	Sodium	58600			P

Color Before: YELLOW Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

LEA-SECONDARY

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-002

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.3	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	63600			P
7439-89-6	Iron	2320			P
7439-92-1	Lead	10.4			P
7439-95-4	Magnesium	9000			P
7439-96-5	Manganese	1220			P
7440-09-7	Potassium	22000		E	P
7440-23-5	Sodium	14600			P

Color Before: YELLOW Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-1A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-003

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	33.6	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	20.2	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	27.0	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	18200			P
7440-47-3	Chromium	3.1	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.76	U		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	29.7	B		P
7439-92-1	Lead	5.2			P
7439-95-4	Magnesium	7540			P
7439-96-5	Manganese	9.9	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium	5170		E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	11200			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	16.2	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-1B

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-004

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28.3	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	10.3	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	7.2	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	4070	B		P
7440-47-3	Chromium	5.3	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	1.0	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	26.1	B		P
7439-92-1	Lead	5.1			P
7439-95-4	Magnesium	1740	B		P
7439-96-5	Manganese	4.9	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	11.7	B		P
7440-09-7	Potassium	954	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	7500			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	23.2			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-1C

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-005

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.8	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	10.0	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	7.2	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	4610	B		P
7440-47-3	Chromium	4.9	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.80	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	49.2	B		P
7439-92-1	Lead	4.2	B		P
7439-95-4	Magnesium	2280	B		P
7439-96-5	Manganese	3.3	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.7	B		P
7440-09-7	Potassium	978	B	E	P
7782-49-2	Selenium	1.3	B		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	8240			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	25.6			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-3A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-006

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39.1	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	55.0	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	29.1	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	19100			P
7440-47-3	Chromium	595			P
7440-48-4	Cobalt	2.4	B		P
7440-50-8	Copper	16.4	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	2280			P
7439-92-1	Lead	5.3			P
7439-95-4	Magnesium	4740	B		P
7439-96-5	Manganese	255			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	73.5			P
7440-09-7	Potassium	6580		E	P
7782-49-2	Selenium	1.6	B		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	33600			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	1.9	B		P
7440-66-6	Zinc	26.7			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-3B

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-007

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.4	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	5.8	B		P
7440-39-3	Barium	39.0	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	42.0	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	11800			P
7440-47-3	Chromium	2.5	B		P
7440-48-4	Cobalt	5.6	B		P
7440-50-8	Copper	3.0	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	14300			P
7439-92-1	Lead	2.3	B		P
7439-95-4	Magnesium	4100	B		P
7439-96-5	Manganese	4150			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	3.0	B		P
7440-09-7	Potassium	4230	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	13000			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	8.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-4A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-008

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	253			P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	183	B		P
7440-41-7	Beryllium	0.60	B		P
7440-42-8	Boron	27.1	B		P
7440-43-9	Cadmium	0.20	B		P
7440-70-2	Calcium	11300			P
7440-47-3	Chromium	4.2	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.76	U		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	79.6	B		P
7439-92-1	Lead	3.8	B		P
7439-95-4	Magnesium	3870	B		P
7439-96-5	Manganese	113			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	5.1	B		P
7440-09-7	Potassium	3870	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	23000			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	17.0	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-4B

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-009

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	51.1	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	2.4	B		P
7440-39-3	Barium	92.1	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	77.9	B		P
7440-43-9	Cadmium	0.20	B		P
7440-70-2	Calcium	19800			P
7440-47-3	Chromium	25.4			P
7440-48-4	Cobalt	4.1	B		P
7440-50-8	Copper	3.7	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	11500			P
7439-92-1	Lead	2.8	B		P
7439-95-4	Magnesium	9620			P
7439-96-5	Manganese	1640			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	5.2	B		P
7440-09-7	Potassium	5970		E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	21600			P
7440-28-0	Thallium	1.4	B		P
7440-62-2	Vanadium	1.7	B		P
7440-66-6	Zinc	17.4	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-4C

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-010

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.4	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	4.6	B		P
7440-39-3	Barium	50.4	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	8.3	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	26200			P
7440-47-3	Chromium	1310			P
7440-48-4	Cobalt	22.8	B		P
7440-50-8	Copper	22.5	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	3970			P
7439-92-1	Lead	9.7			P
7439-95-4	Magnesium	11900			P
7439-96-5	Manganese	154			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	359			P
7440-09-7	Potassium	1600	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	28700			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	3.3	B		P
7440-66-6	Zinc	17.8	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-11A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-011

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	32.9	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	2.1	B		P
7440-39-3	Barium	89.0	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	30.4	B		P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	25600			P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	38.4	B		P
7440-50-8	Copper	5.2	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	13400			P
7439-92-1	Lead	4.1	B		P
7439-95-4	Magnesium	9440			P
7439-96-5	Manganese	1080			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	19.8	B		P
7440-09-7	Potassium	3670	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	8540			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	21.7			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-11B

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-012

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	339			P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	26.0	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	10.1	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	11100			P
7440-47-3	Chromium	6.9	B		P
7440-48-4	Cobalt	0.20	B		P
7440-50-8	Copper	4.5	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	3650			P
7439-92-1	Lead	7.2			P
7439-95-4	Magnesium	4460	B		P
7439-96-5	Manganese	156			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	3.4	B		P
7440-09-7	Potassium	1710	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	11500			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	1.7	B		P
7440-66-6	Zinc	21.8			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-12A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-013

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	61.6	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	43.2	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	53.9	B		P
7440-43-9	Cadmium	0.20	B		P
7440-70-2	Calcium	24400			P
7440-47-3	Chromium	4.7	B		P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	2.6	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	3260			P
7439-92-1	Lead	2.4	B		P
7439-95-4	Magnesium	6180			P
7439-96-5	Manganese	4160			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.4	B		P
7440-09-7	Potassium	5800		E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	11300			P
7440-28-0	Thallium	1.4	B		P
7440-62-2	Vanadium	2.9	B		P
7440-66-6	Zinc	32.9			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-12B

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-014

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.2	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	69.4	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	68.9	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	28500			P
7440-47-3	Chromium	1.7	B		P
7440-48-4	Cobalt	0.60	B		P
7440-50-8	Copper	2.1	B		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	92.2	B		P
7439-92-1	Lead	3.6	B		P
7439-95-4	Magnesium	8860			P
7439-96-5	Manganese	981			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.6	B		P
7440-09-7	Potassium	6370		E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	13500			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	1.3	B		P
7440-66-6	Zinc	17.6	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

DUP 001

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-015

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.7	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	10.3	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	6.2	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	4000	B		P
7440-47-3	Chromium	4.4	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.76	U		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	27.2	B		P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	1730	B		P
7439-96-5	Manganese	1.9	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	12.3	B		P
7440-09-7	Potassium	870	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	7370			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	11.6	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

EB

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-016

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.0	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	0.20	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	2.5	U		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	86.3	B		P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.76	U		P
57-12-5	Cyanide	10.0	U		CA
7439-89-6	Iron	78.6	B		P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	38.6	B		P
7439-96-5	Manganese	5.9	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.60	B		P
7440-09-7	Potassium	281	B	E	P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	N	P
7440-23-5	Sodium	147	U		P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	13.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

4.3 FILTERED METALS

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-11A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Lab Sample ID: 1404E50-001

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.4	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	71.4	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	36.0	B		P
7440-43-9	Cadmium	0.20	B		P
7440-70-2	Calcium	24400			P
7440-47-3	Chromium	1.1	U		P
7440-48-4	Cobalt	33.8	B		P
7440-50-8	Copper	1.4	B		P
7439-89-6	Iron	146			P
7439-92-1	Lead	14.9			P
7439-95-4	Magnesium	9030			P
7439-96-5	Manganese	871			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	21.5	B		P
7440-09-7	Potassium	3850	B		P
7782-49-2	Selenium	2.6	B		P
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium	8340			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	11.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014
Dissolved Metals

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

PBWF

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Lab Sample ID: MB1-44296

Level (low/med): LOW Date Received:

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.2	B		P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	0.30	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	2.5	U		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	46.2	B		P
7440-47-3	Chromium	1.1	U		P
7440-48-4	Cobalt	0.19	U		P
7440-50-8	Copper	0.76	U		P
7439-89-6	Iron	8.5	B		P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	22.0	U		P
7439-96-5	Manganese	0.70	B		P
7440-02-0	Nickel	0.34	U		P
7440-09-7	Potassium	574	B		P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium	147	U		P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	7.2	B		P

Comments:

Date Reported 5/21/2014
Dissolved Metals

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

PBWF

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Lab Sample ID: MB1-44341

Level (low/med): LOW Date Received:

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.10	U		CV

Comments:

Date Reported 5/21/2014

Dissolved Metals

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

4.4 WET CHEMISTRY

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 10:00:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-001
Client Sample ID: LEA-PRIMARY

Sample Information:
Type : Leachate

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	380	D	10	mg/L	04/22/2014 1:47 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/28/2014 11:01 PM	Container-01 of 02
Chloride	78.4	D	10	mg/L	04/28/2014 11:14 PM	Container-01 of 02
Sulfate	12.8		1	mg/L	04/28/2014 11:01 PM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	13	S	1	mg/L	04/18/2014 5:45 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	33.0		1	mg/L	04/29/2014 11:36 AM	Container-01 of 01

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	310	D	10	mg/L	05/01/2014 12:10 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	60.7	D	100	mg/L	04/25/2014 2:07 PM	Container-01 of 01

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:02 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.38		1	mg/L	04/19/2014 9:01 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	5.5		1	µg/L	04/28/2014 7:32 AM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 5/21/2014

Pace Analytical℠
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 10:00:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-001
Client Sample ID: LEA-PRIMARY

Sample Information:
Type : Leachate

Origin:

Analytical Method: SM2540C : IOC — Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	400		1	mg/L	04/22/2014 12:13 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 — Prep Date: 5/2/2014 5:00:00 AM — Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	60.5	D	50	mg/L	05/02/2014 12:14 PM	Container-01 of 01

Analytical Method: SM5310B : — Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	37.3	D	10	mg/L	04/23/2014 4:54 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 5/21/2014

Pace Analytical™
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 9:55:00 AM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-002
Client Sample ID: LEA-SECONDARY

Sample Information:
Type : Leachate

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	164	D	10	mg/L	04/22/2014 1:55 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/28/2014 11:28 PM	Container-01 of 02
Chloride	33.4		1	mg/L	04/28/2014 11:28 PM	Container-01 of 02
Sulfate	16.8		1	mg/L	04/28/2014 11:28 PM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	7	S	1	mg/L	04/18/2014 5:35 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	97.2		1	mg/L	04/29/2014 11:38 AM	Container-01 of 01

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	200	D	10	mg/L	05/01/2014 12:15 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.80		1	mg/L	04/25/2014 2:35 PM	Container-01 of 01

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:06 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.58		1	mg/L	04/19/2014 9:02 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	8.7		1	µg/L	04/28/2014 7:33 AM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 5/21/2014

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 9:55:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-002
Client Sample ID: LEA-SECONDARY

Sample Information:
Type : Leachate

Origin:

Analytical Method: SM2540C : IOC — Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	299		1	mg/L	04/22/2014 12:13 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 — Prep Date: 5/2/2014 5:00:00 AM — Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	3.30	D	20	mg/L	05/02/2014 12:15 PM	Container-01 of 01

Analytical Method: SM5310B : — Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	47.6	D	10	mg/L	04/23/2014 5:16 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 11:55:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-003
Client Sample ID: MW-1A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	27.1		1	mg/L	04/22/2014 2:03 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/28/2014 11:41 PM	Container-01 of 02
Chloride	21.5		1	mg/L	04/28/2014 11:41 PM	Container-01 of 02
Sulfate	41.3		1	mg/L	04/28/2014 11:41 PM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 4:40 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/27/2014 1:03:06 PM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/27/2014 3:40 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	18.4		1	mg/L	04/29/2014 11:40 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:02 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:02 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:02 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	76	D	4	mg/L	05/01/2014 12:20 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.11		1	mg/L	04/25/2014 2:10 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 11:55:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-003
Client Sample ID: MW-1A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:07 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	3.09	D	10	mg/L	04/19/2014 9:25 AM	Container-01 of 01
Analytical Method: E420.1 :		Prep Method:	E420.1		Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:34 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	107		1	mg/L	04/22/2014 12:13 PM	Container-01 of 02
Analytical Method: E351.2 :		Prep Method:	E351.2		Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	0.23		1	mg/L	05/02/2014 12:16 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	1.7		1	mg/L	04/23/2014 5:38 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Client Services Manager

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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 11:15:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-004
Client Sample ID: MW-1B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	10.4		1	mg/L	04/22/2014 2:09 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 12:08 AM	Container-01 of 02
Chloride	9.99		1	mg/L	04/29/2014 12:08 AM	Container-01 of 02
Sulfate	7.21		1	mg/L	04/29/2014 12:08 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 4:55 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/27/2014 1:03:06 PM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/27/2014 3:41 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 11:42 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:03 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:03 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:03 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	18		1	mg/L	05/01/2014 12:25 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.12		1	mg/L	04/25/2014 2:11 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 11:15:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-004
Client Sample ID: MW-1B

Sample Information:
Type : Groundwater

Origin:

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Analytical Method: E353.2 :						Analyst: TF
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:08 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Nitrate as N	< 0.10		1	mg/L	04/19/2014 9:04 AM	Container-01 of 01
Analytical Method: E420.1 : Prep Method: E420.1					Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:35 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Total Dissolved Solids	48		1	mg/L	04/22/2014 12:14 PM	Container-01 of 02
Analytical Method: E351.2 : Prep Method: E351.2					Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Nitrogen, Kjeldahl, Total	0.37		1	mg/L	05/02/2014 12:16 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Total Organic Carbon	< 1.0		1	mg/L	04/23/2014 6:16 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 10:15:00 AM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-005
Client Sample ID: MW-1C

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	12.5		1	mg/L	04/22/2014 2:17 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 10.0	D	20	mg/L	04/29/2014 12:22 AM	Container-01 of 02
Chloride	214	D	20	mg/L	04/29/2014 12:22 AM	Container-01 of 02
Sulfate	152	D	20	mg/L	04/29/2014 12:22 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 4:50 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/27/2014 1:03:06 PM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/27/2014 3:42 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 11:44 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:04 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:04 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:04 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	18		1	mg/L	05/01/2014 12:30 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	< 0.10		1	mg/L	04/25/2014 2:12 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 10:15:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-005
Client Sample ID: MW-1C

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:09 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.35		1	mg/L	04/19/2014 9:06 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:36 AM	Container-01 of 01

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	31		1	mg/L	04/22/2014 12:14 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	0.26		1	mg/L	05/02/2014 12:17 PM	Container-01 of 01

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	< 1.0		1	mg/L	04/23/2014 8:10 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
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S = Recovery exceeded control limits for this analyte
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Date Reported : 5/21/2014

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/18/2014 9:11:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-006
Client Sample ID: MW-3A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	41.0		1	mg/L	04/22/2014 2:24 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 12:35 AM	Container-01 of 02
Chloride	72.6	D	5	mg/L	04/30/2014 3:08 AM	Container-01 of 02
Sulfate	5.58		1	mg/L	04/29/2014 12:35 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:40 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:49 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	12.7		1	mg/L	04/29/2014 11:46 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	30.0		1	units	04/19/2014 8:05 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:05 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:05 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	68	D	4	mg/L	05/01/2014 12:35 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.22		1	mg/L	04/25/2014 2:13 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/18/2014 9:11:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-006
Client Sample ID: MW-3A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:11 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	1.05		1	mg/L	04/19/2014 9:07 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:37 AM	Container-01 of 01

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	158		1	mg/L	04/22/2014 12:15 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	0.67		1	mg/L	05/02/2014 12:18 PM	Container-01 of 01

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	2.7		1	mg/L	04/23/2014 8:48 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Client Services Manager

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/18/2014 8:50:00 AM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-007
Client Sample ID: MW-3B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	55.5		1	mg/L	04/22/2014 2:31 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 12:49 AM	Container-01 of 02
Chloride	17.1		1	mg/L	04/29/2014 12:49 AM	Container-01 of 02
Sulfate	9.82		1	mg/L	04/29/2014 12:49 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:30 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:50 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	12.1		1	mg/L	04/29/2014 11:48 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	55.0		1	units	04/19/2014 8:06 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:06 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:06 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	72	D	2	mg/L	05/01/2014 12:40 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	2.54	D	5	mg/L	04/25/2014 2:14 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
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Client Services Manager

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LABORATORY RESULTS

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/18/2014 8:50:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-007
Client Sample ID: MW-3B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:12 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	< 0.10		1	mg/L	04/19/2014 9:08 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:38 AM	Container-01 of 01

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	76		1	mg/L	04/22/2014 12:15 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	3.11		1	mg/L	05/02/2014 12:19 PM	Container-01 of 01

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	2.0		1	mg/L	04/23/2014 9:26 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
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S = Recovery exceeded control limits for this analyte
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Client Services Manager

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 3:47:00 PM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-008
Client Sample ID: MW-4A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	6.50		1	mg/L	04/22/2014 2:39 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 1:02 AM	Container-01 of 02
Chloride	41.5		1	mg/L	04/29/2014 1:02 AM	Container-01 of 02
Sulfate	11.1		1	mg/L	04/29/2014 1:02 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:10 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:51 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 11:50 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:07 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:07 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:07 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	40	D	2	mg/L	05/01/2014 12:45 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.10		1	mg/L	04/25/2014 2:16 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
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Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 3:47:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-008
Client Sample ID: MW-4A

Sample Information:
Type : Groundwater

Origin:

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Analytical Method: E353.2 :						Analyst: TF
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:13 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Nitrate as N	8.25	D	10	mg/L	04/19/2014 9:26 AM	Container-01 of 01
Analytical Method: E420.1 : Prep Method: E420.1					Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:39 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Total Dissolved Solids	142		1	mg/L	04/22/2014 12:15 PM	Container-01 of 02
Analytical Method: E351.2 : Prep Method: E351.2					Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Nitrogen, Kjeldahl, Total	0.18		1	mg/L	05/02/2014 12:20 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Total Organic Carbon	< 1.0		1	mg/L	04/23/2014 10:04 PM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 4:47:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-009
Client Sample ID: MW-4B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	107		1	mg/L	04/22/2014 2:44 PM	Container-01 of 06

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 1:43 AM	Container-01 of 06
Chloride	23.0		1	mg/L	04/29/2014 1:43 AM	Container-01 of 06
Sulfate	11.3		1	mg/L	04/29/2014 1:43 AM	Container-01 of 06

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:20 PM	Container-01 of 06

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:52 PM	Container-01 of 03

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	11.4		1	mg/L	04/29/2014 11:52 AM	Container-01 of 03

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	100	D	2	units	04/19/2014 8:08 AM	Container-01 of 06
Color pH	7	D +	2	units	04/19/2014 8:08 AM	Container-01 of 06

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:08 AM	Container-01 of 06

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	92	D	4	mg/L	05/01/2014 12:50 PM	Container-01 of 03

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	5.32	D	5	mg/L	04/25/2014 2:17 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 4:47:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-009
Client Sample ID: MW-4B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:14 AM	Container-01 of 06

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.11		1	mg/L	04/19/2014 9:10 AM	Container-01 of 03

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:40 AM	Container-01 of 03

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	154		1	mg/L	04/22/2014 12:16 PM	Container-01 of 06

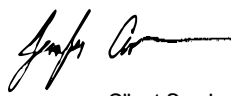
Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	5.95	D	5	mg/L	05/02/2014 12:21 PM	Container-01 of 03

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	3.0		1	mg/L	04/23/2014 10:42 PM	Container-01 of 06

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound



Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 5/21/2014

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 4:10:00 PM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-010
Client Sample ID: MW-4C

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	33.9		1	mg/L	04/22/2014 3:26 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 2:23 AM	Container-01 of 02
Chloride	100	D	5	mg/L	04/29/2014 2:37 AM	Container-01 of 02
Sulfate	< 5.00		1	mg/L	04/29/2014 2:23 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:15 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:55 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 11:58 AM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:10 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:10 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:11 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	108	D	4	mg/L	05/01/2014 1:05 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.15		1	mg/L	04/25/2014 2:23 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 4:10:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-010
Client Sample ID: MW-4C

Sample Information:
Type : Groundwater

Origin:

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Analytical Method: E353.2 :						Analyst: TF
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:20 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Nitrate as N	< 0.10		1	mg/L	04/19/2014 9:16 AM	Container-01 of 01
Analytical Method: E420.1 : Prep Method: E420.1					Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:43 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Total Dissolved Solids	298		1	mg/L	04/22/2014 12:17 PM	Container-01 of 02
Analytical Method: E351.2 : Prep Method: E351.2					Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Nitrogen, Kjeldahl, Total	0.29		1	mg/L	05/02/2014 12:25 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Total Organic Carbon	< 1.0		1	mg/L	04/24/2014 12:36 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 1:40:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-011
Client Sample ID: MW-11A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	96.8		1	mg/L	04/22/2014 3:34 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 2:50 AM	Container-01 of 02
Chloride	12.4		1	mg/L	04/29/2014 2:50 AM	Container-01 of 02
Sulfate	7.03		1	mg/L	04/29/2014 2:50 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	8	S	1	mg/L	04/18/2014 4:30 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:56 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 12:00 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	10.0		1	units	04/19/2014 8:11 AM	Container-01 of 02
Color pH	7.00	+	1	units	04/19/2014 8:11 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:12 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	164	D	4	mg/L	05/01/2014 1:10 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.23		1	mg/L	04/25/2014 2:24 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 1:40:00 PM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-011
Client Sample ID: MW-11A

Sample Information:
Type : Groundwater

Origin:

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Analytical Method: E353.2 :						Analyst: TF
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:21 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Nitrate as N	0.11		1	mg/L	04/19/2014 9:17 AM	Container-01 of 01
Analytical Method: E420.1 : Prep Method: E420.1					Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:44 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Total Dissolved Solids	137		1	mg/L	04/22/2014 12:17 PM	Container-01 of 02
Analytical Method: E351.2 : Prep Method: E351.2					Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Nitrogen, Kjeldahl, Total	0.63		1	mg/L	05/02/2014 12:26 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Total Organic Carbon	1.4		1	mg/L	04/24/2014 1:15 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 1:05:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-012
Client Sample ID: MW-11B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	30.8		1	mg/L	04/22/2014 3:41 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 3:04 AM	Container-01 of 02
Chloride	12.8		1	mg/L	04/29/2014 3:04 AM	Container-01 of 02
Sulfate	14.9		1	mg/L	04/29/2014 3:04 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 4:45 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 12:57 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 12:02 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	10.0		1	units	04/19/2014 8:12 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:12 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:13 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	48	D	2	mg/L	05/01/2014 1:15 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.13		1	mg/L	04/25/2014 2:25 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
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S = Recovery exceeded control limits for this analyte
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Client Services Manager

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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 1:05:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-012
Client Sample ID: MW-11B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:23 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.43		1	mg/L	04/19/2014 9:19 AM	Container-01 of 01
Analytical Method: E420.1 :	Prep Method: E420.1				Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:45 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	86		1	mg/L	04/22/2014 12:18 PM	Container-01 of 02
Analytical Method: E351.2 :	Prep Method: E351.2				Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	0.57		1	mg/L	05/02/2014 12:27 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	< 1.0		1	mg/L	04/24/2014 1:53 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 8:58:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-013
Client Sample ID: MW-12A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	76.0		1	mg/L	04/22/2014 3:48 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 3:17 AM	Container-01 of 02
Chloride	13.9		1	mg/L	04/29/2014 3:17 AM	Container-01 of 02
Sulfate	20.7		1	mg/L	04/29/2014 3:17 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 4:35 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 1:00 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 12:04 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	10.0		1	units	04/19/2014 8:13 AM	Container-01 of 02
Color pH	7.00	+	1	units	04/19/2014 8:13 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:14 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	100	D	4	mg/L	05/01/2014 1:20 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	1.24		1	mg/L	04/25/2014 2:26 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
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TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 8:58:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-013
Client Sample ID: MW-12A

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:24 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.72		1	mg/L	04/19/2014 9:20 AM	Container-01 of 01
Analytical Method: E420.1 :		Prep Method:	E420.1		Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:46 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	141		1	mg/L	04/22/2014 12:19 PM	Container-01 of 02
Analytical Method: E351.2 :		Prep Method:	E351.2		Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	1.84		1	mg/L	05/02/2014 12:28 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	1.7		1	mg/L	04/24/2014 3:48 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

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Date Reported : 5/21/2014

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 8:35:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-014
Client Sample ID: MW-12B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	78.9		1	mg/L	04/22/2014 3:55 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02
Chloride	17.5		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02
Sulfate	36.0		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:50 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 1:01 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	10.8		1	mg/L	04/29/2014 12:06 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:14 AM	Container-01 of 02
Color pH	7.00	+	1	units	04/19/2014 8:14 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:15 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	100	D	4	mg/L	05/01/2014 1:25 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	1.00		1	mg/L	04/25/2014 2:27 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 8:35:00 AM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-014
Client Sample ID: MW-12B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:25 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	0.89		1	mg/L	04/19/2014 9:21 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:47 AM	Container-01 of 01

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	173		1	mg/L	04/22/2014 12:19 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	1.46		1	mg/L	05/02/2014 12:29 PM	Container-01 of 01

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	1.7		1	mg/L	04/24/2014 4:26 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

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NYSDOH ID#10478 www.pacelabs.com

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-015
Client Sample ID: DUP 001

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	9.95		1	mg/L	04/22/2014 4:02 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 3:44 AM	Container-01 of 02
Chloride	9.89		1	mg/L	04/29/2014 3:44 AM	Container-01 of 02
Sulfate	7.01		1	mg/L	04/29/2014 3:44 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:00 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/30/2014 11:02:25 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/30/2014 2:11 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 12:08 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:15 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:15 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:16 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	18		1	mg/L	05/01/2014 1:30 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.10		1	mg/L	04/25/2014 2:29 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

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NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-015
Client Sample ID: DUP 001

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:26 AM	Container-01 of 02

Analytical Method: E353.2 : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	< 0.10		1	mg/L	04/19/2014 9:22 AM	Container-01 of 01

Analytical Method: E420.1 : Prep Method: E420.1 Prep Date: 4/23/2014 10:30:00 AM Analyst: EM

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:48 AM	Container-01 of 01

Analytical Method: SM2540C : IOC Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	48		1	mg/L	04/22/2014 12:20 PM	Container-01 of 02

Analytical Method: E351.2 : Prep Method: E351.2 Prep Date: 5/2/2014 5:00:00 AM Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	0.26		1	mg/L	05/02/2014 12:29 PM	Container-01 of 01

Analytical Method: SW9060 : Analyst: CO

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	< 1.0		1	mg/L	04/24/2014 5:04 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
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Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected : 4/17/2014 5:18:00 PM
Received : 4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-016
Client Sample ID: EB

Sample Information:
Type : Equipment Blank

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	< 1.00		1	mg/L	04/22/2014 4:10 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 4:25 AM	Container-01 of 02
Chloride	< 2.00		1	mg/L	04/29/2014 4:25 AM	Container-01 of 02
Sulfate	< 5.00		1	mg/L	04/29/2014 4:25 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2		1	mg/L	04/18/2014 5:05 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/30/2014 11:02:25 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/30/2014 2:12 PM	Container-01 of 01

Analytical Method: E410.4 : Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	< 10.0		1	mg/L	04/29/2014 12:10 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:16 AM	Container-01 of 02
Color pH	6.00	+	1	units	04/19/2014 8:16 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:17 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	< 5		1	mg/L	05/01/2014 1:35 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	0.15		1	mg/L	04/25/2014 2:30 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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Town of Southampton
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Attn To : Christine Fetten
Collected :4/17/2014 5:18:00 PM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-016
Client Sample ID: EB

Sample Information:
Type : Equipment Blank

Origin:

Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:27 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrate as N	< 0.10		1	mg/L	04/19/2014 9:23 AM	Container-01 of 01
Analytical Method: E420.1 :	Prep Method: E420.1				Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:49 AM	Container-01 of 01
Analytical Method: SM2540C : IOC						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Dissolved Solids	< 10		1	mg/L	04/22/2014 12:20 PM	Container-01 of 02
Analytical Method: E351.2 :	Prep Method: E351.2				Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Kjeldahl, Total	< 0.10		1	mg/L	05/02/2014 12:59 PM	Container-01 of 01
Analytical Method: SW9060 :						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Total Organic Carbon	< 1.0		1	mg/L	04/24/2014 5:42 AM	Container-01 of 02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
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Client Services Manager

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Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

5. SURROGATE SPIKE ANALYSIS RESULTS

5.1 VOLATILES

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

	EPA SAMPLE NO.	SMC1 DCA #	SMC2 TOL #	SMC3 BFB #	OTHER	TOT OUT
01	VBLK042314	91	100	98		0
02	LFB042314	96	98	100		0
03	MSB042314	94	100	100		0
04	STORAGE BLANK	92	99	99		0
05	TRIP BLANK	91	98	100		0
06	MW-1A	92	100	99		0
07	MW-1B	93	99	100		0
08	MW-1C	92	99	99		0
09	MW-3A	92	99	101		0
10	MW-3B	93	100	100		0
11	MW-4A	93	99	101		0
12	MW-4B	90	98	99		0
13	MW-4BMS	94	100	100		0
14	MW-4BMSD	93	99	100		0
15	MW-4C	93	100	99		0
16	MW-11A	93	100	100		0
17	MW-11B	93	99	99		0
18	MW-12A	91	99	100		0
19	MW-12B	92	98	98		0
20	DUP 001	93	98	100		0
21	EB	92	100	99		0

		QC Limit
SMC1 DCA	= 1,2-Dichloroethane-d4	(76-114)
SMC2 TOL	= Toluene-d8	(88-110)
SMC3 BFB	= 4-Bromofluorobenzene	(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

Pace Long Island

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Melville, NY 11747

tel: (631) 694-3040
fax: (631) 420-8436

6. MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

6.1 VOLATILES

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix Spike - EPA Sample No.: MW-4B

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	33	65	61-145
Benzene	50	0	43	85	76-127
Trichloroethene	50	0	42	84	71-120
Toluene	50	0	43	87	76-125
Chlorobenzene	50	1	45	88	75-130

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	34	67	3	14	61-145
Benzene	50	44	87	2	11	76-127
Trichloroethene	50	44	88	5	14	71-120
Toluene	50	44	88	1	13	76-125
Chlorobenzene	50	48	93	6	13	75-130

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:

3A

SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Sample ID MSB042314 Level:(low/med) LOW

Column ID DB-624 Column Diam 0.18

Inst. ID HP5973-1 Init. Calib. Date(s):01/13/14 16:49

Analysis Date:04/23/14 20:14 01/13/14 20:40

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	SPIKE CONCENTRATION (µg/L)	SPIKE % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	35	70	61-145
Benzene	50	0	45	89	76-127
Trichloroethene	50	0	46	91	71-120
Toluene	50	0	47	94	76-125
Chlorobenzene	50	0	50	99	75-130

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:

SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Sample ID LFB042314 Level:(low/med) LOW

Column ID DB-624 Column Diam 0.18

Inst. ID HP5973-1 Init. Calib. Date(s):01/13/14 16:49

Analysis Date:04/23/14 19:19 01/13/14 20:40

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	SPIKE CONCENTRATION (µg/L)	SPIKE % REC #	QC. LIMITS REC.
Chloromethane	50	0	45	89	46-144
Vinyl chloride	50	0	43	86	43-143
Bromomethane	50	0	48	97	52-147
Chloroethane	50	0	45	90	49-151
Acrylonitrile	50	0	46	91	59-148
Trichlorofluoromethane	50	0	43	87	27-173
1,1-Dichloroethene	50	0	44	87	45-146
Iodomethane	50	0	47	94	61-144
Vinyl acetate	50	0	45	90	20-158
Acetone	50	0	54	107	23-188
Carbon disulfide	50	0	42	85	48-132
Methylene chloride	50	0	49	99	61-142
trans-1,2-Dichloroethene	50	0	45	91	56-142
1,1-Dichloroethane	50	0	46	92	83-151
cis-1,2-Dichloroethene	50	0	47	95	72-121
2-Butanone	50	0	49	98	44-162
Bromochloromethane	50	0	46	92	81-116
Chloroform	50	0	47	93	72-122
1,1,1-Trichloroethane	50	0	44	89	65-118
Carbon tetrachloride	50	0	40	80	59-120
Benzene	50	0	45	90	73-119
1,2-Dichloroethane	50	0	47	95	74-129
Trichloroethene	50	0	44	89	69-117
1,2-Dichloropropane	50	0	46	92	75-117
Dibromomethane	50	0	46	92	75-125
Bromodichloromethane	50	0	45	91	78-117
cis-1,3-Dichloropropene	50	0	45	90	78-116
4-Methyl-2-pentanone	50	0	45	89	69-132
Toluene	50	0	45	90	72-119
trans-1,3-Dichloropropene	50	0	46	91	79-116

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

* Values outside of QC limits

Spike Recovery: 0 out of 47 outside limits

COMMENTS:

3A

SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Sample ID LFB042314 Level:(low/med) LOW

Column ID DB-624 Column Diam 0.18

Inst. ID HP5973-1 Init. Calib. Date(s):01/13/14 16:49

Analysis Date:04/23/14 19:19 01/13/14 20:40

1,1,2-Trichloroethane	50	0	46	93	80-117
Tetrachloroethene	50	0	46	93	60-128
2-Hexanone	50	0	47	94	83-115
Dibromochloromethane	50	0	47	94	70-120
1,2-Dibromoethane	50	0	46	92	83-115
Chlorobenzene	50	0	47	94	75-113
trans-1,4-Dichloro-2-butene	50	0	47	93	71-121
Ethylbenzene	50	0	46	92	70-113
1,1,1,2-Tetrachloroethane	50	0	47	93	74-113
Xylene (total)	150	0	140	93	71-109
Styrene	50	0	47	93	72-118
Bromoform	50	0	47	93	65-122
1,1,2,2-Tetrachloroethane	50	0	46	92	74-121
1,2,3-Trichloropropane	50	0	46	93	71-123
1,4-Dichlorobenzene	50	0	47	94	71-113
1,2-Dichlorobenzene	50	0	48	95	74-113
1,2-Dibromo-3-chloropropane	50	0	44	89	74-119

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

* Values outside of QC limits

Spike Recovery: 0 out of 47 outside limits

COMMENTS:

Pace Long Island

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7. DUPLICATE SUMMARY RESULTS

7.1 TOTAL METALS
7.2 FILTERED METALS
7.3 WET CHEMISTRY

6
DUPLICATES

EPA SAMPLE NO
MW-4B

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0000	51.1000	B	49.9000	B	2.4		P
Antimony		1.9496	U	1.9496	U			P
Arsenic	10.0000	2.3540	B	1.1096	U	200.0		P
Barium	200.0000	92.1000	B	91.1000	B	1.1		P
Beryllium		0.1400	U	0.1400	U			P
Boron	100.0000	77.9000	B	77.2000	B	0.9		P
Cadmium	5.0000	0.2000	B	0.2000	B	0.0		P
Calcium	5000.0000	19830.0000		19460.0000		1.9		P
Chromium	10.0000	25.4000		27.7000		8.7		P
Cobalt	50.0000	4.1000	B	4.0000	B	2.5		P
Copper	25.0000	3.7000	B	3.0000	B	20.9		P
Cyanide		10.0000	U	10.0000	U			CA
Iron		11490.0000		11330.0000		1.4		P
Lead	5.0000	2.8120	B	3.8140	B	30.2		P
Magnesium	5000.0000	9618.0000		9552.0000		0.7		P
Manganese		1641.0000		1635.0000		0.4		P
Mercury		0.1000	U	0.1000	U			CV
Nickel	40.0000	5.2000	B	4.8000	B	8.0		P
Potassium	5000.0000	5973.0000		5958.0000		0.3		P
Selenium		1.1346	U	1.1346	U			P
Silver		0.4278	U	0.4278	U			P
Sodium	5000.0000	21560.0000		21210.0000		1.6		P
Thallium	10.0000	1.4210	B	1.2928	U	200.0		P
Vanadium	50.0000	1.7000	B	1.4000	B	19.4		P
Zinc	20.0000	17.4000	B	16.4000	B	5.9		P

6
DUPLICATES

EPA SAMPLE NO
MW-11A

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0000	22.4000	B	22.7000	B	1.3		P
Antimony		1.9496	U	1.9496	U			P
Arsenic		1.1096	U	1.1096	U			P
Barium	200.0000	71.4000	B	71.0000	B	0.6		P
Beryllium		0.1400	U	0.1400	U			P
Boron	100.0000	36.0000	B	34.7000	B	3.7		P
Cadmium	5.0000	0.2000	B	0.2000	B	0.0		P
Calcium	5000.0000	24390.0000		24600.0000		0.9		P
Chromium		1.1403	U	1.1403	U			P
Cobalt	50.0000	33.8000	B	33.8000	B	0.0		P
Copper	25.0000	1.4000	B	1.1000	B	24.0		P
Iron	100.0000	146.1000		127.6000		13.5		P
Lead	5.0000	14.9500		15.4800		3.5		P
Magnesium	5000.0000	9026.0000		9111.0000		0.9		P
Manganese		871.1000		872.1000		0.1		P
Mercury		0.1000	U	0.1000	U			CV
Nickel	40.0000	21.5000	B	17.8000	B	18.8		P
Potassium	5000.0000	3852.0000	B	3782.0000	B	1.8		P
Selenium	10.0000	2.5580	B	1.3830	B	59.6		P
Silver		0.4278	U	0.4278	U			P
Sodium	5000.0000	8344.0000		8381.0000		0.4		P
Thallium	10.0000	1.2928	U	2.1650	B	200.0		P
Vanadium		0.3861	U	0.3861	U			P
Zinc	20.0000	11.7000	B	14.8000	B	23.4		P

PACE ANALYTICAL

Date: *14-May-14*

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042214	MB-042214	Alkalinity, Total (As CaCO3)	< 1	MG/L								
LCS-0422514	LCS-0422514	Alkalinity, Total (As CaCO3)	24.9	MG/L	25	< 1	100	80	120			
1404E49-009FMS	MW-4BMS	Alkalinity, Total (As CaCO3)	132	MG/L	25	107	102	75	125			
1404E49-009FDUP	MW-4BDUP	Alkalinity, Total (As CaCO3)	109	MG/L						107	2.5	20
MB-44169	MB-44169	Biochemical Oxygen Demand	< 2	MG/L								
LCS-44169	LCS-44169	Biochemical Oxygen Demand	272	MG/L	198	< 2	137	85	116			
1404E49-009FDUP	MW-4BDUP	Biochemical Oxygen Demand	< 2	MG/L						< 2		20
MB-042814	MB-042814	Bromide	< 0.5	MG/L								
LCS-042814	LCS-042814	Bromide	2.49	MG/L	2.5	< 0.5	100	90	110			
1404E49-009FMS	MW-4BMS	Bromide	0.96	MG/L	1	< 0.5	89	80	120			
1404E49-009FDUP	MW-4BDUP	Bromide	< 0.5	MG/L						< 0.5		20
MB-042913	MB-042913	Bromide	< 0.5	MG/L								
LCS-042913	LCS-042913	Bromide	2.54	MG/L	2.5	< 0.5	102	90	110			
MB-042914	MB-042914	Chemical Oxygen Demand	< 10	MG/L								
LCS-042914	LCS-042914	Chemical Oxygen Demand	101	MG/L	100	< 10	101	90	110			
1404E49-009DMS	MW-4BMS	Chemical Oxygen Demand	108	MG/L	100	11.4	97	90	110			
1404E49-009DDUP	MW-4BDUP	Chemical Oxygen Demand	10.8	MG/L						11.4	5.7	20
MB-042913	MB-042913	Chloride	< 2	MG/L								
LCS-042913	LCS-042913	Chloride	9.66	MG/L	10	< 2	97	90	110			

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042814	MB-042814	Chloride	< 2	MG/L								
LCS-042814	LCS-042814	Chloride	10.4	MG/L	10	< 2	104	90	110			
1404E49-009FMS	MW-4BMS	Chloride	33.8	MG/L	10	23.0	107	80	120			
1404E49-009FDUP	MW-4BDUP	Chloride	23.02	MG/L						23.0	0.13	20
MB-041914	MB-041914	Chromium, Hexavalent	< 0.02	MG/L								
LCS-041914	LCS-041914	Chromium, Hexavalent	0.20	MG/L	0.2	< 0.02	100	80	120			
1404E49-009FMS	MW-4BMS	Chromium, Hexavalent	0.21	MG/L	0.2	< 0.02	105	75	125			
1404E49-009FDUP	MW-4BDUP	Chromium, Hexavalent	< 0.02	MG/L						< 0.02		20
MB-041914	MB-041914	Color	< 5	Units								
LCS-041914	LCS-041914	Color	40.0	Units	40	< 5	100	80	120			
1404E49-009FDUP	MW-4BDUP	Color	100	Units						100		20
MB-050114	MB-050114	Hardness (As CaCO3)	< 5	MG/L								
LCS-050114	LCS-050114	Hardness (As CaCO3)	1010	MG/L	1000	< 5	101	80	120			
1404E49-009CMS	MW-4BMS	Hardness (As CaCO3)	496	MG/L	400	92	101	75	125			
1404E49-009CDUP	MW-4BDUP	Hardness (As CaCO3)	96	MG/L						92	4.3	20
MB-041914	MB-041914	Nitrate as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrate as N	1.19	MG/L	1.13	< 0.1	105	90	110			
1404E49-009DMS	MW-4BMS	Nitrate as N	0.62	MG/L	0.5	0.11	102	90	110			
1404E49-009DDUP	MW-4BDUP	Nitrate as N	0.11	MG/L						0.11	3.7	20
MB-041914	MB-041914	Nitrite as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrite as N	0.95	MG/L	1	< 0.1	95	90	110			
1404E49-009FMS	MW-4BMS	Nitrite as N	0.53	MG/L	0.5	< 0.1	106	90	110			
1404E49-009FDUP	MW-4BDUP	Nitrite as N	< 0.1	MG/L						< 0.1		20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042514	MB-042514	Nitrogen, Ammonia (As N)	< 0.1	MG/L								
LCS-042514	LCS-042514	Nitrogen, Ammonia (As N)	1.06	MG/L	1	< 0.1	106	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Ammonia (As N)	7.81	MG/L	2.5	5.32	100	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Ammonia (As N)	5.25	MG/L						5.32	1.2	20
MB-44344	MB-44344	Nitrogen, Kjeldahl, Total	< 0.1	MG/L								
LCS-44344	LCS-44344	Nitrogen, Kjeldahl, Total	3.96	MG/L	4	< 0.1	99	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Kjeldahl, Total	14.2	MG/L	8	5.95	103	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Kjeldahl, Total	6.20	MG/L						5.95	4.1	20
MB-44227	MB-44227	Phenolics, Total Recoverable	< 5	UG/L								
LCS-44227	LCS-44227	Phenolics, Total Recoverable	29.1	UG/L	30	< 5	97	80	120			
1404E49-009DMS	MW-4BMS	Phenolics, Total Recoverable	17.0	UG/L	20	< 5	85	75	125			
1404E49-009DDUP	MW-4BDUP	Phenolics, Total Recoverable	< 5	UG/L						< 5		20
MB-042814	MB-042814	Sulfate	< 5	MG/L								
LCS-042814	LCS-042814	Sulfate	9.50	MG/L	10	< 5	95	90	110			
1404E49-009FMS	MW-4BMS	Sulfate	21.2	MG/L	10	11.3	99	80	120			
1404E49-009FDUP	MW-4BDUP	Sulfate	11.25	MG/L						11.3	0.10	20
MB-042913	MB-042913	Sulfate	< 5	MG/L								
LCS-042913	LCS-042913	Sulfate	9.26	MG/L	10	< 5	93	90	110			
MB-042214	MB-042214	Total Dissolved Solids	< 10	MG/L								
LCS-042214	LCS-042214	Total Dissolved Solids	279	MG/L	300	< 10	93	80	120			
1404E49-009FMS	MW-4BMS	Total Dissolved Solids	434	MG/L	300	154	93	75	125			
1404E49-009FDUP	MW-4BDUP	Total Dissolved Solids	153	MG/L						154	0.65	20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042314	MB-042314	Total Organic Carbon	< 1	MG/L								
LCS-042314	LCS-042314	Total Organic Carbon	26.3	MG/L	25	< 1	105	80	120			
1404E49-009BMS	MW-4BMS	Total Organic Carbon	11.4	MG/L	10	3.0	84	75	125			
1404E49-009BDUP	MW-4BDUP	Total Organic Carbon	3.1	MG/L						3.0	2.6	20

Pace Long Island

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8. SPIKE SAMPLE RESULTS

8.1 TOTAL METALS
8.2 FILTERED METALS
8.3 WET CHEMISTRY

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO
MW-4BS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2168.0000		51.1000	B	2000.00	105.8		P
Antimony	75-125	508.4000		1.9496	U	500.00	101.7		P
Arsenic	75-125	44.1200		2.3540	B	40.00	104.4		P
Barium	75-125	2138.0000		92.1000	B	2000.00	102.3		P
Beryllium	75-125	51.5000		0.1400	U	50.00	103.0		P
Boron	75-125	1132.0000		77.9000	B	1000.00	105.4		P
Cadmium	75-125	51.0000		0.2000	B	50.00	101.6		P
Chromium	75-125	231.1000		25.4000		200.00	102.8		P
Cobalt	75-125	517.3000		4.1000	B	500.00	102.6		P
Copper	75-125	257.5000		3.7000	B	250.00	101.5		P
Cyanide	75-125	90.2253		10.0000	U	100.00	90.2		CA
Iron		12140.0000		11490.0000		1000.00	65.0		P
Lead	75-125	21.5500		2.8120	B	20.00	93.7		P
Manganese	75-125	2110.0000		1641.0000		500.00	93.8		P
Mercury	75-125	0.9948		0.1000	U	1.00	99.5		CV
Nickel	75-125	524.7000		5.2000	B	500.00	103.9		P
Selenium	75-125	8.9810	B	1.1346	U	10.00	89.8		P
Silver	75-125	36.2400		0.4278	U	50.00	72.5	N	P
Thallium	75-125	49.6100		1.4210	B	50.00	96.4		P
Vanadium	75-125	509.0000		1.7000	B	500.00	101.5		P
Zinc	75-125	531.5000		17.4000	B	500.00	102.8		P

Comments:

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO

MW-4BA

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Level (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
Silver		48.82		0.43	U	40.0	122.0		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO
MW-11AS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2189.0000		22.4000	B	2000.00	108.3		P
Antimony	75-125	529.3000		1.9496	U	500.00	105.9		P
Arsenic	75-125	43.4300		1.1096	U	40.00	108.6		P
Barium	75-125	2137.0000		71.4000	B	2000.00	103.3		P
Beryllium	75-125	51.5000		0.1400	U	50.00	103.0		P
Boron	75-125	1095.0000		36.0000	B	1000.00	105.9		P
Cadmium	75-125	51.8000		0.2000	B	50.00	103.2		P
Chromium	75-125	202.2000		1.1403	U	200.00	101.1		P
Cobalt	75-125	554.1000		33.8000	B	500.00	104.1		P
Copper	75-125	256.9000		1.4000	B	250.00	102.2		P
Iron	75-125	1053.0000		146.1000		1000.00	90.7		P
Lead	75-125	36.2600		14.9500		20.00	106.5		P
Manganese	75-125	1401.0000		871.1000		500.00	106.0		P
Mercury	75-125	0.9937		0.1000	U	1.00	99.4		CV
Nickel	75-125	545.6000		21.5000	B	500.00	104.8		P
Selenium	75-125	10.8400		2.5580	B	10.00	82.8		P
Silver	75-125	44.2900		0.4278	U	50.00	88.6		P
Thallium	75-125	62.0400		1.2928	U	50.00	124.1		P
Vanadium	75-125	518.4000		0.3861	U	500.00	103.7		P
Zinc	75-125	548.3000		11.7000	B	500.00	107.3		P

Comments:

PACE ANALYTICAL

Date: *14-May-14*

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042214	MB-042214	Alkalinity, Total (As CaCO3)	< 1	MG/L								
LCS-0422514	LCS-0422514	Alkalinity, Total (As CaCO3)	24.9	MG/L	25	< 1	100	80	120			
1404E49-009FMS	MW-4BMS	Alkalinity, Total (As CaCO3)	132	MG/L	25	107	102	75	125			
1404E49-009FDUP	MW-4BDUP	Alkalinity, Total (As CaCO3)	109	MG/L						107	2.5	20
MB-44169	MB-44169	Biochemical Oxygen Demand	< 2	MG/L								
LCS-44169	LCS-44169	Biochemical Oxygen Demand	272	MG/L	198	< 2	137	85	116			
1404E49-009FDUP	MW-4BDUP	Biochemical Oxygen Demand	< 2	MG/L						< 2		20
MB-042814	MB-042814	Bromide	< 0.5	MG/L								
LCS-042814	LCS-042814	Bromide	2.49	MG/L	2.5	< 0.5	100	90	110			
1404E49-009FMS	MW-4BMS	Bromide	0.96	MG/L	1	< 0.5	89	80	120			
1404E49-009FDUP	MW-4BDUP	Bromide	< 0.5	MG/L						< 0.5		20
MB-042913	MB-042913	Bromide	< 0.5	MG/L								
LCS-042913	LCS-042913	Bromide	2.54	MG/L	2.5	< 0.5	102	90	110			
MB-042914	MB-042914	Chemical Oxygen Demand	< 10	MG/L								
LCS-042914	LCS-042914	Chemical Oxygen Demand	101	MG/L	100	< 10	101	90	110			
1404E49-009DMS	MW-4BMS	Chemical Oxygen Demand	108	MG/L	100	11.4	97	90	110			
1404E49-009DDUP	MW-4BDUP	Chemical Oxygen Demand	10.8	MG/L						11.4	5.7	20
MB-042913	MB-042913	Chloride	< 2	MG/L								
LCS-042913	LCS-042913	Chloride	9.66	MG/L	10	< 2	97	90	110			

TOS014/014F S149

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042814	MB-042814	Chloride	< 2	MG/L								
LCS-042814	LCS-042814	Chloride	10.4	MG/L	10	< 2	104	90	110			
1404E49-009FMS	MW-4BMS	Chloride	33.8	MG/L	10	23.0	107	80	120			
1404E49-009FDUP	MW-4BDUP	Chloride	23.02	MG/L						23.0	0.13	20
MB-041914	MB-041914	Chromium, Hexavalent	< 0.02	MG/L								
LCS-041914	LCS-041914	Chromium, Hexavalent	0.20	MG/L	0.2	< 0.02	100	80	120			
1404E49-009FMS	MW-4BMS	Chromium, Hexavalent	0.21	MG/L	0.2	< 0.02	105	75	125			
1404E49-009FDUP	MW-4BDUP	Chromium, Hexavalent	< 0.02	MG/L						< 0.02		20
MB-041914	MB-041914	Color	< 5	Units								
LCS-041914	LCS-041914	Color	40.0	Units	40	< 5	100	80	120			
1404E49-009FDUP	MW-4BDUP	Color	100	Units						100		20
MB-050114	MB-050114	Hardness (As CaCO3)	< 5	MG/L								
LCS-050114	LCS-050114	Hardness (As CaCO3)	1010	MG/L	1000	< 5	101	80	120			
1404E49-009CMS	MW-4BMS	Hardness (As CaCO3)	496	MG/L	400	92	101	75	125			
1404E49-009CDUP	MW-4BDUP	Hardness (As CaCO3)	96	MG/L						92	4.3	20
MB-041914	MB-041914	Nitrate as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrate as N	1.19	MG/L	1.13	< 0.1	105	90	110			
1404E49-009DMS	MW-4BMS	Nitrate as N	0.62	MG/L	0.5	0.11	102	90	110			
1404E49-009DDUP	MW-4BDUP	Nitrate as N	0.11	MG/L						0.11	3.7	20
MB-041914	MB-041914	Nitrite as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrite as N	0.95	MG/L	1	< 0.1	95	90	110			
1404E49-009FMS	MW-4BMS	Nitrite as N	0.53	MG/L	0.5	< 0.1	106	90	110			
1404E49-009FDUP	MW-4BDUP	Nitrite as N	< 0.1	MG/L						< 0.1		20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042514	MB-042514	Nitrogen, Ammonia (As N)	< 0.1	MG/L								
LCS-042514	LCS-042514	Nitrogen, Ammonia (As N)	1.06	MG/L	1	< 0.1	106	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Ammonia (As N)	7.81	MG/L	2.5	5.32	100	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Ammonia (As N)	5.25	MG/L						5.32	1.2	20
MB-44344	MB-44344	Nitrogen, Kjeldahl, Total	< 0.1	MG/L								
LCS-44344	LCS-44344	Nitrogen, Kjeldahl, Total	3.96	MG/L	4	< 0.1	99	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Kjeldahl, Total	14.2	MG/L	8	5.95	103	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Kjeldahl, Total	6.20	MG/L						5.95	4.1	20
MB-44227	MB-44227	Phenolics, Total Recoverable	< 5	UG/L								
LCS-44227	LCS-44227	Phenolics, Total Recoverable	29.1	UG/L	30	< 5	97	80	120			
1404E49-009DMS	MW-4BMS	Phenolics, Total Recoverable	17.0	UG/L	20	< 5	85	75	125			
1404E49-009DDUP	MW-4BDUP	Phenolics, Total Recoverable	< 5	UG/L						< 5		20
MB-042814	MB-042814	Sulfate	< 5	MG/L								
LCS-042814	LCS-042814	Sulfate	9.50	MG/L	10	< 5	95	90	110			
1404E49-009FMS	MW-4BMS	Sulfate	21.2	MG/L	10	11.3	99	80	120			
1404E49-009FDUP	MW-4BDUP	Sulfate	11.25	MG/L						11.3	0.10	20
MB-042913	MB-042913	Sulfate	< 5	MG/L								
LCS-042913	LCS-042913	Sulfate	9.26	MG/L	10	< 5	93	90	110			
MB-042214	MB-042214	Total Dissolved Solids	< 10	MG/L								
LCS-042214	LCS-042214	Total Dissolved Solids	279	MG/L	300	< 10	93	80	120			
1404E49-009FMS	MW-4BMS	Total Dissolved Solids	434	MG/L	300	154	93	75	125			
1404E49-009FDUP	MW-4BDUP	Total Dissolved Solids	153	MG/L						154	0.65	20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042314	MB-042314	Total Organic Carbon	< 1	MG/L								
LCS-042314	LCS-042314	Total Organic Carbon	26.3	MG/L	25	< 1	105	80	120			
1404E49-009BMS	MW-4BMS	Total Organic Carbon	11.4	MG/L	10	3.0	84	75	125			
1404E49-009BDUP	MW-4BDUP	Total Organic Carbon	3.1	MG/L						3.0	2.6	20

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9. BLANK SUMMARY DATA AND RESULTS

9.1 VOLATILES
9.2 TOTAL METALS
9.3 FILTERED METALS
9.4 WET CHEMISTRY

EPA SAMPLE NO.

VBLK042314

VOLATILE METHOD BLANK SUMMARY

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Lab File ID: 4\F65190.D Lab Sample ID: VBLK042314

Date Analyzed: 04/23/14 Time Analyzed: 18:51

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: HP5973-1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LFB042314	LFB042314	4\F65191.D	19:19
02	MSB042314	MSB042314	4\F65193.D	20:14
03	STORAGE BLANK	1404E49-018A	4\F65194.D	20:41
04	TRIP BLANK	1404E49-017A	4\F65195.D	21:08
05	MW-1A	1404E49-003A	4\F65196.D	21:36
06	MW-1B	1404E49-004A	4\F65197.D	22:03
07	MW-1C	1404E49-005A	4\F65198.D	22:31
08	MW-3A	1404E49-006A	4\F65199.D	22:58
09	MW-3B	1404E49-007A	4\F65200.D	23:26
10	MW-4A	1404E49-008A	4\F65201.D	23:53
11	MW-4B	1404E49-009A	4\F65202.D	0:21
12	MW-4BMS	1404E49-009AMS	4\F65203.D	0:48
13	MW-4BMSD	1404E49-009AMSD	4\F65204.D	1:16
14	MW-4C	1404E49-010A	4\F65205.D	1:43
15	MW-11A	1404E49-011A	4\F65206.D	2:11
16	MW-11B	1404E49-012A	4\F65207.D	2:38
17	MW-12A	1404E49-013A	4\F65208.D	3:05
18	MW-12B	1404E49-014A	4\F65209.D	3:33
19	DUP 001	1404E49-015A	4\F65210.D	4:00
20	EB	1404E49-016A	4\F65211.D	4:28

COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK042314

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: VBLK042314

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65190.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/23/14

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	2	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
107-13-1	Acrylonitrile	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
74-88-4	Iodomethane	5	U
108-05-4	Vinyl acetate	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	5	U
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	0.4	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	0.4	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK042314

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: VBLK042314

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65190.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/23/14

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

VBLK042314

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: VBLK042314

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65190.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

	Initial Calib. Blank		Continuing Calibration Blank (ug/L)						Prepa-ration		
Analyte	(ug/L)	C	1	C	2	C	3	C	Blank	C	M
Aluminum	5.4	U	19.9	B	5.8	B	6.7	B	15.800	B	P
Antimony	1.9	U	1.9	U	-2.5	B	-2.7	B	1.900	U	P
Arsenic	1.4	B	1.1	U	1.1	U	-2.6	B	1.100	U	P
Barium	0.2	U	0.2	U	0.2	U	0.2	B	0.160	U	P
Beryllium	0.1	U	0.1	U	0.1	U	0.2	B	0.140	U	P
Boron	2.5	U	2.5	U	2.5	U	2.5	U	2.500	U	P
Cadmium	0.1	U	0.1	U	0.1	U	0.1	U	0.110	U	P
Calcium	25.8	U	25.8	U	25.8	U	25.8	U	25.800	U	P
Chromium	1.1	U	1.8	B	1.3	B	1.3	B	1.600	B	P
Cobalt	-0.2	B	0.2	U	0.2	U	0.2	U	0.190	U	P
Copper	0.8	U	0.8	U	0.8	U	0.8	U	0.760	U	P
Iron	3.9	U	3.9	U	3.9	U	3.9	U	3.900	U	P
Lead	2.1	B	4.1	B	1.9	U	2.7	B	1.900	U	P
Magnesium	22.0	U	22.0	U	22.0	U	22.0	U	22.000	U	P
Manganese	0.3	U	0.3	U	0.3	U	0.3	U	0.320	U	P
Nickel	0.3	U	0.3	U	0.3	U	0.3	U	0.340	U	P
Potassium	151.0	B	91.4	B	110.0	B	81.0	U	81.000	U	P
Selenium	1.1	U	1.1	U	-1.2	B	1.1	U	1.100	U	P
Silver	-0.6	B	-0.7	B	-1.0	B	-0.5	B	0.430	U	P
Sodium	146.8	U	146.8	U	146.8	U	146.8	U	147.000	U	P
Thallium	1.3	U	-3.5	B	3.6	B	1.3	U	1.300	U	P
Vanadium	0.4	U	0.4	U	-0.5	B	0.4	U	0.390	U	P
Zinc	1.3	U	1.3	U	1.3	U	1.3	U	1.300	U	P

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			6.0	B							P
Antimony			-3.1	B							P
Arsenic			1.1	U							P
Barium			0.2	U							P
Beryllium			0.1	U							P
Boron			2.5	U							P
Cadmium			0.1	U							P
Calcium			25.8	U							P
Chromium			1.1	U							P
Cobalt			0.2	U							P
Copper			0.8	U							P
Iron			4.2	B							P
Lead			1.9	U							P
Magnesium			22.0	U							P
Manganese			0.3	U							P
Nickel			0.3	U							P
Potassium			81.0	U							P
Selenium			1.1	U							P
Silver			0.4	U							P
Sodium			146.8	U							P
Thallium			1.3	U							P
Vanadium			0.4	U							P
Zinc			1.3	U							P

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

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

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	CA

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	CA

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	CA

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	12.1	B	16.7	B	10.1	B	8.3	B	23.600	B	P
Antimony	5.5	B	4.3	B	5.1	B	4.2	B	1.900	U	P
Arsenic	1.1	U	-1.2	B	1.1	U	1.1	U	1.100	U	P
Barium	0.3	B	0.2	U	0.3	B	0.2	B	0.300	B	P
Beryllium	0.3	B	0.1	U	0.3	B	0.1	U	0.140	U	P
Boron	3.0	B	2.5	U	2.5	U	2.5	U	2.500	U	P
Cadmium	0.3	B	0.1	U	0.3	B	0.2	B	0.110	U	P
Calcium	25.8	U	25.8	U	25.8	U	25.8	U	34.200	B	P
Chromium	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	P
Cobalt	0.2	U	0.2	U	0.2	U	0.2	B	0.190	U	P
Copper	0.8	U	0.8	U	0.8	U	0.8	U	0.760	U	P
Iron	16.4	B	17.1	B	15.3	B	11.4	B	8.700	B	P
Lead	1.9	U	1.9	U	1.9	U	1.9	U	1.900	U	P
Magnesium	22.0	U	22.0	U	22.0	U	22.0	U	22.000	U	P
Manganese	0.4	B	0.3	U	0.5	B	0.3	U	3.100	B	P
Nickel	0.3	U	0.3	U	0.3	U	0.3	U	0.340	U	P
Potassium	81.0	U	-84.0	B	81.0	U	81.0	U	532.000	B	P
Selenium	1.2	B	1.1	U	1.6	B	1.1	U	1.100	U	P
Silver	0.4	U	0.4	U	0.4	U	0.4	U	0.430	U	P
Sodium	146.8	U	146.8	U	146.8	U	146.8	U	147.000	U	P
Thallium	3.9	B	2.8	B	4.1	B	1.3	U	1.300	U	P
Vanadium	0.4	U	0.4	U	0.4	U	0.4	U	0.390	U	P
Zinc	1.3	U	1.3	U	1.3	U	1.3	U	4.000	B	P

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			8.7	B	39.1	B					P
Antimony			4.2	B	4.6	B					P
Arsenic			1.1	U	-1.1	B					P
Barium			0.2	B	0.2	B					P
Beryllium			0.1	U	0.1	U					P
Boron			2.5	B	2.5	U					P
Cadmium			0.1	U	0.2	B					P
Calcium			25.8	U	28.1	B					P
Chromium			1.4	B	1.3	B					P
Cobalt			0.2	U	0.2	U					P
Copper			0.8	U	0.8	U					P
Iron			8.5	B	15.8	B					P
Lead			1.9	U	1.9	U					P
Magnesium			22.0	U	23.7	B					P
Manganese			0.3	U	0.3	U					P
Nickel			0.3	U	0.3	U					P
Potassium			-97.0	B	-140.0	B					P
Selenium			1.1	U	2.4	B					P
Silver			0.4	U	0.4	U					P
Sodium			146.8	U	146.8	U					P
Thallium			1.3	U	1.3	B					P
Vanadium			0.4	U	0.4	U					P
Zinc			1.3	U	1.3	U					P

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

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

PACE ANALYTICAL

Date: *14-May-14*

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042214	MB-042214	Alkalinity, Total (As CaCO3)	< 1	MG/L								
LCS-0422514	LCS-0422514	Alkalinity, Total (As CaCO3)	24.9	MG/L	25	< 1	100	80	120			
1404E49-009FMS	MW-4BMS	Alkalinity, Total (As CaCO3)	132	MG/L	25	107	102	75	125			
1404E49-009FDUP	MW-4BDUP	Alkalinity, Total (As CaCO3)	109	MG/L						107	2.5	20
MB-44169	MB-44169	Biochemical Oxygen Demand	< 2	MG/L								
LCS-44169	LCS-44169	Biochemical Oxygen Demand	272	MG/L	198	< 2	137	85	116			
1404E49-009FDUP	MW-4BDUP	Biochemical Oxygen Demand	< 2	MG/L						< 2		20
MB-042814	MB-042814	Bromide	< 0.5	MG/L								
LCS-042814	LCS-042814	Bromide	2.49	MG/L	2.5	< 0.5	100	90	110			
1404E49-009FMS	MW-4BMS	Bromide	0.96	MG/L	1	< 0.5	89	80	120			
1404E49-009FDUP	MW-4BDUP	Bromide	< 0.5	MG/L						< 0.5		20
MB-042913	MB-042913	Bromide	< 0.5	MG/L								
LCS-042913	LCS-042913	Bromide	2.54	MG/L	2.5	< 0.5	102	90	110			
MB-042914	MB-042914	Chemical Oxygen Demand	< 10	MG/L								
LCS-042914	LCS-042914	Chemical Oxygen Demand	101	MG/L	100	< 10	101	90	110			
1404E49-009DMS	MW-4BMS	Chemical Oxygen Demand	108	MG/L	100	11.4	97	90	110			
1404E49-009DDUP	MW-4BDUP	Chemical Oxygen Demand	10.8	MG/L						11.4	5.7	20
MB-042913	MB-042913	Chloride	< 2	MG/L								
LCS-042913	LCS-042913	Chloride	9.66	MG/L	10	< 2	97	90	110			

TOS014/014F S169

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042814	MB-042814	Chloride	< 2	MG/L								
LCS-042814	LCS-042814	Chloride	10.4	MG/L	10	< 2	104	90	110			
1404E49-009FMS	MW-4BMS	Chloride	33.8	MG/L	10	23.0	107	80	120			
1404E49-009FDUP	MW-4BDUP	Chloride	23.02	MG/L						23.0	0.13	20
MB-041914	MB-041914	Chromium, Hexavalent	< 0.02	MG/L								
LCS-041914	LCS-041914	Chromium, Hexavalent	0.20	MG/L	0.2	< 0.02	100	80	120			
1404E49-009FMS	MW-4BMS	Chromium, Hexavalent	0.21	MG/L	0.2	< 0.02	105	75	125			
1404E49-009FDUP	MW-4BDUP	Chromium, Hexavalent	< 0.02	MG/L						< 0.02		20
MB-041914	MB-041914	Color	< 5	Units								
LCS-041914	LCS-041914	Color	40.0	Units	40	< 5	100	80	120			
1404E49-009FDUP	MW-4BDUP	Color	100	Units						100		20
MB-050114	MB-050114	Hardness (As CaCO3)	< 5	MG/L								
LCS-050114	LCS-050114	Hardness (As CaCO3)	1010	MG/L	1000	< 5	101	80	120			
1404E49-009CMS	MW-4BMS	Hardness (As CaCO3)	496	MG/L	400	92	101	75	125			
1404E49-009CDUP	MW-4BDUP	Hardness (As CaCO3)	96	MG/L						92	4.3	20
MB-041914	MB-041914	Nitrate as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrate as N	1.19	MG/L	1.13	< 0.1	105	90	110			
1404E49-009DMS	MW-4BMS	Nitrate as N	0.62	MG/L	0.5	0.11	102	90	110			
1404E49-009DDUP	MW-4BDUP	Nitrate as N	0.11	MG/L						0.11	3.7	20
MB-041914	MB-041914	Nitrite as N	< 0.1	MG/L								
LCS-041914	LCS-041914	Nitrite as N	0.95	MG/L	1	< 0.1	95	90	110			
1404E49-009FMS	MW-4BMS	Nitrite as N	0.53	MG/L	0.5	< 0.1	106	90	110			
1404E49-009FDUP	MW-4BDUP	Nitrite as N	< 0.1	MG/L						< 0.1		20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042514	MB-042514	Nitrogen, Ammonia (As N)	< 0.1	MG/L								
LCS-042514	LCS-042514	Nitrogen, Ammonia (As N)	1.06	MG/L	1	< 0.1	106	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Ammonia (As N)	7.81	MG/L	2.5	5.32	100	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Ammonia (As N)	5.25	MG/L						5.32	1.2	20
MB-44344	MB-44344	Nitrogen, Kjeldahl, Total	< 0.1	MG/L								
LCS-44344	LCS-44344	Nitrogen, Kjeldahl, Total	3.96	MG/L	4	< 0.1	99	90	110			
1404E49-009DMS	MW-4BMS	Nitrogen, Kjeldahl, Total	14.2	MG/L	8	5.95	103	75	125			
1404E49-009DDUP	MW-4BDUP	Nitrogen, Kjeldahl, Total	6.20	MG/L						5.95	4.1	20
MB-44227	MB-44227	Phenolics, Total Recoverable	< 5	UG/L								
LCS-44227	LCS-44227	Phenolics, Total Recoverable	29.1	UG/L	30	< 5	97	80	120			
1404E49-009DMS	MW-4BMS	Phenolics, Total Recoverable	17.0	UG/L	20	< 5	85	75	125			
1404E49-009DDUP	MW-4BDUP	Phenolics, Total Recoverable	< 5	UG/L						< 5		20
MB-042814	MB-042814	Sulfate	< 5	MG/L								
LCS-042814	LCS-042814	Sulfate	9.50	MG/L	10	< 5	95	90	110			
1404E49-009FMS	MW-4BMS	Sulfate	21.2	MG/L	10	11.3	99	80	120			
1404E49-009FDUP	MW-4BDUP	Sulfate	11.25	MG/L						11.3	0.10	20
MB-042913	MB-042913	Sulfate	< 5	MG/L								
LCS-042913	LCS-042913	Sulfate	9.26	MG/L	10	< 5	93	90	110			
MB-042214	MB-042214	Total Dissolved Solids	< 10	MG/L								
LCS-042214	LCS-042214	Total Dissolved Solids	279	MG/L	300	< 10	93	80	120			
1404E49-009FMS	MW-4BMS	Total Dissolved Solids	434	MG/L	300	154	93	75	125			
1404E49-009FDUP	MW-4BDUP	Total Dissolved Solids	153	MG/L						154	0.65	20

QC SUMMARY REPORT

SDG: TOS014

Sample ID:	Client Sample ID:	Analyte	Result	Units	Spike Amount	Sample Result	%REC	Recovery Limits		RPDRef Value	%RPD	%RPD UCL
MB-042314	MB-042314	Total Organic Carbon	< 1	MG/L								
LCS-042314	LCS-042314	Total Organic Carbon	26.3	MG/L	25	< 1	105	80	120			
1404E49-009BMS	MW-4BMS	Total Organic Carbon	11.4	MG/L	10	3.0	84	75	125			
1404E49-009BDUP	MW-4BDUP	Total Organic Carbon	3.1	MG/L						3.0	2.6	20

Pace Long Island

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10. INTERNAL STANDARD AREA DATA

10.1 VOLATILES

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PACE ANALYTICAL SDG No.: TOS014

Lab Code: 10478

Lab File ID (Standard): 4\F65188.D Date Analyzed: 4/23/2014

Instrument ID: HP5973-1 Time Analyzed: 17:52

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS1		IS2		IS3 (CBZ)		IS4 14DCB	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	260955	3.830	382044	4.360	185050	6.490	194171	7.950
UPPER LIMIT	521910	4.330	764088	4.860	370100	6.990	388342	8.450
LOWER LIMIT	130478	3.330	191022	3.860	92525	5.990	97086	7.450
SAMPLE NO.								
01 VBLK042314	262641	3.83	384891	4.36	182454	6.49	191862	7.95
02 LFB042314	264437	3.83	397387	4.36	187539	6.49	200077	7.95
03 MSB042314	261434	3.83	386902	4.36	184410	6.49	193532	7.95
04 STORAGE BLANK	257456	3.83	380064	4.36	181464	6.49	190495	7.95
05 TRIP BLANK	267848	3.83	395871	4.36	186566	6.49	198260	7.95
06 MW-1A	247899	3.83	372308	4.36	176190	6.49	186424	7.95
07 MW-1B	265055	3.83	393643	4.36	183430	6.49	199359	7.95
08 MW-1C	247972	3.83	369115	4.36	174789	6.49	183741	7.95
09 MW-3A	258933	3.83	385463	4.36	180362	6.49	193701	7.95
10 MW-3B	248926	3.83	364035	4.36	173751	6.49	183973	7.96
11 MW-4A	253490	3.83	383215	4.36	181404	6.49	190788	7.95
12 MW-4B	239363	3.83	358086	4.36	169442	6.49	179830	7.95
13 MW-4BMS	258943	3.83	385850	4.36	183875	6.49	193338	7.95
14 MW-4BMSD	246264	3.83	361844	4.36	172773	6.49	183474	7.95
15 MW-4C	256362	3.83	378731	4.36	178208	6.49	190944	7.95
16 MW-11A	239767	3.83	354974	4.36	167853	6.49	179611	7.95
17 MW-11B	250578	3.83	376938	4.36	176987	6.49	190277	7.95
18 MW-12A	242462	3.83	362878	4.36	174240	6.49	182300	7.95
19 MW-12B	250102	3.83	380060	4.36	178350	6.49	188299	7.95
20 DUP 001	234472	3.83	355163	4.36	166558	6.49	182863	7.95
21 EB	249100	3.83	378106	4.36	176031	6.49	188983	7.95

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5
IS4 14DCB = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

PREMIER ENVIRONMENTAL SERVICES, INC.

DATA VALIDATION REPORT
OF THE
TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL

ORGANIC AND INORGANIC ANALYSES
OF AQUEOUS SAMPLES

PACE ANALYTICAL SERVICES, INC.
MELVILLE, NEW YORK

SDG NUMBER:
TOS014/TOS014F

August, 2014

Prepared for
P.W. Grosser Consulting
Bohemia, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**Volatile Organic Analyses**
SITE:	**North Sea Landfill**
CONTRACT LAB:	**Pace Analytical Services, Inc. Melville, New York**
REPORT NO.:	**TOS014**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**August, 2014**
MATRIX:	**Aqueous**

The data validation was performed according to the guidelines in the described in the New York State Department of Environmental Conservation, Division of Environmental Remediation, Guidance for the Development of Data Usability Summary Reports (DUSR). In addition the data was been reviewed using the protocol specified in the NYS Analytical Services Protocol ('05).

All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

This data reports includes thirteen (13) aqueous samples, one (1) Equipment Blank, one (1) Trip Blank and one (1) Storage Blank sample. The samples associated with this data set were collected April 17, 2014 and April 18, 2014. The samples were received at Pace Analytical Services, Inc. located in Melville, New York on April 18, 2014. The cooler temperatures were within QC limits upon receipt. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260C), Total and Dissolved Metals and Miscellaneous Wet Chemistry analytes as specified on the Chain of Custody (COC) documentation that accompanied the samples to the laboratory.

A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report. Copies of the definitions that may be used to qualify data results are located in Appendix A of this report. Copies of qualified data result pages are located in Appendix B of this report and a copy of Chain of Custody (COC) documentation associated with sampling event is located in Appendix C.

This review is for the subset of samples that were marked on the Chain of Custody for Volatile Organic Analytes. These sub set of these samples was also analyzed for Total and Dissolved Metals as well as miscellaneous wet chemistry analytes. The review of these inorganic analytes is located in the Inorganic Data review section of this report.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

The client requested that five (5) percent (%) of the samples in this data set be reviewed. One (1) discreet sample point was chosen for Volatile Organic Data review. A full review of the holding times and instrument calibration was performed on this data set.

The samples were analyzed using EPA Test Methods for the Evaluation of Solid Waste (SW 846), Method 8260C. The Volatile Organic analytes were reported by the laboratory. Proper custody transfer of the samples was documented in the laboratory reports. Cooler temperatures were within QC limits. Sample preservation was checked prior to analysis. All samples in this data set were properly preserved.

The following aqueous sample was chosen for review in the VOA fraction: MW-1B (1404E49-003).

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Preserved volatile organic analyses are required to be analyzed within 10 days of validated time of sample receipt (VTSR) in accordance with the NYSDEC ASP, Rev '95. The technical holding time for properly preserved aqueous samples is 14 days from collection.

Sample MW-1B was collected on April 17, 2014. The sample analysis was completed on April 23, 2014. The QC sample analyses associated with the sample chosen for review were completed within ten (10) days of VTSR.

3. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate the overall laboratory performance and the efficiency of the analytical technique. If the measured surrogate concentrations are outside the QC limits, qualifiers were applied to the effected samples.

Each of the samples in this data set was spiked with the three (3) surrogate compounds 1,2-Dichloroethane-d4, Toluene-d8 and 4-Bromofluorobenzene. In house-surrogate recovery limits were utilized by the laboratory. The percent recovery of each surrogate met QC criteria in all samples associated with this data set.

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data. The laboratory used the in-house generated recovery criteria and RPD (precision) data for reporting purposes.

Sample MW-4B was prepared and analyzed as a site specific matrix spike/matrix spike duplicate analysis. A subset of target analytes was fortified in the MS and MSD sample. The percent recovery of these fortified analytes met QC criteria in the MS and MSD sample. The RPD of fortified analytes in the MS/MSD sample set met QC criteria.

ORGANIC DATA ASSESSMENT

5. BLANK SPIKE ANALYSIS:

The NY ASP protocol requires that a blank spike analysis be performed with each sample batch. The blank spike analysis is used to insure that the analytical system is in control. The laboratory applied in-house recovery limits for each analyte.

The laboratory performed one (1) laboratory blank spike sample (Laboratory Fortified Blank/LFB) is associated with this data set. The LFB was fortified with the complete list of target analytes in MSB042314. In-house spike recovery limits were reported for each of target analyte. All spike recoveries met QC criteria in this LFB sample analysis.

6. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. Samples are then qualified based on blank contamination when detected.

A) Method Blank contamination

One (1) aqueous method blank sample is associated with these sample analyses. This method blank sample was free from contamination of all target and non-target (TIC) analytes.

B) Equipment Blank contamination

The Equipment Blank sample was free from contamination of target volatile organic analytes.

C) Trip Blank contamination

One (1) Trip Blank sample was collected and analyzed with this data set. The TB sample associated with this data set was free from contamination of target analytes and non-target analytes.

D) Storage Blank contamination

The Storage Blank sample was free from contamination of volatile organic analytes.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with a RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.

One (1) initial calibration curve analysis is associated with the aqueous samples in this data set. The laboratory performed one aqueous initial multilevel calibration on January 13, 2014 (Inst. HP5973-1). The RRF of all target compounds met QC criteria in this initial calibration curve analysis.

One (1) continuing calibration standards are associated with the sample chosen for review in this data set. The CCV standard was analyzed April 23, 2014 (4\F65190.D). The RRF of all target compounds met QC criteria in this continuing calibration standard analysis.

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% (30% CCC compounds). The %D must be <20% in the continuing calibration standard. This criteria has been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines and the USEPA Region II criteria.

One (1) aqueous initial calibration standard analysis is associated with this data set. The laboratory analyzed an aqueous initial calibration curve on January 13, 2014 (Inst. HP5973-1). The laboratory reported the Relative Standard Deviation (%RSD) of each target compound on a summary form that was included in the report. All target analyte %RSD criteria were met in the initial calibration curve analysis with the exception of Acetone (30.2%). Acetone has been qualified "UJ" estimated in the sample chosen for data review.

Qualified data result pages are located in Appendix B of this report.

ORGANIC DATA ASSESSMEN

7. GC/MS CALIBRATION:

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) (cont'd):

One (1) continuing calibration standard analysis is associated with the aqueous samples in this data set. This CCV standard was analyzed April 23, 2014. The % Difference of reported target compounds met QC criteria in the continuing calibration standard with the exception of the following:

Date	Analyte	%Difference
4/23/14	Acrylonitrile	30.2
	Iodomethane	26.7
	Vinyl Acetate	74.4
	Acetone	42.3
	Carbon Disulfide	30.2
	2-Butanone	31.5
	1,2-Dichloroethane	22.5

These target analytes have been estimated "UJ" qualified in the sample chosen for review.

Qualified data result pages are located in Appendix B of this report.

8. GC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50%to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than $\pm$30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

The samples in this data set were spiked with the internal standards Pentafluorobenzene, 1,4-Difluorobenzene, Chlorobenzene-d5 and 1,4-Dichlorobenzene-d4 prior to analysis. The area counts and retention time of each internal standard met QC criteria in the field samples and QC samples associated with this data set.

9. GC/MS MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is Bromofluorobenzene (BFB). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".

The tune criteria listed in the data report met or exceeded that required by the method. All tuning criteria associated with these sample analyses were met.

ORGANIC DATA ASSESSMENT

10. FIELD DUPLICATE ANALYSIS:

Field duplicate samples are taken and analyzed as an indication of overall precision. These measure both field and lab precision, therefore, the results may have more variability than lab duplicate samples. Soil samples are also expected to have a greater variance due to the difficulties associated with collecting exact duplicate soil samples. Data was not qualified based on the results of the field duplicate sample data.

Field duplicate sample analysis was not associated with the sample chosen for review.

11. COMPOUND IDENTIFICATION:

Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within $\pm$ 0.06 RRT units of the standard compound, and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.

Sixteen (16) samples on the COC were marked for volatile organic analyses. One (1) aqueous sample was chosen for data review and DUSR preparation. Sample MW-1B was analyzed for Volatile Organic analytes using EPA Method 8260C. Tentatively Identified Compounds (TIC's) were analyzed, none were reported in this sample. The samples were analyzed in accordance with the cited method.

Sample MW-1B was analyzed without dilution. The laboratory provided the quantitation report, chromatogram and analyte spectra in the New York Sate DEC ASP Category B deliverable that was reported for this data set.

12. OVERALL ASSESSMENT:

The aqueous samples associated with this data set were collected April 17, 2014 and April 18, 2014. The COC documents that accompanied the samples to the laboratory and indicated which samples were to be analyzed Volatile Organic compounds. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete ASP Category B data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

One (1) sample was reviewed to meet the Quality Assurance Plan requirements. The Volatile Organic analytes/sample results associated with sample MW-1B are reported to the laboratory reporting limit or Practical Quantitation Limit (PQL). These Volatile Organic data results are acceptable for use with the noted data qualifiers. Data qualification is described in the above report. Qualified data result pages are located in Appendix B of this report.

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**Target Analyte List of Metals (TAL), Boron Filtered Metals (TAL), Filtered Boron Total Cyanide**
SITE:	**North Sea Landfill**
CONTRACT LAB:	**Pace Analytical Services, Inc. Melville, New York**
SDG NO.:	**TOS014/TOS014F**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**August, 2014**
MATRIX:	**Aqueous**

The Chain of Custody (COC) documentation associated with this data set listed fifteen (15) aqueous samples and one (1) Equipment Bank sample. Sample in this data set were analyzed for the Total TAL metals (inc. Boron), Filtered TAL metals (inc. Boron) or a subset of metals in accordance with the COC documents that accompanied the samples to the laboratory. In addition the total metal sample was analyzed for Cyanide.

The samples in this data set were collected April 17, 2014 and April 18, 2014 and delivered to Pace Analytical Services, Inc. located in Melville, New York. The samples were received at the laboratory on April 18, 2014.

The data evaluation was performed according to the guidelines noted in the "National Functional Guidelines for Inorganic Data Review", January, 2010, SOP HW-2, Evaluation of Metals Data for the Contract Laboratory Program based on ILM05.3 (9/05) and the NYSDEC ASP. A Data Usability Summary Report (DUSR) has been prepared in accordance with the guidelines of the Division of Environmental Remediation.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

Table 1 of this report contains a cross reference between the Field Sample ID's and the Laboratory Sample ID's. Appendix A of this Data Usability Summary Report (DUSR) contains a summary of the data qualifiers that may be used in the report. Appendix B contains the qualified data result pages. Appendix C contains the Chain of Custody (COC) documents associated with this data set.

The samples in this data set were also analyzed for Volatile Organic Analytes and Miscellaneous Wet Chemistry analytes. The data review associated with these analyses are located in stand-alone Data Usability Reports (DUSR). This data review is associated with the Metals (Total and Filtered) and Cyanide Analyses.

DATA USABILITY SUMMARY REPORT (DUSR)
Inorganic Data Assessment

1. OVERVIEW

This data report includes the analysis of 5% of the aqueous samples that were collected April 17, 2014 and April 18, 2014. The samples were received at the laboratory on April 18, 2014 and analyzed for the parameters indicated on the COC documents that accompanied the samples to the laboratory. Table 1 of this report is a cross reference between the Field Sample ID and Laboratory Sample ID.

One (1) sample was chosen for review of Total Metals and Total Cyanide. Sample MW-3A (1404E49-006) was reviewed for Total ICP Metals and Total Cyanide. Sample MW-11A (140E50-001) was reviewed for Dissolved/Filtered Metals.

2. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Metals with the exception of Mercury, is required to be digested and analyzed within 180 days of Verified Time of Sample Receipt (VTSR). Mercury samples are to be digested and analyzed within 26 days of VTSR.

Total Metal Analyses - The total metal aqueous sample chosen for review was prepared for ICP metals in one (1) batch on April 29, 2014. The sample digestate was analyzed in one (1) analytical sequence on May 1, 2014. The Total ICP digestion and analysis was performed within the method holding time. Mercury was prepared and analyzed on May 1, 2014.

Filtered Metal Analyses - The filtered metal aqueous sample chosen for review was prepared for ICP metals in one (1) batch on April 29, 2014. The sample digestate was analyzed in one (1) analytical sequence on May 1, 2014. The Total ICP digestion and analysis was performed within the method holding time. The sample was prepared and analyzed for mercury on May 1, 20143.

Total Cyanide – Sample MW-3A was prepared and analyzed for Total Cyanide on April 29, 2014. Holding time criteria was met for sample preparation and analysis in the sample chosen for review.

3. CALIBRATION ANALYSIS

Inductively Coupled Plasma (ICP) was utilized for these analyses. The ICP was calibrated using the calibration standards required by the manufacturer. An initial calibration verification (ICV) standard is then analyzed to verify instrument calibration. One (1) continuing calibration standard was analyzed after each ten (10) field samples.

Total Metal Analyses – One (1) analytical sequence is associated with the samples in this data set. The sample chosen for review was analyzed May1, 2014. The laboratory reported provided raw data for the analytical sequences to review. All ICV and CCV standards associated with this analytical sequence met QC criteria.

Filtered Metal Analyses – One (1) analytical sequence is associated with the samples in this data set. The sample chosen for review was analyzed May 1, 2014. The laboratory reported provided raw data for the analytical sequences to review. All ICV and CCV standards associated with this analytical sequence met QC criteria.

3. CALIBRATION ANALYSIS (cont'd):

Analysis for Cold Vapor Mercury is calibrated using multi point standards and calculating the correlation coefficient of the curve. One (1) of the calibrations standards must be analyzed at the CRDL. The Total Mercury (MW-3A) and Dissolved Mercury (MW-11A) samples chosen for review were analyzed on May 1, 2014. Initial calibration analyses met QC criteria. Continuing calibration standard analysis was performed using a mid point standard and calculating the concentration of the standard in terms of recovery from the initial calibration curve. Continuing calibration analyses associated with the sample chosen for review met QC criteria.

4. ICP CRDL STANDARD

The CRDL standard is used for the verification of instrument linearity near the CRDL. The CRDL standard control limits are 70%-130% recovery. If the CRDL standard falls outside of the control limits, associated data less than or equal to the 10X the CRDL are qualified estimated (J or UJ) or rejected (R) depending on the recovery of the CRDL standard and the concentration of the analyte in the sample. When the CRDL standard exceeds the control limit, indicating a high bias samples are qualified estimated (J or UJ).

The laboratory analyzed one (1) CRDL standard with each of the Total and Filtered ICP analytical sequence associated with this data set. This validator applied limits of 70-130% to review each target analyte.

Total Metal Analyses – The CRDL recovery of the target analytes met QC criteria in the opening and closing CRDL standard.

Filtered Metal Analyses - The CRDL recovery of the target analytes met QC criteria in the opening and closing CRDL standard.

The CRDL standard QC criteria were met in both the Total and Filtered Mercury analysis associated with this data set.

5. ICP INTERFERENCE CHECK STANDARD

The Interference Check Standard (ICS) is used to verify the laboratory interelement and background correction factors of the ICP. Two solutions comprise the ICS A and ICS AB. Solution A consists of the interferent metals while solution AB is the group of target analytes and the interferent metals. An ICS analysis consists of analyzing both solutions consecutively for all wavelengths used for each analyte reported by ICP. The ICP ICS standards are to be analyzed at the beginning and end of each analytical run. The results are to fall within control limits of +/-20% of the true value.

The laboratory analyzed one (1) ICSA and one (1) ICSAB standard at the beginning and end of the ICP analytical sequence reported with this data set. These QC samples are used to verify the laboratories interelement and background correction factors of the ICP. The recovery of all ICSA/AB standards met QC criteria in the analytical sequence associated with this data sets on May 1, 2014.

6. MATRIX SPIKE (MS) ANALYSIS

The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are 75%-125% when the sample concentration is less than four (4) times the spike added. If the matrix spike recoveries fall in the range of 30%-74%, the sample results are may be biased low and are qualified as estimated (J or UJ). If the matrix spike recoveries fall in the range of 126%-200%, sample results may be biased high. Positive results are qualified estimated (J). If the spike recovery is greater than 125% and the reported sample result is less than the IDL the data point is acceptable for use. If the matrix spike recovery is greater than 200%, the associated sample data are unusable and are rejected (R). If matrix spike results are less than 30%, the associated non-detect results are qualified unusable and rejected (R), and the results reported above the IDL are qualified estimated (J).

Total Metal Analyses - Site specific matrix spike (MS) analysis was performed on Total Metal sample MW-4B (1404E49-009) for ICP Metals and Mercury. The percent recovery of all target analytes met QC criteria in this matrix spike analysis with the exception of Silver (72.5%). Silver has been estimated "J"/"UJ" in the total metal sample chosen for data review.

Qualified data result pages are located in Appendix B of this report.

Filtered Metal Analyses - Site specific matrix spike (MS) analysis was performed on sample MW-11A (1404E50-001). This sample was utilized for both the ICP and Mercury matrix spike analysis. The percent recovery of the target analytes met QC criteria in the matrix spike analysis.

7. POST DIGESTION SPIKE ANALYSIS

The post digestion spike sample analysis provides additional information about the effect of the sample matrix upon the digestion and measurement methodology. The post digestion spike is performed for each analyte that the pre-digestion spike recovery falls outside the 75-125% control limit.

Total Metal Analyses - Post digestion spike analysis was performed on the matrix spike analysis of sample MW-4B. The recovery of these post digestion spikes met QC criteria in both the total and dissolved/filtered sample analyses.

8. DUPLICATE SAMPLE ANALYSIS

The laboratory duplicate sample analysis is used to evaluate the laboratory precision of the method for each analyte. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD or +/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Total Metals Analyses - Site specific duplicate analysis was reported on sample MW-4B. The RPD of target analytes met QC criteria.

Filtered Metals - Site specific duplicate analysis was reported on sample MW-11A. The RPD of all target analytes met QC criteria when the result is above the contract required detection limit.

DATA USABILITY SUMMARY REPORT (DUSR)
Inorganic Data Assessment

9. ICP SERIAL DILUTION

The serial dilution analysis indicates whether significant physical or chemical interference's exist due to the sample matrix. If the concentration of any analyte in the original sample is greater than 50 times the instrument detection limit (IDL), an analysis of a 5-fold dilution samples must yield results which have a percent difference (%D) of less than or equal to 10 with the original sample results. If the %D of the serial dilution exceeds the 10% (and is not greater than 100%) for a particular analyte, all the associated sample results are qualified estimated (J).

Total Metal Analysis - Serial dilution analysis was performed on sample MW-4B. The %Difference of target analytes met QC criteria with the exception of Potassium (14.9%). Potassium has been estimated "J" qualified in the sample chosen for data review.

Qualified data result pages are located in Appendix B of this report.

Filtered Metal Analysis - Serial dilution analysis was performed on sample MW-11A. The %Difference of target analytes met QC criteria in the serial dilution analysis.

10. BLANKS

Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.

The laboratory provided a summary report form for the method blank associated with each of the preparation batches. Each of the ICP preparation blanks (Total and Filtered) was free from contamination of all target analytes above the reporting limit.

The preparation blank associated with both the Total and Filtered Mercury sample analyses was free from contamination above the laboratory reporting limit.

Aluminum was detected at a concentration below the reporting limit and "B" qualified by the laboratory in the preparation blank associated with the Total ICP metals. Aluminum was detected in the MW-3A (Total) at a concentration that may be attributed to the preparation blank sample. Aluminum has been negated "U" qualified in the sample chosen for review.

Aluminum was detected at a concentration below the reporting limit and "B" qualified by the laboratory in the preparation blank associated with the Filtered ICP metals. Aluminum was detected in the MW-11A (Filtered) at a concentration that may be attributed to the preparation blank sample. Aluminum has been negated "U" qualified in the sample chosen for review.

The laboratory provided summary forms to report the ICB and CCB analyses for all of the ICP and Mercury analytical sequences associated with this data set. All QC criteria were met in each of the ICB/CCB analyses reported in this data set.

Qualified data result pages are located in Appendix B of this report.

11. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

One (1) Laboratory Control Sample (LCS) was prepared and analyzed with each preparation batch. Each of the LCS samples was fortified with the associated target analytes. A recovery limit of 80%-120% was applied to each target analyte. The recovery of all target analytes met QC criteria in each of the ICP and Mercury LCS samples associated with this data set.

12. INSTRUMENT QC DATA

The laboratory provided the required annual and semiannual ICP and Mercury Instrument QC summary report forms in this data report. All annual and semiannual QC studies were performed by the laboratory within the proper time frame.

13. COMPOUND IDENTIFICATION

The samples in this data set were reported as Total Metals and Filtered/Dissolved Metals and Total Cyanide. Samples were filtered upon receipt at the laboratory as per the documentation that accompanied the samples to the laboratory. Samples in this data set were analyzed for TAL ICP metals, mercury and cyanide specified by the COC documents.

Five (5) percent (%) of these samples were chosen for data review. Sample MW-3A (1404E49-006) was chosen for the review of Total Metals, Total Cyanide. Sample MW-11A (1404E50-001) was chosen for review of Filtered Metals.

The samples in this data set were analyzed in accordance with the required methods as specified by the COC documents that accompanied the samples to the laboratory. All sample data was reported in ug/l.

14. FIELD DUPLICATE SAMPLE ANALYSIS

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Soil samples have more variability than aqueous samples due to the non-homogeneity of the soil. The total metal sample chosen for data review (MW-3A) is not the field duplicate sample that was included in this data set. The filtered metal sample (MW-11A) is not the sample chosen as the field duplicate sample. These samples chosen for review haven been qualified based on the results of the field duplicate sample analyses.

15. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

This data set included the reporting of Total and Filtered Metals and Total Cyanide as required by the Chain of Custody Documentation that accompanied the samples to the laboratory. The samples were analyzed for the Total/Filtered TAL Metals and Boron or a subset of metals designated by the associated COC documents. The Chain of Custody documents noted what samples were analyzed for specified analytes. A copy of the Chain of Custody is located in Appendix C of this report. The sample results are reported in accordance with the cited methods.

The samples chosen for Total and Filtered Metal data review in this data set are acceptable for use with the noted data qualifiers. The above text details the QC outliers noted during this review.

Qualified data result pages are located in Appendix B of this report.

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**Miscellaneous Wet Chemistry**
SITE:	**North Sea Landfill**
CONTRACT LAB:	**Pace Analytical Services, Inc. Melville, NY**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**August, 2014**
MATRIX:	**Aqueous**

The Chain of Custody (COC) documentation associated with this data set listed fifteen (15) aqueous samples and one (1) Equipment Blank sample. The samples in this data set were collected April 17, 2014 and April 18, 2014. The samples were delivered to Pace Analytical Services, Inc. located in Melville, New York. The samples were received at the laboratory on April 18, 2014.

The data evaluation was performed according to the guidelines and QC criteria cited in the miscellaneous wet chemistry methods that were used for this data set. A Data Usability Summary Report (DUSR) has been prepared in accordance with the guidelines of the Division of Environmental Remediation.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

Table 1 of this report contains a cross reference between the Field Sample ID's and the Laboratory Sample ID's. Appendix A of this Data Usability Summary Report (DUSR) contains a summary of the data qualifiers that may be used in the report. Appendix B contains the qualified data result pages. Appendix C contains the Chain of Custody (COC) documents associated with this data set.

The laboratory performed these wet chemistry analyses based on the COC documentation that accompanied the samples to the laboratory. In addition these samples were analyzed for Volatile Organic Analytes and Metals (Total and Filtered). The review of these various analyses are reported in stand-alone DUSR reports. This data review is associated with the Miscellaneous Wet Chemistry Analyses.

DATA USABILITY SUMMARY REPORT (DUSR)
NORTH SEA LANDFILL

1. OVERVIEW

This data report includes the review of 5% of the aqueous samples that were collected April 17, 2014 and April 18, 2014. The samples were received at the laboratory on April 18, 2014 per the COC documents that accompanied the samples to the laboratory. Table 1 of this report is a cross reference between the field sample ID and laboratory sample ID. Fifteen (15) field samples and one (1) Equipment Blank sample was analyzed for the wet chemistry parameters listed on the COC documents.

One (1) of the samples in this data set was chosen for review. The sample chosen for review was sample MW-12B (1404E49-014).

The samples in this data set were analyzed for the parameters listed on the COC documents. A full data deliverable was generated to report these sample results. The aqueous samples in this data set were analyzed for the Wet Chemistry analytes. These included the following: Alkalinity, Chloride, Sulfate, Bromide, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Cyanide, Color, Hardness, Hexavalent Chromium, Nitrogen-Ammonia (as N), Nitrate, Nitrite, Total Recoverable Phenols, Total Dissolved Solids (TDS), Total Kjeldahl Nitrogen (TKN) and Total Organic Carbon (TOC).

2. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid.

The laboratory chronicles lists the date of analysis dates for all samples for the Miscellaneous Wet Chemistry analyses. Based on the laboratory chronicle and the raw data included for review with this data set, all samples were prepared and analyzed for these inorganic analytes within holding time.

3. CALIBRATION ANALYSIS

Miscellaneous Wet Chemistry Analyses – The laboratory summarized the initial and continuing calibration data associated with each of the wet chemistry analytes where applicable. The initial and continuing calibration standard analyses associated with this data set met QC criteria for each applicable method.

4. MATRIX SPIKE (MS) ANALYSIS

The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are laboratory developed. The in-house recovery limits are cited on the QC summary report pages for each analyte where applicable.

Sample MW-4B (1404E49-009) was utilized for the matrix spike analyses where applicable. The percent recovery of the MS sample met QC criteria for all analytes reported.

5. DUPLICATE SAMPLE ANALYSIS

The laboratory duplicate sample analysis is used to evaluate the laboratory precision of the method for each analyte. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Sample MW-4B (1404E49-009) designated on the COC documents to be utilized for the laboratory duplicate sample where applicable. The RPD% met QC criteria for the reported wet chemistry duplicate sample analyses.

6. BLANKS

Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.

The laboratory provided Method Blank data results for each of the Wet Chemistry analytes with the exception of the BOD depletion blank. This blank depletion was > than acceptance criteria. BOD in the sample chosen for review (MW-12B) has been estimated "UJ" qualified. The method blank and/or preparation blank associated with the miscellaneous Wet Chemistry methods were free from contamination of the target analyte above the reporting limit.

Qualified data result pages are located in Appendix B of this report.

The Equipment Blank (EB) was free from contamination of target wet chemistry analytes.

7. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory reported LCS recoveries for each of the wet chemistry analyses. The recovery of each LCS sample analysis met QC criteria.

8. COMPOUND IDENTIFICATION

Samples results are reported in accordance with the cited methods. A review of the raw data was performed for these wet chemistry analyses. Sample MW-12B (1404E49-016) was the sample chosen for complete review. Target analytes were reported in sample MW-12B were reported without dilution with the exception of Hardness (DF 1:4) (100 mg/l).

DATA USABILITY SUMMARY REPORT (DUSR)
NORTH SEA LANDFILL

9. FIELD DUPLICATE DATA RESULTS:

Field duplicate samples are taken and analyzed as an indication of overall precision. These measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples.

The duplicate sample in this data set was not chosen within the 5% sample review. A review of the field duplicate sample results was not performed.

10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The inorganic analyses associated with this data set included the reporting of sixteen (16) aqueous samples. The samples were analyzed for miscellaneous Wet Chemistry analytes as noted on the COC documents that accompanied the data set. Five percent (5%) of the sample set was to be reviewed. The sample chosen for review was sample MW-12B (1404E49-014). A copy of the Chain of Custody is located in Appendix C of this report. The sample results are reported in accordance with the cited methods.

The miscellaneous wet chemistry analyte results in sample MW-12B are acceptable for use without data qualifiers.

APPENDIX A

DATA QUALIFIER DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

K – The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.

L - The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.

UL – The analyte was not detected, and the reported quantitation limit is probably higher than reported.

APPENDIX B

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1B

Lab Name: PACE ANALYTICAL Contract:

Lab Code: 10478 Case No.: TOS SAS No.: SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µL) Soil Aliquot Volume (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl chloride	2	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
107-13-1	Acrylonitrile	5	U	UH
75-69-4	Trichlorofluoromethane	5	U	
75-35-4	1,1-Dichloroethene	5	U	
74-88-4	Iodomethane	5	U	UHJ
108-05-4	Vinyl acetate	5	U	
67-64-1	Acetone	5	U	UHJ
75-15-0	Carbon disulfide	5	U	
75-09-2	Methylene chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
78-93-3	2-Butanone	5	U	UH
74-97-5	Bromochloromethane	5	U	
67-66-3	Chloroform	2	J	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon tetrachloride	5	U	
71-43-2	Benzene	1	U	
107-06-2	1,2-Dichloroethane	5	U	UJ
79-01-6	Trichloroethene	5	U	
78-87-5	1,2-Dichloropropane	1	U	
74-95-3	Dibromomethane	5	U	
75-27-4	Bromodichloromethane	5	U	
10061-01-5	cis-1,3-Dichloropropene	0.4	U	
108-10-1	4-Methyl-2-pentanone	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	0.4	U	
79-00-5	1,1,2-Trichloroethane	1	U	
127-18-4	Tetrachloroethene	5	U	
591-78-6	2-Hexanone	5	U	
124-48-1	Dibromochloromethane	5	U	
106-93-4	1,2-Dibromoethane	1	U	

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1B

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
108-90-7	Chlorobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
100-41-4	Ethylbenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1F

EPA SAMPLE NO.

MW-1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: TOS SAS No.: _____ SDG No.: TOS014

Matrix: (soil/water) WATER Lab Sample ID: 1404E49-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 4\F65197.D

Level: (low/med) LOW Date Received: 04/18/14

% Moisture: not dec. Date Analyzed: 04/23/14

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

Soil Extract Volume: (µl) Soil Aliquot Volume: 0 (µL)

CONCENTRATION UNITS:

Number TICs found: 0 (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-3A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014

Matrix (soil/water): WATER Lab Sample ID: 1404E49-006

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	39.1	B		P	U
7440-36-0	Antimony	1.9	U		P	
7440-38-2	Arsenic	1.1	U		P	
7440-39-3	Barium	55.0	B		P	
7440-41-7	Beryllium	0.14	U		P	
7440-42-8	Boron	29.1	B		P	
7440-43-9	Cadmium	0.11	U		P	
7440-70-2	Calcium	19100			P	
7440-47-3	Chromium	595			P	
7440-48-4	Cobalt	2.4	B		P	
7440-50-8	Copper	16.4	B		P	
57-12-5	Cyanide	10.0	U		CA	
7439-89-6	Iron	2280			P	
7439-92-1	Lead	5.3			P	
7439-95-4	Magnesium	4740	B		P	
7439-96-5	Manganese	255			P	
7439-97-6	Mercury	0.10	U		CV	
7440-02-0	Nickel	73.5			P	
7440-09-7	Potassium	6580		E	P	J
7782-49-2	Selenium	1.6	B		P	
7440-22-4	Silver	0.43	U	N	P	U J
7440-23-5	Sodium	33600			P	
7440-28-0	Thallium	1.3	U		P	
7440-62-2	Vanadium	1.9	B		P	
7440-66-6	Zinc	26.7			P	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MW-11A

Lab Name: PACE ANALYTICAL

Lab Code: 10478 Case No. SAS No.: SDG No.: TOS014F

Matrix (soil/water): WATER Lab Sample ID: 1404E50-001

Level (low/med): LOW Date Received: 4/18/2014

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.4	B	J	P
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	1.1	U		P
7440-39-3	Barium	71.4	B		P
7440-41-7	Beryllium	0.14	U		P
7440-42-8	Boron	36.0	B		P
7440-43-9	Cadmium	0.20	B		P
7440-70-2	Calcium	24400			P
7440-47-3	Chromium	1.1	U		P
7440-48-4	Cobalt	33.8	B		P
7440-50-8	Copper	1.4	B		P
7439-89-6	Iron	146			P
7439-92-1	Lead	14.9			P
7439-95-4	Magnesium	9030			P
7439-96-5	Manganese	871			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	21.5	B		P
7440-09-7	Potassium	3850	B		P
7782-49-2	Selenium	2.6	B		P
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium	8340			P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	0.39	U		P
7440-66-6	Zinc	11.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Date Reported 5/21/2014
Dissolved Metals

Pace Analytical™
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 8:35:00 AM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-014
Client Sample ID: MW-12B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SM2320B : Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Alkalinity, Total (As CaCO3)	78.9		1	mg/L	04/22/2014 3:55 PM	Container-01 of 02

Analytical Method: E300.0 : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Bromide	< 0.50		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02
Chloride	17.5		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02
Sulfate	36.0		1	mg/L	04/29/2014 3:31 AM	Container-01 of 02

Analytical Method: SM5210B : Prep Method: SM5210B Prep Date: 4/18/2014 5:27:53 PM Analyst: CN

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Biochemical Oxygen Demand	< 2	UJ	1	mg/L	04/18/2014 5:50 PM	Container-01 of 02

NOTES:
Blank depletion exceeds 0.2 mg/L - average depletion of 0.4 mg/L

Analytical Method: SW9014 : Prep Method: SM4500-CN E Prep Date: 4/29/2014 10:07:10 AM Analyst: JDLR

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Cyanide	< 10		1	µg/L	04/29/2014 1:01 PM	Container-01 of 01

Analytical Method: E410.4: Analyst: VaS

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chemical Oxygen Demand	10.8		1	mg/L	04/29/2014 12:06 PM	Container-01 of 01

Analytical Method: SM2120B : IOC Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Color	< 5.00		1	units	04/19/2014 8:14 AM	Container-01 of 02
Color pH	7.00	+	1	units	04/19/2014 8:14 AM	Container-01 of 02

Analytical Method: M3500-Cr D : Analyst: TF

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Chromium, Hexavalent	< 0.02		1	mg/L	04/19/2014 11:15 AM	Container-01 of 02

Analytical Method: SM2340C : Analyst: JA

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Hardness (As CaCO3)	100	D	4	mg/L	05/01/2014 1:25 PM	Container-01 of 01

Analytical Method: SM4500-NH3 H : Analyst: bka

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
Nitrogen, Ammonia (As N)	1.00		1	mg/L	04/25/2014 2:27 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 5/21/2014

TOS014 W29

Pace Analytical™
575 Broad Hollow Road, Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Town of Southampton
Waste Management Division
Southampton, New York 11968
Attn To : Christine Fetten
Collected :4/17/2014 8:35:00 AM
Received :4/18/2014 4:00:00 PM
Collected By PWG99

Lab No. : 1404E49-014
Client Sample ID: MW-12B

Sample Information:
Type : Groundwater

Origin:

Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Nitrite as N	< 0.10		1	mg/L	04/19/2014 8:25 AM	Container-01 of 02
Analytical Method: E353.2 :						Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Nitrate as N	0.89		1	mg/L	04/19/2014 9:21 AM	Container-01 of 01
Analytical Method: E420.1 :	Prep Method: E420.1				Prep Date: 4/23/2014 10:30:00 AM	Analyst: EM
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Phenolics, Total Recoverable	< 5.0		1	µg/L	04/28/2014 7:47 AM	Container-01 of01
Analytical Method: SM2540C : IOC						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Total Dissolved Solids	173		1	mg/L	04/22/2014 12:19 PM	Container-01 of 02
Analytical Method: E351.2 :	Prep Method: E351.2				Prep Date: 5/2/2014 5:00:00 AM	Analyst: TF
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Nitrogen, Kjeldahl, Total	1.46		1	mg/L	05/02/2014 12:29 PM	Container-01 of01
Analytical Method: SW9060 :						Analyst: CO
Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container
Total Organic Carbon	1.7		1	mg/L	04/24/2014 4:26 AM	Container-01 of02

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found In Blank
D.F. = Dilution Factor D = Results for Dilution
H = Received/analyzed outside of analytical holding time
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method
c = Calibration acceptability criteria exceeded for this analyte
r = Reporting limit > MDL and < LOQ, Value estimated.
J = Estimated value - below calibration range
S = Recovery exceeded control limits for this analyte
N = Indicates presumptive evidence of compound

Client Services Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 5/21/2014

APPENDIX C

CHAIN OF CUSTODY RECORD

TOS014/014F

Pace Analytical®
www.pacelabs.com

LAB W.O #_____ Quote:_____ Page 1 of 2

Company Name: P.W. Grosser Consulting PO#
Address: 630 Johnson Ave, Ste 7
City: Bohemia State: NY Zip: 11716
Attn: Derek Eisbach Fax# 631-589-8705
email: dereka@pwgrosser.com phone: 631589 6353
Project Name North Sea Landfill Proj # SHP1401
Sampler Signature
Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

LAB ANALYSIS

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK (Y/N)	Total # of containers	Baseline Parameters (6NYCRR Part 360-2.11 (d)(6))	Filtered Metals	Routine Parameters + Arsenic (6NYCRR Part 360-2.11 (d)(6))							EXAMPLE Diss. Lead 6010
																	# of Containers Size/Type 1 16ozP
1	LEA-PRI	4/17	1000	L				☐	☐	X	☐	☐	☐	☐	☐	☐	
2	LEA-SEC	4/17	0955	L				X	☐	X	☐	☐	☐	☐	☐	☐	
3	MW-1A	4/17	1155	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
4	MW-1B	4/17	1115	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
5	MW-1C	4/17	1015	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
6	MW-4A	4/17	1547	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
7	MW-4B/MS/MSD	4/17	1647	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
8	MW-4C	4/17	1610	L				X	☐	☐	☐	☐	☐	☐	☐	☐	
9	MW-11A	4/17	1340	L				X	X	☐	☐	☐	☐	☐	1404E50		
10	MW-11B	4/17	1305	L				X	☐	☐	☐	☐	☐	☐	☐	☐	

Sample TRC pH Pres Codes

Container Type Codes

AV	Amber Vial	ES	EncoreSampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PLC	Plastic container
AL	Amber Liter	PLJ	Plastic Jar
CL	Clear Liter	Z	Ziplocbag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other		TC	Terra-core

PPV Prepreserved vial
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other_____
40ml 500ml 250ml 125 ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H20	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other_____ (Please specify)
ML	Misc. Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

REMARKS

1404E49-001
002
003
004
MCW T 4-18-14 005
~~006~~ 008
~~007~~ 009
~~008~~ 010
~~009~~ 011
~~010~~ 012

Circle F.A.L. REQUEST (Rush Fees Approved) Standard Rush
Y N Today 1D 2D 3D 4D 5D ___

Short Hold Y___ N___

Circle QA/QC Report Level 1 2 3 4 CLP AFCEE QAPP Other_____

EDD (Fees May Apply) ADaPT SEDD ERPIMS TSV CSV Other_____

COC Condition OK Incomplete

Required State Certification FL GA SC NC NJ PA LA TX IL ___

Coolers #'s - Temp °C 1 1.6 2 2.9 3 3.2 4 4.6 5 5.6

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	[signature]		[illegible]	[illegible]	[signature]	PACE	4/18/14	14:10
2	[signature]	PACE	4/18	16:00	[signature]	PACE	4-18-14	1600
3								
4								

Lab Use Only	YES	NO	N/A
Non-Conformance Found?		✓	
Samples INTACT upon arrival?	✓		
Received on Wet Ice?	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals intact?	✓		
Volatiles rec'd without headspace?	✓		
Proper Containers Used?	✓		

Pompano Lab 954-582-4300 Revision: F•ALL•C•007 Rev.00

C.O.C. Serial # 67818

TOS014/014F A15

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CHAIN OF CUSTODY RECORD

TOS014

LAB W.O #_____ Quote:_____ Page 2 of 2

Company Name: PVGC PO#

Address:

City: SAA State: Zip:

Attn: Fax#

email: Phone:

Project Name Proj #

Sampler Signature

Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

LAB ANALYSIS

Parameters: Baseline

Sample TRC pH Pres Codes

HNO_3: 52159/53130 H_2SO_4: 52131
NaOH: B0847769239 / B0975869342
ZnAc: 2303C36 NH_4Cl: 47072741
Na_2SO_3: K37648057 (Sulfite)
$Na_2S_2O_3$: 2280C123 (Thiosulfate)
ChlorAC: 2303C36 HCl: 5231/53010

EXAMPLE Diss. Lead 6010

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK/N	Total # of containers	# of Containers Size/Type: 1 16ozP
1	MW-12A	4/17	0858	L				X
2	MW-12B	4/17	0835	L				X
3	Trip Blank	—	—	L				X
4	DUP001	4/17	—	L				X
5	EB	4/17	1716	L				X
6	MW-3A	4/18	0911	L				X
7	MW-3B	4/18	0855	L				X
8								
9								
10								

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PLC	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Z	Ziploc bag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other		TC	Terra-core

PPV Prepreserved Vial
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other _____ 40ml 500ml 250ml 125ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Matrix Codes

SD*	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H20	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other _____ (Please specify)
ML	Misc. Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. ZnAcatate
D. NaOH	H. $NaHSO_4$	O. Other

REMARKS

1404E49-~~011~~ 013
~~012~~ 014
MW ~~013~~ 015 017
4/18 ~~013~~ 015
~~014~~ 016
- 006
- 007

Client TAT Requested (Rush Fees Approved) Standard TAT = 4 weeks

Email Hold: Y____ N____

Circle Level of QC Report Level: 1 2 3 4 CLP AFCEE QAPP Other

EDD (Circle if you want one) ADaPT SECOR EXPRESS TSV CSV Other

COC Condition: OK Incomplete

Required State Certification: FL GA SC NC NJ PA LA TX IL

Coolers #'s - Temp °C: 1___ 2___ 3___ 4___ 5___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1			4/18	0841			4/18/14	14:20
2		PACE	4/18	16:00		PACE	4-18-14	1600
3								
4								

Lab Use Only

	YES	NO	N/A
Non-Conformance Found?		✓	
Samples INTACT upon arrival?	✓		
Received on Wet Ice?	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatiles recd without headspace?	✓		
Proper Containers Used?	✓		

TOS014/014F A16

Pompano Lab 954-582-4300 Revision: F-ALL-C-007- Rev.00

C.O.C. Serial # 67819

APPENDIX B

WELL INSPECTION CHECKLISTS

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	1A	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	104.58
DEPTH TO BOTTOM (FEET)	110.00
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	1B	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	105.78
DEPTH TO BOTTOM (FEET)	162.08
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	1C	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	106.36
DEPTH TO BOTTOM (FEET)	200.60
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	3A	Date	4/18/2014
Inspected By	DE	Weather Conditions	Cloudy 58

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	47.51
DEPTH TO BOTTOM (FEET)	60.25
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	3B	Date	4/17/2014
Inspected By	DE	Weather Conditions	Cloudy, 58

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	44.25
DEPTH TO BOTTOM (FEET)	113.00
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	3C	Date	4/17/2014
Inspected By	DE	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT			
WELL IS PROTECTED			TREE ON WELL
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)

DEPTH TO BOTTOM (FEET)

PID (ppm)

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	4A	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	13.31
DEPTH TO BOTTOM (FEET)	30.83
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	4B	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	13.45
DEPTH TO BOTTOM (FEET)	80.50
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	4C	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	9.31
DEPTH TO BOTTOM (FEET)	151.50
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	6AR	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:		X	NO LOCK
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	91.94
DEPTH TO BOTTOM (FEET)	111.50
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	6B	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	94.29
DEPTH TO BOTTOM (FEET)	145.10
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	7A	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:		X	NO LOCK
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	83.89
DEPTH TO BOTTOM (FEET)	96.30
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	7B	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	83.83
DEPTH TO BOTTOM (FEET)	140.7
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	7C	Date	4/17/2014
Inspected By	JG/DE/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	83.61
DEPTH TO BOTTOM (FEET)	180.10
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	8	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	76.88
DEPTH TO BOTTOM (FEET)	84.00
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	9	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	73.79
DEPTH TO BOTTOM (FEET)	87.10
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	11A	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	72.75
DEPTH TO BOTTOM (FEET)	77.16
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	11B	Date	4/17/2014
Inspected By	JG/RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:		X	NO LOCK
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	73.51
DEPTH TO BOTTOM (FEET)	122.00
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	12A	Date	4/17/2014
Inspected By	RM	Weather Conditions	Sunny, 42

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	79.73
DEPTH TO BOTTOM (FEET)	91.10
PID (ppm)	0.0

P.W. GROSSER CONSULTING, INC.

WELL INSPECTION CHECKLIST

Well No.	12B	Date	4/17/2014
Inspected By	RM	Weather Conditions	Sunny, 58

WELL EXTERIOR CONDITIONS

	Yes	No	Remarks
CONCRETE PAD			
Intact:	X		
Cracked:		X	
Missing:		X	
PONDING OF WATER AROUND WELL		X	
PROTECTIVE CASING/MANHOLE/LOCK	X		
Casing/Manhole - Intact:	X		
Lock - Intact:	X		
WELL CASING (STICKUP) STRAIGHT	X		
DESIGNATED MEASURING POINT	X		
WELL IS PROTECTED	X		
WELL IS CLEARLY MARKED	X		

INTERIOR WELL CONDITIONS

DEPTH TO WATER (FEET)	80.34
DEPTH TO BOTTOM (FEET)	108.80
PID (ppm)	0.0

APPENDIX C

MONITORING WELL SAMPLING LOGS

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	1A / Town of Southhampton		
SAMPLE I.D.	MW-1A		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	11:55
WELL USE	Monitoring		
STATIC WATER ELEVATION	104.58	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	110.00	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	3
CASING VOLUMES REMOVED	3	GALLONS	12
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	5.95	6.01	5.78	5.70	5.77
COND	0.239	0.258	0.258	0.259	0.253
T	12.05	10.96	10.90	11.03	11.08
ORP	203	214	210	221	224
TURB	2.7	0.7	0.0	0.0	0.00
D.O.	7.18	7.47	7.39	7.40	8.12

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	1B / Town of Southhampton		
SAMPLE I.D.	MW-1B / DUP001		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	11:15
WELL USE	Monitoring		
STATIC WATER ELEVATION	105.78	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	162.08	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	23
CASING VOLUMES REMOVED	3	GALLONS	114
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.94	6.57	6.76	6.46	6.46
COND	0.077	0.070	0.071	0.071	0.070
T	11.30	11.30	11.26	11.21	11.21
ORP	110	107	102	101	103
TURB	4.50	3.2	0.90	0.50	1.10
D.O.	9.45	9.04	8.61	8.60	8.62

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	1C / Town of Southhampton		
SAMPLE I.D.	MW-1C		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	10:15
WELL USE	Monitoring		
STATIC WATER ELEVATION	106.36	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	200.6	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	38
CASING VOLUMES REMOVED	3	GALLONS	190
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.45	6.37	6.20	6.20	6.15
COND	0.086	0.087	0.089	0.089	0.089
T	10.23	10.17	10.15	10.15	10.12
ORP	191	201	218	218	227
TURB	2.4	6.60	1.00	1.00	0.3
D.O.	9.08	9.02	9.48	9.48	9.56

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	3A / Town of Southhampton		
SAMPLE I.D.	MW-3A		
SAMPLING POINT	TOC	SAMPLED BY	DE
DATE SAMPLED	4/18/2014	TIME SAMPLED	9:11
WELL USE	Monitoring		
STATIC WATER ELEVATION	47.51	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	60.25	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	5
CASING VOLUMES REMOVED	3	GALLONS	25
SAMPLE APPEARANCE	clear	ODORS OBSERVED	none
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.73	6.35	6.31	6.29	6.28
COND	0.479	0.379	0.360	0.353	0.349
T	11.08	12.61	12.62	12.63	12.62
ORP	-37	63	72	77	80
TURB	147.00	28.00	18.90	13.10	11.50
D.O.	9.63	6.13	5.87	5.67	5.53

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	3B / Town of Southhampton		
SAMPLE I.D.	MW-3B		
SAMPLING POINT	TOC	SAMPLED BY	DE
DATE SAMPLED	4/18/2014	TIME SAMPLED	8:56
WELL USE	Monitoring		
STATIC WATER ELEVATION	44.25	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	113.00	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	28
CASING VOLUMES REMOVED	3	GALLONS	140
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.32	6.50	6.43	6.41	6.39
COND	0.221	0.240	0.244	0.244	0.244
T	11.98	11.46	11.37	11.37	11.36
ORP	-22	-30	-32	-33	-33
TURB	25.9	11.70	0.10	0.00	0.00
D.O.	3.20	1.28	0.72	0.66	0.64

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	3C / Town of Southhampton		
SAMPLE I.D.	MW-3C		
SAMPLING POINT	TOC	SAMPLED BY	
DATE SAMPLED		TIME SAMPLED	
WELL USE	Monitoring		
STATIC WATER ELEVATION		FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH		FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	
CASING VOLUMES REMOVED	3	GALLONS	
SAMPLE APPEARANCE		ODORS OBSERVED	
PID (ppm)			
ANALYSIS	Baseline	DATE SHIPPED	NOT SAMPLED- TREE ON WELL

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH					
COND					
T					
ORP					
TURB					
D.O.					

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	4A / Town of Southhampton		
SAMPLE I.D.	MW-4A		
SAMPLING POINT	TOC	SAMPLED BY	RM
DATE SAMPLED	4/17/2014	TIME SAMPLED	15:47
WELL USE	Monitoring		
STATIC WATER ELEVATION	13.31	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	30.83	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	7
CASING VOLUMES REMOVED	3	GALLONS	36
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.31	5.65	5.50	5.51	5.61
COND	0.256	0.252	0.299	0.277	0.244
T	10.45	10.52	10.50	10.44	10.41
ORP	206	209	217	219	220
TURB	27.5	5.6	1.90	0.50	1.10
D.O.	10.93	10.81	10.75	10.71	10.61

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	4B / Town of Southhampton		
SAMPLE I.D.	MW-4B / MS / MSD		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	16:47
WELL USE	Monitoring		
STATIC WATER ELEVATION	13.45	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	80.50	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	27
CASING VOLUMES REMOVED	3	GALLONS	134
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.72	6.58	6.66	6.64	6.60
COND	0.296	0.332	0.351	0.355	0.359
T	11.57	11.73	11.82	11.85	11.86
ORP	228	35	-26	-33	-37
TURB	2.80	7.60	0.00	0.00	0.00
D.O.	8.20	3.79	2.45	2.36	2.30

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	4C / Town of Southhampton		
SAMPLE I.D.	MW-4C		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	16:10
WELL USE	Monitoring		
STATIC WATER ELEVATION	9.31	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	151.50	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	57
CASING VOLUMES REMOVED	3	GALLONS	284
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	7.19	7.69	7.91	7.95	7.95
COND	0.862	0.042	0.301	0.310	0.311
T	11.42	11.59	11.50	11.54	11.54
ORP	11	62	71	83	90
TURB	3.70	11.00	0.30	1.90	1.50
D.O.	7.34	3.36	3.01	3.04	3.08

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WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	11A / Town of Southhampton		
SAMPLE I.D.	MW-11A		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	13:40
WELL USE	Monitoring		
STATIC WATER ELEVATION	72.75	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	77.16	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	10
CASING VOLUMES REMOVED	3	GALLONS	44
SAMPLE APPEARANCE	SLIGHTLY TURBID	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.36	6.15	6.02	5.96	5.94
COND	0.340	0.325	0.297	0.287	0.279
T	12.22	12.34	12.33	12.32	12.39
ORP	131	124	126	123	118
TURB	422.00	>800	237	46.8	23.6
D.O.	2.60	1.66	1.61	1.60	1.61

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WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	11B / Town of Southhampton		
SAMPLE I.D.	MW-11B		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	13:05
WELL USE	Monitoring		
STATIC WATER ELEVATION	73.51	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	122.00	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	20
CASING VOLUMES REMOVED	3	GALLONS	109
SAMPLE APPEARANCE	Sligtly Turbid	ODORS OBSERVED	None
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.47	6.48	6.26	6.29	6.28
COND	0.462	0.430	0.186	0.190	0.191
T	13.28	11.86	11.53	11.50	11.50
ORP	215	215	221	212	212
TURB	23.7	17.30	32.9	29.6	19.5
D.O.	6.97	6.67	7.46	7.40	7.40

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WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	12A / Town of Southhampton		
SAMPLE I.D.	MW-12A		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	8:58
WELL USE	Monitoring		
STATIC WATER ELEVATION	79.73	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	91.10	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	5
CASING VOLUMES REMOVED	3	GALLONS	25
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	6.06	6.03	6.03	6.02	6.03
COND	0.250	0.252	0.261	0.262	0.263
T	11.05	11.02	11.16	11.16	11.17
ORP	137	146	152	152	149
TURB	65.1	57.2	23.6	19.8	16.9
D.O.	3.02	2.53	2.09	2.30	1.94

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	12B / Town of Southhampton		
SAMPLE I.D.	MW-12B		
SAMPLING POINT	TOC	SAMPLED BY	JG
DATE SAMPLED	4/17/2014	TIME SAMPLED	8:35
WELL USE	Monitoring		
STATIC WATER ELEVATION	80.34	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	4 Inches		
TOTAL WELL DEPTH	108.80	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	Submersible Pump	SAMPLE METHOD	Bailer
PURGE RATE	5 GPM	PURGE TIME	12
CASING VOLUMES REMOVED	3	GALLONS	60
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
PID (ppm)	0.0		
ANALYSIS	Baseline	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	5.12	6.17	6.23	6.23	6.24
COND	0.308	0.313	0.313	0.313	0.312
T	8.12	10.85	10.89	10.90	10.90
ORP	255	242	233	223	221
TURB	7	9.10	2.30	0.20	0.40
D.O.	10.65	0.96	0.86	0.82	0.83

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WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	LEA-PRI / Town of Southhampton		
SAMPLE I.D.	LEA-PRI		
SAMPLING POINT	TOC	SAMPLED BY	DE
DATE SAMPLED	4/17/2014	TIME SAMPLED	9:55
WELL USE	NA		
STATIC WATER ELEVATION	NA	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	NA Inches		
TOTAL WELL DEPTH	NA	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	NA	SAMPLE METHOD	Bailer
PURGE RATE	-	PURGE TIME	NA
CASING VOLUMES REMOVED	-	GALLONS	NA
SAMPLE APPEARANCE	BROWN	ODORS OBSERVED	LEACHATE
PID (ppm)	NA		
ANALYSIS	Routine Parameters + Arsenic	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	-	-	-	-	5.95
COND	-	-	-	-	0.488
T	-	-	-	-	8.49
ORP	-	-	-	-	186
TURB	-	-	-	-	50.5
D.O.	-	-	-	-	11.29

P.W. GROSSER CONSULTING, INC.

WELL SAMPLING LOG

CLIENT/PROJECT No.	Town of Southhampton / SHP1401		
WELL No./OWNER	LEA-SEC / Town of Southhampton		
SAMPLE I.D.	LEA-SEC		
SAMPLING POINT	TOC	SAMPLED BY	DE
DATE SAMPLED	4/17/2014	TIME SAMPLED	10:00
WELL USE	NA		
STATIC WATER ELEVATION	NA	FT. BELOW MEASURING POINT	TOC
WELL DIAMETER	NA Inches		
TOTAL WELL DEPTH	NA	FT. BELOW MEASURING POINT	TOC

SAMPLING INFORMATION

PURGE METHOD	NA	SAMPLE METHOD	Bailer
PURGE RATE	-	PURGE TIME	NA
CASING VOLUMES REMOVED	-	GALLONS	NA
SAMPLE APPEARANCE	BROWN	ODORS OBSERVED	LEACHATE
PID (ppm)	NA		
ANALYSIS	Routine Parameters + Arsenic	DATE SHIPPED	4/18/2014

SAMPLING PARAMETERS

	Initial	1 Vol	2 Vol	3 Vol	Pre-sampling
pH	-	-	-	-	5.44
COND	-	-	-	-	0.491
T	-	-	-	-	6.83
ORP	-	-	-	-	152
TURB	-	-	-	-	34.4
D.O.	-	-	-	-	8.21

APPENDIX D

6 NYCRR Part 360-2: LANDFILLS

New York State

DEC

Division of Solid & Hazardous Materials

6 NYCRR Part 360
Solid Waste Management Facilities
Title 6 of the Official Compilation of Codes, Rules and Regulations

Revised November 24, 1999

Reprinted March 2001

New York State Department of Environmental Conservation

George E. Pataki, ***Governor*** **Erin M. Crotty,** ***Acting Commissioner***

6 NYCRR PART 360

SOLID WASTE MANAGEMENT FACILITIES

TABLE OF CONTENTS

		Page
SUBPART 360-1	**GENERAL PROVISIONS**	
Section 360-1.1	**Purpose and applicability**	1-1
(a) Purpose		
(b) Applicability		
Section 360-1.2	**Definitions**	1-1
(a) *Solid waste* and related terms		
(b) Other definitions of general applicability		
Section 360-1.3	**References**	1-14
(a) Federal		
(b) Other		
Section 360-1.4	**Enforcement, inspection and reporting**	1-15
(a) Enforcement		
(b) Inspection		
(c) Reporting		
Section 360-1.5	**Prohibited disposal**	1-16
(a) Solid waste disposal facilities		
(b) Hazardous waste disposal facilities		
Section 360-1.6	**Severability**	1-17
Section 360-1.7	**Permit requirements, exemptions and variances**	1-17
(a) Permit requirements		
(b) Exemptions		
(c) Variances		
Section 360-1.8	**Permit application and registration procedures, generally**	1-22
(a) Uniform Procedures Act		
(b) SEQRA review		
(c) Preapplication meetings		
(d) Permits, generally		
(e) Permit modifications		
(f) Permit renewals		
(g) Local solid waste management plan		
(h) Registration of facilities		
Section 360-1.9	**Contents of applications, generally**	1-24
(a) Initial permits and level of detail		
(b) Nonspecific facilities		

(c) Modification applications
(d) Renewal applications
(e) Engineering plans, reports and specifications
(f) Comprehensive recycling analysis
(g) Inactive hazardous waste disposal and corrective action sites
(h) Contingency plan
(i) Signature and verification of applications
Section 360-1.10 Permit issuance criteria 1-30
(a) Construction
(b) Operation
Section 360-1.11 Permit provisions 1-48
(a) Mitigation of adverse impacts
(b) Transferability
(c) Duration of construction
(d) Duration of permits
(e) Supervision and certification of construction
(f) Cessation of construction or operation activities
(g) Department inspection of activities
(h) Recyclables recovery
(i) Approved design capacity
Section 360-1.12 Financial assurance 1-32
(a) Applicability
(b) Liability coverage
(c) Forms of financial assurance
Section 360-1.13 Research, development and demonstration permits 1-32
(a) Permit
(b) Permit application
(c) Permit restrictions
(d) Renewal
Section 360-1.14 Operational requirements for all solid waste management facilities 1-33
(a) Applicability
(b) Water
(c) Public access
(d) Control of access
(e) Control program for unauthorized waste
(f) Maintenance and operation
(g) Contingency plan
(h) Monitoring samples and results
(i) Recordkeeping
(j) Confinement of solid waste
(k) Dust control
(l) Vector control

(m) Odor control
(n) On-site roads
(o) Equipment shelter
(p) Noise levels
(q) Open burning
(r) Department-approved facilities
(s) Emergency numbers
(t) Facilities
(u) Facility operator requirements
(v) Salvaging
(w) Closure

Section 360-1.15 Beneficial use 1-36

(a) Applicability
(b) Solid waste cessation
(c) Special reporting requirements
(d) Case-specific beneficial use determinations

SUBPART 360-2 LANDFILLS

Section 360-2.1 Applicability 2-1
Section 360-2.2 Transition 2-1
Section 360-2.3 Permit application requirements 2-2
Section 360-2.4 Engineering drawings 2-3
Section 360-2.5 Operation drawings 2-4
Section 360-2.6 Landscape plan 2-4
Section 360-2.7 Engineering report 2-4
Section 360-2.8 Construction quality assurance/construction quality control plan 2-7

(a) Responsibilities and authorities
(b) Personnel qualifications
(c) Inspection activities
(d) Sampling strategies
(e) Documentation

Section 360-2.9 Operation and maintenance manual 2-8

(a) Landfill disposal methods
(b) Personnel requirements
(c) Machinery and equipment
(d) Landfill operational controls
(e) Fill progression
(f) Waste amounts and characterization
(g) Solid waste receiving process
(h) Cover material management plan
(i) Environmental monitoring plan

(j) Leachate management plan
(k) Gas monitoring program
(l) Winter and inclement weather operations
(m) Convenience station operation
(n) First lift placement procedures
(o) Fire prevention plan
Section 360-2.10 Contingency plan 2-10
(a) Construction related contingency plan
(b) Operation related contingency plan
(c) Post-closure contingency plan
Section 360-2.11 Hydrogeologic report 2-11
(a) Requirements of the site investigation plan
(b) Site investigation report
(c) Environmental monitoring plan
(d) Site analytical plan
(d)(6) Water Quality Analysis Tables 2-26
Section 360-2.12 Landfill siting 2-47
(a) Applicability
(b) Exceptions
(c) Landfill siting restrictions
Section 360-2.13 Landfill construction requirements 2-51
(a) Horizontal separation requirements
(b) Survey control
(c) Location coordinates
(d) Groundwater separation
(e) Bedrock separation
(f) Liner system description
(g) Leachate collection and removal system design
(h) Leachate collection pipe network design
(i) Landfill subgrade
(j) Soil component of the liner system
(k) Geomembrane liners
(l) Soil drainage layers
(m) Leachate collection pipes
(n) Geosynthetic drainage layers
(o) Filter layer criteria
(p) Gas venting layer
(q) Low permeability barrier soil covers
(r) Geomembrane covers
(s) Composite covers
(t) Topsoil
(u) Construction certification report
(v) Waste quantification

(w) Equivalent design
Section 360-2.14 Industrial/commercial waste monofills and solid waste incinerator ash residue monofills 2-63
(a) Industrial/commercial waste monofills
(b) Solid waste incinerator ash residue monofills
Section 360-2.15 Landfill closure and post-closure criteria 2-65
(a) Closure site investigation
(b) Conceptual closure plan
(c) Final closure plan
(d) Final cover system
(e) Landfill gas control
(f) Perimeter gas collection systems
(g) Gas control using flares
(h) Condensate from gas processing or control systems
(i) Leachate collection system
(j) Vectors
(k) Post-closure operation and maintenance
(l) Closure and post-closure registration report
Section 360-2.16 Landfill gas recovery facilities 2-71
(a) Purpose
(b) Applicability
(c) Application requirements
(d) Permit renewals
(e) Operational requirements
Section 360-2.17 Landfill operation requirements 2-72
(a) Water quality monitoring program
(b) Waste placement requirements
(c) Daily cover
(d) Intermediate cover
(e) Final cover system
(f) Decomposition gases
(g) Leachate generation and migration
(h) Maintenance schedule for primary leachate collection and removal system
(i) Monitoring schedule for secondary leachate collection and removal system
(j) Leachate recirculation
(k) Bulk liquids
(l) Industrial/commercial wastes
(m) Hazardous waste and low-level radioactive waste
(n) Sludge disposal
(o) Sludge and other solid waste
(p) Asbestos waste disposal

(q) Inspection of unauthorized waste
(r) Tank disposal
(s) Perimeter access road
(t) Annual report
(u) Weight scales
(v) Tires
(w) Lead acid batteries
(x) Air criteria
Section 360-2.18 Landfill reclamation 2-76
(a) Applicability
(b) Feasibility study work plans
(c) Feasibility study field investigation and report
(d) Landfill reclamation work plans
(e) Landfill footprint reduction
(f) Contingency plans
Section 360-2.19 Financial assurance criteria 2-78
(a) Applicability and effective date
(b) Financial assurance for closure
(c) Financial assurance for post-closure care
(d) Financial assurance for corrective measures
(e) Allowable financial assurance mechanisms
Section 360-2.20 Corrective measures report 2-84
(a) Corrective measures assessment
(b) Corrective measures selection
(c) Corrective measures implementation
Section 360-2.21 Landfill gas collection and control systems for certain municipal solid waste landfills 2-89

SUBPART 360-3 SOLID WASTE INCINERATORS OR REFUSE-DERIVED FUEL PROCESSING FACILITIES OR SOLID WASTE PYROLYSIS UNITS
Section 360-3.1 Applicability 3-1
(a) Applicability
(b) Exemptions
(c) Registration
Section 360-3.2 Definitions 3-1
Section 360-3.3 Application requirements for a permit to construct and operate 3-2
(a) Engineering report
(b) Engineering plans and specifications
(c) Comprehensive recycling analysis
(d) Landfill
(e) Final disposition of refuse-derived fuel

(f) Facility operation and maintenance manual
(g) Personnel training plan
(h) Facility maintenance, monitoring and inspection plan
(i) Staffing plan
(j) Waste control plan
(k) Contingency plan
(l) Closure plan
(m) Additional requirements
(n) Operation and maintenance manual submission review

Section 360-3.4 Operational requirements 3-9
(a) Operation and maintenance manual
(b) Receipt and handling of solid waste
(c) Drainage
(d) Process changes
(e) Access
(f) Reporting
(g) Preparedness and prevention

Section 360-3.5 Ash residue requirements 3-11
(a) General
(b) Additional requirements
(c) Testing requirements
(d) Testing procedures
(e) Management requirement
(f) Ash residue management plan
(g) Disposal
(h) Landfill applications
(i) Ash residue beneficial use

SUBPART 360-4 LAND APPLICATION FACILITIES

Section 360-4.1 Applicability and exemptions 4-1
Section 360-4.2 Sewage sludge and septage: department review 4-2
Section 360-4.3 Sewage sludge and septage: permit application 4-2
Section 360-4.4 Sewage sludge and septage: operational requirements 4-6
Section 360-4.5 Sludge and other solid waste: applicability and department review 4-9
Section 360-4.6 Sludge and other solid waste: permit application 4-9
Section 360-4.7 Sludge and other solid waste: operational requirements 4-10
Section 360-4.8 Research projects 4-10
Section 360-4.9 Storage facilities: permit application 4-10
Section 360-4.10 Storage facilities: operational requirements 4-11

SUBPART 360-5 COMPOSTING FACILITIES
Section 360-5.1 Applicability and exemptions 5-1
(a) Applicability
(b) Exemptions
Section 360-5.2 Permit application: sludge and solid waste 5-1
Section 360-5.3 Operational requirements: sludge and solid waste 5-3
Section 360-5.4 Permit application: yard waste 5-6
Section 360-5.5 Operational requirements: yard waste 5-7

SUBPART 360-6 LIQUID STORAGE
Section 360-6.1 Applicability 6-1
Section 360-6.2 General requirements 6-1
Section 360-6.3 Aboveground and on-ground tank requirements 6-1
Section 360-6.4 Underground tank requirements 6-2
Section 360-6.5 Surface impoundment requirements 6-2
Section 360-6.6 Closure of liquid storage facilities 6-3

SUBPART 360-7 CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL
Section 360-7.1 Applicability, exemptions and definitions 7-1
(a) Applicability
(b) Exemptions
(c) Definitions
(d) Landfill expansions
Section 360-7.2 Registration 7-2
(a) Land clearing debris landfills
(b) Location restrictions
(c) Additional operational requirements
Section 360-7.3 C&D debris landfills three acres or less 7-2
(a) Permit application requirements
(b) Construction requirements
Section 360-7.4 C&D debris landfills greater than three acres 7-6
(a) Permit application requirements
(b) Construction requirements
Section 360-7.5 Operation requirements 7-10
(a) Water quality monitoring program
(b) Annual report
(c) Specific waste placement requirements
(d) Cover
(e) Final cover system
(f) Vegetative cover
(g) Leachate

(h) Unauthorized waste
(i) Public access
(j) Recordkeeping
Section 360-7.6 Closure and post-closure criteria 7-12
(a) Final closure plan
(b) Landfills without an approved closure plan
(c) Landfills where maximum slope exceeds 33 percent
(d) Maintenance
(e) Post-closure monitoring and maintenance manual
(f) Transfer of ownership
(g) Closure and post-closure registration report
Section 360-7.7 Corrective measures 7-13

SUBPART 360-8 LONG ISLAND LANDFILLS
Section 360-8.1 Applicability 8-1
Section 360-8.2 Definitions 8-1
(a) Definitions
(b) General definitions
Section 360-8.3 General landfill requirements 8-1
(a) Site prohibitions
(b) Financial guarantee
(c) Methane gas
(d) Operational limitations
(e) Existing landfill liner requirements
Section 360-8.4 Landfills in deep flow recharge areas 8-2
Section 360-8.5 Landfills outside deep flow recharge areas 8-3
Section 360-8.6 Disposal of clean fill 8-3
(a) Clean fill disposal requirements
(b) Exemptions
(c) Permit requirements for clean fill sites two acres or less
(d) Permit requirements for clean fill sites larger than two acres

SUBPART 360-9 STATE ASSISTANCE AND LOANS FOR MUNICIPAL LANDFILL CLOSURE PROJECTS
Section 360-9.1 Purpose and applicability 9-1
(a) Purpose
(b) Applicability
(c)
Section 360-9.2 Definitions 9-1
(a) Definitions from Environmental Conservation Law
(b) Other definitions

Section 360-9.3 Application eligibility 9-3
(a) Ownership
(b) Population
(c) Additional requirements
(d) Applicable regulations
(e) Obligation to close
(f) Closure investigation report
(g) Waiver of assistance
(h) Phased landfill closure
Section 360-9.4 Application procedure 9-4
(a) Application form
(b) Necessary information
(c) Central office submission
(d) Regional office submission
Section 360-9.5 Department review 9-4
(a) Receipt of applications
(b) Initial review
(c) Award of State assistance and loans
Section 360-9.6 Eligible and ineligible costs for State assistance payments and loans 9-5
(a) Eligible costs
(b) Ineligible costs
Section 360-9.7 State assistance progress reviews and reimbursement schedule 9-6
(a) Approval process
(b) Requirements for reimbursement
(c) Department review
(d) Revision of award amount
Section 360-9.8 Loan approvals 9-6
(a) Loan requirements
(b) Loan amount
(c) Loan schedule
Section 360-9.9 State assistance contract 9-7
Section 360-9.10 Return of State assistance for nonperformance 9-7
(a) Failure to comply
(b) Violation of contract
Section 360-9.11 Loan contract 9-8
Section 360-9.12 Return of loan for nonperformance 9-8
(a) Failure to make a loan payment
(b) Loan contract default

SUBPART 360-10 REGULATED MEDICAL WASTE STORAGE, TRANSFER AND DISPOSAL

Section 360-10.1 Applicability and exemptions 10-1
(a) Applicability
(b) Exemptions
Section 360-10.2 Definitions 10-1
Section 360-10.3 Permit to construct and operate application requirements 10-1
(a) Regional plan or map
(b) Engineering plan
(c) Engineering report
(d) Surety
(e) Design requirements for storage and transfer facilities
(f) Operation plan
(g) Contingency plan
(h) Personnel training plan
Section 360-10.4 Operational requirements 10-3
Section 360-10.5 Disposal 10-4

SUBPART 360-11 TRANSFER STATIONS

Section 360-11.1 Applicability and registration 11-1
(a) Applicability
(b) Registration
Section 360-11.2 Additional permit application requirements 11-1
(a) Application requirements
(b) Other requirements
Section 360-11.3 Design requirements 11-2
(a) Unloading and loading areas
(b) On-site roads
Section 360-11.4 Operational requirements 11-3
(a) Acceptable waste
(b) Ultimate disposal of waste
(c) Signs
(d) Public access
(e) Control of litter, insects, odors and vectors
(f) Drainage
(g) Storage area
(h) Recoverable solid waste
(i) Operational records
(j) Annual report
(k) Fire protection
(l) Removal of waste

(m) Asbestos waste
(n) Additional operational requirements

SUBPART 360-12 RECYCLABLES HANDLING AND RECOVERY FACILITIES
Section 360-12.1 Applicability 12-
(a) Facilities regulated
(b) Exempt facilities
(c) Automobile dismantlers reporting requirements
(d) Registration
(e) Other recycling activities
Section 360-12.2 Operational requirements 12-2
(a) Receipt and handling of solid waste
(b) Storage
(c) Access
(d) Reporting and recordkeeping

SUBPART 360-13 WASTE TIRE STORAGE FACILITIES
Section 360-13.1 Applicability 13-1
(a) Storage
(b) Temporary storage
(c) Agricultural soils
(d) Registration
(e) Other uses
(f) Waste tire disposal
(g) Transition
Section 360-13.2 Additional application requirements for an initial permit to construct and operate 13-3
(a) Report
(b) Site plan
(c) Market analysis
(d) Plans and specifications
(e) Monitoring and inspection plan
(f) Closure plan
(g) Surety
(h) Contingency plan
(i) Storage plan
(j) Vector control plan
Section 360-13.3 Operational requirements 13-6
(a) Operation and maintenance manual
(b) Sorting of waste tires
(c) Fire prevention and control

(d) Access
(e) Reporting and recordkeeping
(f) Receipt and handling

SUBPART 360-14 USED OIL
Section 360-14.1 Applicability 14-1
(a) Applicable requirements
(b) Waste oil compared to used oil
(c) Prohibitions
(d) Exemptions
Section 360-14.2 Definitions 14-4
Section 360-14.3 Additional application requirements for an initial permit to construct and operate a used oil transfer, storage or processing facility 14-6
(a) Other applicable requirements
(b) EPA identification number
(c) Transition
(d) Municipal requirements
(e) Used Oil Tanks: Compliance with Petroleum Bulk Storage Regulations and Federal Underground Tank Regulations
(f) Containers
(g) Off-specification versus on-specification
(h) Tank and container sign requirements
(i) Engineering report
(j) Used oil quality control plan
(k) Contingency plan
(l) Closure plan
(m) Draft operations and maintenance manual
(n) Records and reporting
Section 360-14.4 Used engine lubricating oil retention facilities 14-13
(a) Used engine lubricating oil retention facilities
(b) Service establishments
(c) Retail establishment collection facilities
(d) Retail establishments that elect not to maintain collection facilities
Section 360-14.5 Transportation requirements for used oil facilities 14-15
(a) Shipping used oil
(b) Receipt of used oil by a facility

SUBPART 360-15 COMPREHENSIVE SOLID WASTE MANAGEMENT PLANNING
Section 360-15.1 Purpose and overview 15-1
Section 360-15.2 Definitions 15-1

Section 360-15.3	**Grant application**	15-2
Section 360-15.4	**Department grant application review**	15-2
Section 360-15.5	**Contract content**	15-3
Section 360-15.6	**Payments under contract**	15-3
Section 360-15.7	**Eligible costs**	15-3
Section 360-15.8	**Ineligible costs**	15-3
Section 360-15.9	**Plan contents**	15-4
Section 360-15.10	**Plan approval**	15-5
Section 360-15.11	**Plan modification/update**	15-6
Section 360-15.12	**Plan compliance reports**	15-70

SUBPART 360-16 CONSTRUCTION AND DEMOLITION DEBRIS PROCESSING FACILITIES

Section 360-16.1 Applicability 16-1

(a) Processing and disposal
(b) Exempt facilities
(c) Prohibition
(d) Registration

Section 360-16.2 Definitions 16-1

Section 360-16.3 Additional application requirements for a permit to construct and operate 16-2

(a) Regional map
(b) Vicinity map
(c) Site plan
(d) Engineering report
(e) Fire protection and control
(f) Unloading, loading and storage areas
(g) On-site roads
(h) Draft operation and maintenance manual
(i) Residue disposal
(j) Daily cover use

Section 360-16.4 Operational requirements 16-4

(a) O&M manual
(b) Receipt and handling of waste
(c) Disposal of processed C&D debris
(d) Use of C&D debris as an alternative daily cover material at a landfill
(e) Beneficial uses of C&D debris
(f) Storage requirements
(g) Leachate management and drainage
(h) Access
(i) Reporting and recordkeeping

(j) Closure requirements
(k) On-site environmental monitors
(l) Tracking document

SUBPART 360-17 REGULATED MEDICAL WASTE TREATMENT FACILITIES

Section 360-17.1 Applicability 17-1
(a) Applicability
(b) Approved treatment methods
(c) Exemption
(d) Existing facilities
(e) New York State Department of Health approvals

Section 360-17.2 Definitions 17-2

Section 360-17.3 Application requirements for a permit to construct and operate 17-4
(a) Engineering report
(b) Engineering plans and specifications
(c) Treatment, destruction and disposal facility
(d) Validation testing program
(e) Surety
(f) Facility plans
(g) Operation plan
(h) Maintenance and monitoring plan
(i) Personnel staffing and training plan
(j) Waste control plan
(k) Contingency plan
(l) Closure and financial assurance plans
(m) Security plan

Section 360-17.4 Operational requirements 17-13
(a) General
(b) Receipt and handling of solid waste
(c) Drainage
(d) Process changes
(e) Reporting
(f) Odor and volatile organic control
(g) Certification

Section 360-17.5 Requirements for treatment of regulated medical waste 17-15
(a) Operating parameters for autoclaves
(b) Validation testing program
(c) Challenge testing
(d) Operating parameters for other RMW treatment technologies

PREFACE

Organization and Numbering of Statutes and Regulations

The Environmental Conservation Law (ECL) is Chapter 43-B of the Consolidated Laws of New York.

Numbering system in the ECL:

Example

Article 25
Title 19
Section 25-1910
subdivision 25-1910.5
paragraph 25-1910.5(a)

This may be written as ECL 25-1910.5(a)

The regulations of the department are Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (NYCRR).

Numbering system in the department's regulations:

Example

Title 6
Part 360
Subpart 360-2
section 360-2.13
subdivision 360-2.13(k)
paragraph 360-2.13(k)(3)
subparagraph 360-2.13(k)(3)(iii)
clause 360-2.13(k)(3)(iii)(*b*)
subclause 360-2.13(k)(3)(iii)(*b*)(*1*)
item 360-2.13(k)(3)(iii)(*b*)(*1*)(*i*)

This may be written as 6 NYCRR Part 360-2.13(k)(3)(iii)(*b*)(*1*)(*i*)

This numbering system is described in the preface to the department's regulations, and in the regulations of the Department of State (19 NYCRR 261.4(b)).

service area under local laws or ordinances adopted or to be adopted under section 120-aa of the General Municipal Law.

(e) Supervision and certification of construction. The construction of a solid waste management facility and each stage of one must be undertaken under the supervision of an individual licensed to practice engineering in the State of New York. Upon completion of construction, that individual must certify in writing that the construction is in accordance with the terms of the applicable permit and tested in accordance with generally accepted engineering practices. Except as specified elsewhere in this Part, this certification must be submitted to the department within three months after completion of construction and must include as-built plans. The operator must notify the department, in writing, of the date when solid waste will be first received at the facility.

(f) Cessation of construction or operation activities. If construction or operation activities started under a permit issued pursuant to this Part cease for a period of 12 consecutive months, the permit automatically expires on the last day of the 12th month following cessation of activities. There is no automatic expiration when the cessation of construction or operation is caused by factors beyond the reasonable control of the permittee, as determined by the department, or when such cessation is in accordance with the provisions of the permit.

(g) Department inspection of activities. The permittee must authorize the commissioner or authorized department staff, after presentation of department credentials, to undertake inspections in accordance with subdivision 360-1.4(b) of this Part.

(h) Recyclables recovery. In the case of a permit relating to a landfill (other than one used exclusively for ash residue, clean fill or construction and demolition debris), a solid waste incinerator (other than one used exclusively to incinerate regulated medical waste), a refuse-derived fuel processing facility, a construction and demolition debris processing facility, a mixed solid waste composting facility or a transfer station (other than one used exclusively for transfer of regulated medical waste), the permit must contain a condition that the permittee must not accept at the facility solid waste which was generated within a municipality that has either not completed a comprehensive recycling analysis or is not included in another municipality's comprehensive recycling analysis satisfying the requirements of subdivision 360-1.9(f) of this Part which has been approved by the department and implemented the recyclables recovery program determined to be feasible by the analysis.

(i) Approved design capacity. Every permit must set forth the facility's approved design capacity.

Section 360-1.12 Financial assurance.

(a) Applicability.

(1) In addition to any financial assurance requirements specifically addressed in a Subpart of this Part, the department may require a form of financial assurance, acceptable to the department, from a permit holder, and conditioned upon compliance with the terms of the permit issued to such holder pursuant to this Part.

(2) A form of financial assurance, acceptable to the department, will be required to cover the cost of having the facility properly closed for facilities where the operator and the owner are not the same person.

(3) A form of financial assurance, acceptable to the department, may be required from registered facilities.

(b) Liability coverage. A form of financial assurance for claims arising out of injury to persons or property, relative to either sudden and accidental occurrences or non-sudden and accidental occurrences, may be required for solid waste management facilities. Such financial assurance may be in the form of liability insurance, self-insurance or other form acceptable to the department. The amount of such financial assurance is to be set by the department.

(c) Forms of financial assurance. Section 373-2.8 of this Title provides guidance on the criteria and wording of financial assurance instruments that the department will consider in assessing the acceptability of financial assurance mechanisms.

Section 360-1.13 Research, development and demonstration permits.

(a) Permit. The department may issue a research, development and demonstration permit for any solid waste management facility proposing to utilize an innovative and experimental solid waste management technology or process, including a beneficial use demonstration project. The application for such

permit must clearly demonstrate adequate protection of public health and the environment and be consistent with federal and State laws and regulations and this Part. A permit issued under this section must not be for an activity of a continuing nature. The department may, at its discretion, waive or modify some or all of the application requirements for permits issued under this section.

(b) Permit application. An application for a permit issued under this section must:

(1) describe the proposed activity in detail;

(2) describe how the applicant intends to provide for the receipt and treatment or disposal by the proposed facility of only those types and quantities of solid waste necessary to determine the efficiency and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment; and how the applicant intends to protect human health and the environment in the conduct of the project; and

(3) state that the applicant will provide, on a timely basis, the department with any information obtained as a result of the activity undertaken under the permit. The information must be submitted in accordance with schedules identified in the permit.

(c) Permit restrictions. The permit must:

(1) provide for the construction of facilities as necessary, and for the operation of the facility for not longer than one year (unless renewed as provided in subdivision (d) of this section);

(2) provide for the receipt and treatment or disposal by the facility of only those types and quantities of solid waste that the department determines necessary to determine, the efficiency and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment;

(3) include such requirements as the department determines necessary to protect human health and the environment (including, but not limited to requirements regarding monitoring, operation, financial assurance and closure, and such requirements as the department deems necessary regarding testing and providing of information to the commissioner about the operation of the facility); and

(4) provide that the commissioner, without affording the permittee a prior opportunity for a hearing, may order an immediate termination of all operations at the facility at any time the commissioner determines that termination is necessary to protect human health and the environment, provided that the permittee is provided an opportunity for a hearing on the termination issue no later than 10 days after the issuance of the order and a decision is rendered no more than 20 days after the close of the hearing record. Nothing in this Part shall preclude or affect the commissioner's authority to issue summary abatement orders under section 71-0301 of the ECL or to take emergency actions summarily suspending a permit under section 401.3 of the State Administrative Procedure Act.

(d) Renewal. Permits issued under this section may be renewed not more than three times, unless the permittee demonstrates to the satisfaction of the department that a longer time period is required to adequately assess the long-term environmental effects of the technology or process being studied under authority of the permit. Each renewal period will not exceed one year and will be conditioned upon compliance with this section.

Section 360-1.14 Operational requirements for all solid waste management facilities.

(a) Applicability. Except as elsewhere provided in this Part, any person who designs, constructs, maintains or operates any solid waste management facility subject to this Part must do so in conformance with the requirements of this section.

(b) Water.

(1) Solid waste must not be deposited in, and must be prevented from, entering surface waters or groundwaters.

(2) Leachate. All solid waste management facilities must be constructed, operated and closed in a manner that minimizes the generation of leachate that must be disposed of and prevent the migration of leachate into surface and groundwaters. Leachate must not be allowed to drain or discharge into surface water except pursuant to a State Pollutant Discharge Elimination System permit and must not cause or contribute to contravention of groundwater quality standards established by the department pursuant to ECL section 17-0301.

(c) Public access. Public access to facilities and receipt of solid waste may occur only when an attendant is on duty. This provision does not apply to

combustion-powered equipment used at the facility. Sound levels for such equipment must not exceed 80 decibels (A) at a distance of 50 feet from the operating equipment.

(q) Open burning. Open burning at a solid waste management facility is prohibited, except for the infrequent burning of agricultural wastes, silvicultural wastes, land clearing debris (excluding stumps), diseased trees or debris from emergency cleanup operation, pursuant to a restricted burning permit issued by the department. Measures must be taken immediately to extinguish any non-permitted open burning and the department must be notified that it has occurred.

(r) Department-approved facilities. Solid waste resulting from industrial or commercial operations, sludge, and septage must be processed, disposed, used or otherwise managed only at facilities that the department has specifically approved for such management of that specific waste.

(s) Emergency numbers. Telephone numbers to emergency response agencies such as the local police department, fire department, ambulance and hospital must be conspicuously posted in all areas where telephones are available for use at the facility.

(t) Facilities. Where operating personnel are required, certain facilities must be provided (except in the case of composting facilities using aerated static pile or windrow techniques and land application facilities). These facilities include adequately heated and lighted shelters, a safe drinking water supply, sanitary toilet facilities and radio or telephone communication.

(u) Facility operator requirements.

(1) Except as otherwise specified in a Subpart of this Part pertaining to a specific type of solid waste management facility, the facility operator, during all hours of operation, must have available for use, a copy of the permit issued pursuant to this Part, including conditions, a copy of the operation and maintenance report, the contingency plan and the most recent annual report.

(2) Operation of every landfill, and other solid waste management facilities as directed by the department, must be conducted under the direction of a facility operator. The facility operator must attend and successfully complete within 12 months from their date of employment, a course of instruction in solid waste management procedures relevant to the facility at which the facility operator is employed. The course must be provided or approved by the department. The department will issue a certificate of attendance to each individual successfully completing the course. Attendance at a department-approved course before the effective date of this Part will adequately satisfy these training requirements.

(v) Salvaging. Salvaging, if permitted by the facility owner or operator, must be controlled by the facility owner or operator within a designated salvage area and must not interfere with facility operations or create hazards or nuisances.

(w) Closure. The owner or operator of any active or inactive solid waste management facility must, upon termination of use, properly close that facility and must monitor and maintain such closure so as to minimize the need for further maintenance or corrective actions and to prevent or remedy adverse environmental or health impacts such as, but not limited to, contravention of surface water and groundwater quality standards, gas migration, odors and vectors. Termination of use includes those situations where a facility has not received solid waste for more than one year, unless otherwise provided by permit, or if the permit has expired. Termination of use also results from permit denial or order of the commissioner or of a court. Specific closure measures which may also include corrective actions as specified in this Part are subject to approval by the department.

Section 360-1.15 Beneficial use.

(a) Applicability.

(1) This section applies to materials that, before being beneficially used (as determined by the department), were solid waste. This section does not apply to solid wastes subject to regulation under Subpart 360-4 of this Part, except in the manner identified in subdivision 360-1.15(b) of this Part.

(2) Beneficial use determinations granted by the department before the effective date of this section shall remain in effect, subject to all conditions contained therein, unless specifically addressed by subsequent department action.

(b) Solid waste cessation. The following items are not considered solid waste for the purposes of this Part when used as described in this subdivision:

(1) materials identified in subparagraphs 371.1(e)(1)(vi)-(viii) of this Title that cease to be solid waste under the conditions identified in those subparagraphs;

(2) compost and other distribution and marketing (D&M) products that satisfy the applicable requirements under Subpart 360-5 of this Part;

(3) unadulterated wood, wood chips, or bark from land clearing, logging operations, utility line clearing and maintenance operations, pulp and paper production, and wood products manufacturing, when these materials are placed in commerce for service as mulch, landscaping, animal bedding, erosion control, wood fuel production, and bulking agent at a compost facility operated in compliance with Subpart 360-5 of this Part;

(4) uncontaminated newspaper or newsprint when used as animal bedding;

(5) uncontaminated glass when used as a substitute for conventional aggregate in asphalt or subgrade applications;

(6) tire chips when used as an aggregate for road base materials or asphalt pavements in accordance with New York State Department of Transportation standard specifications, or whole tires or tire chips when used for energy recovery;

(7) uncontaminated soil which has been excavated as part of a construction project, and which is being used as a fill material, in place of soil native to the site of disposition;

(8) nonhazardous, contaminated soil which has been excavated as part of a construction project, other than a department-approved or undertaken inactive hazardous waste disposal site remediation program, and which is used as backfill for the same excavation or excavations containing similar contaminants at the same site. Excess materials on these projects are subject to the requirements of this Part. (Note: use of in-place and stockpiled soil from a site being converted to a realty subdivision, as defined by the Public Health Law (10 NYCRR 72), must be approved by the local health department.);

(9) nonhazardous petroleum contaminated soil which has been decontaminated to the satisfaction of the department and is being used in a manner acceptable to the department;

(10) solid wastes which are approved in advance, in writing, by the department for use as daily cover material or other landfill liner or final cover system components pursuant to the provisions of subdivision 360-2.13(w) of this Part when these materials are received at the landfill;

(11) recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, glass, soil and rock placed in commerce for service as a substitute for conventional aggregate;

(12) nonhazardous petroleum contaminated soil when incorporated into asphalt pavement products by a producer authorized by the department;

(13) unadulterated wood combustion bottom ash, fly ash, or combined ash when used as a soil amendment or fertilizer, provided the application rate of the wood ash is limited to the nutrient need of the crop grown on the land on which the wood ash will be applied and does not exceed 16 dry tons per acre per year;

(14) coal combustion bottom ash placed in commerce to serve as a component in the manufacture of roofing shingles or asphalt products; or as a traction agent on roadways, parking lots and other driving surfaces;

(15) coal combustion fly ash or gas scrubbing by-products placed in commerce to serve as an ingredient to produce light weight block, light weight aggregate, low strength backfill material, manufactured gypsum or manufactured calcium chloride; and

(16) coal combustion fly ash or coal combustion bottom ash placed in commerce to serve as a cement or aggregate substitute in concrete or concrete products; as raw feed in the manufacture of cement; or placed in commerce to serve as structural fill within building foundations when placed above the seasonal high groundwater table.

(c) Special reporting requirements. No later than 60 days after the first day of January following each year of operation, the generator of coal combustion ash must submit a report to the department that identifies the respective quantities of coal combustion bottom ash, fly ash, and gas scrubbing by-products it generated during the calendar year to which it pertains and, with respect to coal combustion bottom ash, how much was sent to a manufacturer of roofing shingles or asphalt products, how much was used as a traction

agent on roadways, parking lots, and other driving surfaces, how much was sent to a manufacturer of cement, concrete or concrete products, and how much was used as structural fill; and, with respect to coal combustion fly ash and to gas scrubbing by-products, how much was used to produce light weight block, light weight aggregate, low strength backfill material (flowable fill), manufactured gypsum or manufactured calcium chloride.

(d) Case-specific beneficial use determinations.

(1) The generator or proposed user of a solid waste may petition the department, in writing, for a determination that the solid waste under review in the petition may be beneficially used in a manufacturing process to make a product or as an effective substitute for a commercial product. Unless otherwise directed by the department, the department may not consider any such petition unless it provides the following:

(i) a description of the solid waste under review and its proposed use;

(ii) chemical and physical characteristics of the solid waste under review and of each type of proposed product;

(iii) a demonstration that there is a known or reasonably probable market for the intended use of the solid waste under review and of all proposed products by providing one or more of the following:

(a) a contract to purchase the proposed product or to have the solid waste under review used in the manner proposed;

(b) a description of how the proposed product will be used;

(c) a demonstration that the proposed product complies with industry standards and specifications for that product; or

(d) other documentation that a market for the proposed product or use exists; and

(iv) a demonstration that the management of the solid waste under review will not adversely affect human health and safety, the environment, and natural resources by providing:

(a) a solid waste control plan that describes the following:

(1) the source of the solid waste under review, including contractual arrangements with the supplier;

(2) procedures for periodic testing of the solid waste under review and the proposed product to ensure that the proposed product's composition has not changed significantly;

(3) the disposition of any solid waste which may result from the manufacture of the product into which the solid waste under review is intended to be incorporated;

(4) a description of the type of storage (e.g., tank or pile) and the maximum anticipated inventory of the solid waste under review (not to exceed 90 days) before being used;

(5) procedures for run-on and run-off control of the storage areas for the solid waste under review; and

(6) a program and implementation schedule of best management practices designed to minimize uncontrolled dispersion of the solid waste under review before and during all aspects of its storage as inventory and/or during beneficial use; and

(b) a contingency plan that contains the information and is prepared in accordance with subdivision 360-1.9(h) of this Part.

(2) The department will determine in writing, on a case-by-case basis, whether the proposal constitutes a beneficial use based on a showing that all of the following criteria have been met:

(i) the essential nature of the proposed use of the material constitutes a reuse rather than disposal;

(ii) the proposal is consistent with the solid waste management policy contained in section 27-0106 of the ECL;

(iii) the material under review must be intended to function or serve as an effective substitute for an analogous raw material or fuel. When used as a fuel, the material must meet the requirements of paragraph 360-3.1(c)(4) of this Part and the facility combusting the material must comply with the registration requirements in subdivision 360-3.1(c) of this Part, if appropriate;

(iv) for a material which is proposed for

incorporation into a manufacturing process, the material must not be required to be decontaminated or otherwise specially handled or processed before such incorporation, in order to minimize loss of material or to provide adequate protection, as needed, of public health, safety or welfare, the environment or natural resources;

(v) whether a market is existing or is reasonably certain to be developed for the proposed use of the material under review or the product into which the solid waste under review is proposed to be incorporated; and

(vi) other criteria as the department shall determine in its discretion to be appropriate.

(3) The department will either approve the petition, disapprove it, or allow the proposed use of the solid waste under review subject to such conditions as the department may impose. When granting a beneficial use determination, the department shall determine, on a case-by-case basis, the precise point at which the solid waste under review ceases to be solid waste. Unless otherwise determined for the particular solid waste under review, that point occurs when it is used in a manufacturing process to make a product or used as an effective substitute for a commercial product or used as a fuel for energy recovery. As part of its petition, the petitioner may request that such point occur elsewhere. In such a request, the petitioner must include a demonstration that there is little potential for improper disposal of the material or little potential for the handling, transportation, or storage of the solid waste under review to have an adverse impact upon the public health, safety or welfare, the environment or natural resources.

(4) The department may revoke any determination made under this subdivision if it finds that one or more of the matters serving as the basis for the department's determination was incorrect or is no longer valid or the department finds that there has been a violation of any condition that the department attached to such determination.

perform in the same manner as the component specified in this section. When the equivalent design involves the substitution of waste materials for components of the landfill's liner or final cover system; and where it can be demonstrated that these material substitutions are within the landfill's environmental containment system (i.e. below the upper most layer of the barrier layer of the final cover and above the secondary composite liner), such equivalency determinations are not subject to the variance requirements of this Part and this use is consistent with the beneficial use provision of paragraph 360-1.15(b)(10) of this Part. It is highly recommended that the applicant discuss equivalent component design proposals with the department in a preapplication conference.

Section 360-2.14 Industrial/commercial waste monofills and solid waste incinerator ash residue monofills.

(a) Industrial/commercial waste monofills. Monofills used solely for the disposal of solid waste resulting from industrial or commercial operations are subject to all requirements of this Subpart, unless the applicant demonstrates that specific landfill requirements in this Subpart are not necessary for the solid waste to be disposed of at the subject facility. The requirements in this Subpart may be modified on a case-specific basis. The department may impose additional or less stringent requirements on these monofills, based on the pollution potential of the waste. Pollution potential shall be based upon the volume and the physical, chemical, and biological properties of the solid waste, and, its variability. Changes in the monofill's design may include, but not be limited to, modifications to the leachate collection system, low permeability liners, and low permeability cover system designs. For those facilities where the applicant can demonstrate to the department that a specific regulatory requirement contained in either sections 360-2.13, 2.15 or 2.17 of this Subpart are not applicable as discussed in this subdivision, the need for a formal variance is waived. Alternative liner system designs for industrial waste monofills must demonstrate the following:

(1) In the case where an alternative liner system is proposed for an industrial waste monofill, a demonstration must be made as to the proposed liner's ability to adequately prevent a negative impact on groundwater and must address the following factors: the volume and physical and chemical composition of the leachate that will be generated at the disposal facility; the climatological conditions in the vicinity of the proposed site; and the hydrogeologic characteristics of the proposed site. The demonstration must include an assessment of leachate quality and quantity, anticipated liner system leakage to the subsurface and related contaminant transport to the closest environmental monitoring point. The demonstration should focus on developing an accurate profile of leachate quality and production rates sufficient to be used in evaluating its fate and transport from the point of release to the first point of environmental monitoring in order to determine whether leachate constituents can be expected to exceed the State's groundwater quality standards. It must be demonstrated that the industrial wastes' chemical characterization be accurately defined and that there are no reasons to anticipate significant changes in the concentrations of compounds that could increase the wastes' pollution potential in the future. The demonstration must include chemical compatibility test data run on the proposed liner and/or leachate collection and removal system materials with representative waste leachate, using an appropriate permeameter test to determine potential changes in the permeability of the proposed liner. The demonstration must include an estimate of the volumetric release of leachate from the proposed liner design based on analytical approaches supported by empirical data and/or be verified from other existing operational facilities of similar design. A dilution calculation must then be modelled to evaluate the impacts of the characterized leachate on groundwater quality based upon the calculated liner system's leakage rate.

(2) Paper mill sludge monofills. The minimum components of the liner system, monofill closure, operation requirements and the environmental monitoring plan for paper mill sludge landfills must consist of the following:

(i) Components of liner system. A single composite liner system is the minimal level of containment that the department will accept for paper mill sludge monofills. The composite liner system must consist of a minimum of two components, an upper geomembrane liner placed directly above a low permeability soil layer. A leachate collection and removal system must be located over the composite liner. The construction of each of the components must be in conformance with the appropriate requirements of section 360-2.13 of this Subpart unless expressly stated otherwise in this paragraph. The department may require additional liner components to the single composite liner or other restrictions depending upon the waste expected to be produced, monitorability of the site and/or other site conditions.

(ii) The soil component of the composite

NYS DEC REGION 1

COUNTY **Suffolk**

Babylon Southern Ashfill — 52A01

OWNER TYPE: Municipal
REGULATORY STATUS: Permit
OWNER: Town of Babylon
ADDRESS: 200 East Sunrise Hwy
(MAILING) Lindenhurst NY 11757
PHONE: (516) 957-3072
WASTE TYPE: RR Ash

360 PERMIT NUMBER: 1472000778000010
PERMIT ISSUED: 05/04/97
PERMIT EXPIRES: 05/03/02
CONTACT: Ronald Kluesener
ADDRESS: Gleam Street
West Babylon NY 11704
PHONE: (631) 422-7640
UTMEAST: 636645 UTMNORTH: 4510592

Brookhaven SLF Cell 5 — 52A03

OWNER TYPE: Municipal
REGULATORY STATUS: Permit
OWNER: Town of Brookhaven
ADDRESS: 3233 Route 112
(MAILING) Medford NY 11763
PHONE: (516) 451-6224
WASTE TYPE: RR Ash

360 PERMIT NUMBER: 1472200030000040
PERMIT ISSUED: 11/17/98
PERMIT EXPIRES: 08/31/05
CONTACT: Dennis Lynch
ADDRESS: 3233 Route 112
Medford NY 11763
PHONE: (516) 451-6224
UTMEAST: 674593 UTMNORTH: 4518097

Northern U — 52A39

OWNER TYPE: Municipal
REGULATORY STATUS: Permit
OWNER: Town of Babylon
ADDRESS: 200 East Sunrise Highway
(MAILING) Lindenhurst NY 11757
PHONE: (516) 957-3072
WASTE TYPE: RR Ash

360 PERMIT NUMBER: 1472000628000010
PERMIT ISSUED: 10/19/94
PERMIT EXPIRES: 04/30/05
CONTACT: Ronald Kluesener
ADDRESS: 200 East Sunrise Highway
Lindenhurst NY 11757
PHONE: (631) 422-7640
UTMEAST: 637078 UTMNORTH: 4510803

NYS DEC REGION 3

COUNTY **Westchester**

Sprout Brook LF — 60A20

OWNER TYPE: County
REGULATORY STATUS: Permit
OWNER: Westchester County DPW
ADDRESS: 270 North Avenue
(MAILING) New Rochelle NY 10801
PHONE: (914) 637-3000
WASTE TYPE: Bottom Ash, Fly Ash, RR Ash

360 PERMIT NUMBER: 3552200097000020
PERMIT ISSUED: 10/01/97
PERMIT EXPIRES: 10/01/02
CONTACT: mario Parise
ADDRESS: Old Albany Post Road
Peekskill NY 10601
PHONE: (914) 637-3000
UTMEAST: 590560 UTMNORTH: 4573986

NYS DEC **REGION 3**

COUNTY **Orange**

Central Hudson Gas & Elec — **36N01**

OWNER TYPE:	Private			360 PERMIT NUMBER:	3334600011000018		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	05/09/00		
OWNER:	Central Hudson Gas & Elec			PERMIT EXPIRES:	05/09/05		
ADDRESS:	992 River Road			CONTACT:	Mark McLean		
(MAILING)	Newburgh	NY	12550	ADDRESS:	992 River Road		
PHONE:	(914) 452-2000				Newburgh	NY	12550
WASTE TYPE:	Coal Ash			PHONE:	(914) 563-4805		
				UTMEAST:	585953	UTMNORTH:	4603521

COUNTY **Rockland**

Tomkins Cove Ash Facility — **44N07**

OWNER TYPE:	Private			360 PERMIT NUMBER:	3392800039000010		
REGULATORY STATUS:	None			PERMIT ISSUED:	06/30/94		
OWNER:	Orange & Rockland Utility			PERMIT EXPIRES:	06/30/99		
ADDRESS:	One Blue Hill Plaza			CONTACT:	C.A. Herbst		
(MAILING)	Pearl River	NY	10965	ADDRESS:	One Blue Hill Plaza		
PHONE:	(914) 577-2582				Pearl River	NY	10965
WASTE TYPE:	Coal Ash, Ash Residue			PHONE:	(914) 786 8150		
				UTMEAST:	585526	UTMNORTH:	4567869

NYS DEC **REGION 6**

COUNTY **Jefferson**

Deferiet Paper — **23N06**

OWNER TYPE:	Private			360 PERMIT NUMBER:	6224000030000000		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	02/15/94		
OWNER:	Deferiet Paper Company			PERMIT EXPIRES:	11/01/03		
ADDRESS:	400 Anderson Avenue			CONTACT:	Todd Furnia		
(MAILING)	Deferiet	NY	13628	ADDRESS:	400 Anderson Avenue		
PHONE:	(315) 493-3540				Deferiet	NY	13628
WASTE TYPE:	Coal Ash, Paper Sludge, Coal Rejects, Wood Yard Debris			PHONE:	(315) 493-3540		
				UTMEAST:	439729	UTMNORTH:	4884523

DANC Landfill — **23S13**

OWNER TYPE:	Municipal			360 PERMIT NUMBER:	6225200007000006		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	02/27/96		
OWNER:	Develop. Authority N. Country			PERMIT EXPIRES:	02/27/06		
ADDRESS:	317 Washington Street			CONTACT:	E. William Seifried		
(MAILING)	Watertown	NY	13601	ADDRESS:	NYS Route 177		
PHONE:	(315) 785-2592				Rodman	NY	13682
WASTE TYPE:	Residential, Demo, Asbestos, Indus, Coal Ash, Cont. Soil, Sludge			PHONE:	(315) 232-3236		
				UTMEAST:	427037	UTMNORTH:	4852232

NYS DEC **REGION 7**

COUNTY **Broome**

Weber Ash Disposal Site — **04N08**

OWNER TYPE:	Private			360 PERMIT NUMBER:	7031800020000010		
REGULATORY STATUS:	Consent Order			PERMIT ISSUED:	10/01/80		
OWNER:	AES Creative Resources			PERMIT EXPIRES:	09/30/83		
ADDRESS:	720 Riverside Dr.			CONTACT:	Peter Huff		
(MAILING)	Johnson City	NY	13790	ADDRESS:	720 Riverside Dr.		
PHONE:	(607) 729-6950				Johnson City	NY	13790
WASTE TYPE:	Coal Ash, Sludge			PHONE:	(607) 729-6950		
				UTMEAST:	431941	UTMNORTH:	4673115

COUNTY **Tompkins**

Cayuga **55N02**

OWNER TYPE:	Private			360 PERMIT NUMBER:	7503200069000010		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	04/17/97		
				PERMIT EXPIRES:	04/17/02		
OWNER:	AES Cayuga, L.L.C.			CONTACT:	Daniel Hill		
ADDRESS:	228 Cayuga Drive			ADDRESS:	Milliken Road		
(MAILING)	Lansing	NY	14882			NY	
PHONE:	(607) 533-7913			PHONE:	(607) 533-7913		
WASTE TYPE:	Coal Ash, Sludge			UTMEAST:	366998	UTMNORTH:	4718715

NYS DEC **REGION 9**

COUNTY **Chautauqua**

Chautauqua Landfill **07S12**

OWNER TYPE:	County			360 PERMIT NUMBER:	9063600006000013		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	07/22/99		
				PERMIT EXPIRES:	07/23/09		
OWNER:	County of Chautauqua DPW			CONTACT:	Theodore Osborne		
ADDRESS:	Grace Office Building			ADDRESS:	3889 Towerville Road		
(MAILING)	Mayville	NY	14757		Jamestown	NY	14701-9653
PHONE:	(716) 985-4211			PHONE:	(716) 985-4785		
WASTE TYPE:	Residential, C&D, Asbestos, Sludge, Industrial, Cont.Soil, Coal Ash			UTMEAST:	143329	UTMNORTH:	4681819

COUNTY **Niagara**

Niagara Recycling Inc. **32S11**

OWNER TYPE:	Private			360 PERMIT NUMBER:	9291100119000050		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	04/25/95		
				PERMIT EXPIRES:	04/30/05		
OWNER:	BFI (Allied Waste)			CONTACT:	David Hanson		
ADDRESS:	P.O. Box 344 LPO			ADDRESS:	56th St. & Niagara Falls Blvd.		
(MAILING)	Niagara Falls	NY	14304-0344		Niagara Falls	NY	14304-0344
PHONE:	(716) 285-3344			PHONE:	(716) 285-3344		
WASTE TYPE:	Industrial, C&D, RR & Coal Ash, Sludge, Asbestos, Cont. Soil, MSW			UTMEAST:	175230	UTMNORTH:	4779955

Modern Landfill **32S30**

OWNER TYPE:	Private			360 PERMIT NUMBER:	9292400016000310		
REGULATORY STATUS:	Permit			PERMIT ISSUED:	12/29/95		
				PERMIT EXPIRES:	12/31/05		
OWNER:	Modern Landfill, Inc.			CONTACT:	James Goehrig		
ADDRESS:	P.O. Box 209			ADDRESS:	Pletcher & Harold Roads		
(MAILING)	Model City	NY	14107-0209		Model City	NY	14107-0209
PHONE:	(716) 754-8226			PHONE:	(716) 754-8226		
WASTE TYPE:	MSW, Industrial, Asbestos, Sludge, RR & Coal Ash, C&D, Cont. Soil			UTMEAST:	176000	UTMNORTH:	4792194

DEC FACILITY NUMBER	FACILITY NAME	LINER TYPE S	SC	D	DC
36N01	Central Hudson Gas & Elec	.F.	.F.	.F.	.T.
44N07	Tomkins Cove Ash Facility	.F.	.F.	.F.	.F.
23N06	Deferiet Paper	.F.	.T.	.F.	.F.
23S13	DANC Landfill	.F.	.F.	.F.	.T.
04N08	Weber Ash Disposal Site	.T.	.F.	.F.	.F.
55N02	Cayuga	.F.	.F.	.F.	.T.
07S12	Chautauqua Landfill	.F.	.F.	.F.	.T.
32S11	Niagara Recycling Inc.	.F.	.F.	.F.	.T.
32S30	Modern Landfill	.F.	.F.	.F.	.T.

Outdoor Activities
Animals, Plants, Aquatic Life
Chemical and Pollution Control
Energy and Climate
Lands and Waters
Education
Permits and Licenses
Public Involvement and News
Regulations and Enforcement
Regulations
Chapter IV- Quality Services
Subpart 360-2: Landfills - Page 2
Publications, Forms, Maps
About DEC

Subpart 360-2: Landfills - Page 2

(Statutory authority: Environmental Conservation Law, Sections 1-0101, 3-0301, 8-0113,19-0301, 19-0306, 23-2305, 23-2307, 27-0101, 27-0106, 27-0107, 27-0109, 27-0305, 27-0703, 27-0704, 27-0705, 27-0911, 27-1317, 27-1515, 52-0107, 52-0505, and 70-0107)

[Effective Date December 31, 1988]

[Amendment Dates:
Revised Effective March 27, 1990; with promulgation of new Subpart 15: Grants for Comprehensive Solid Waste Management Planning.
Revised Effective May 28, 1991; With repeal of existing Subpart 9 and promulgation of new Subpart 9: State Assistance for Municipal Landfill Closure Projects
Revised Effective January 25, 1992; With repeal of existing Subpart 10 and promulgation of new Subpart10: Regulated Medical Waste Storage, Transfer, and Disposal, and new Subpart 17 Regulated Medical Waste Treatment Facilities.
Revised/Enhanced Effective October 9, 1993; with adoption of amendments to existing Subparts 1 through 17
Revised Effective December 14, 1994; with adoption of amendments to existing Subpart 9: State Assistance for Municipal Landfill Closure Projects
Revised Effective January 14, 1995; With repeal of existing Subpart 14 and promulgation of new Subpart 14: Used Oil.
Revised Effective November 26, 1996; With adoption of amendments to existing Subparts 1, 2, 3, 7, 11, 14, and 17

Revised Effective September 29, 1997; With adoption of amendments to existing Subpart 9
Revised Effective November 21, 1998; With adoption of amendments to existing Subpart 2
Revised Effective November 24, 1999; With adoption of amendments to existing Subparts 2, 3, 4, 5, 9, 11, 14, and 16]

[This is page 2 of 3 of this Subpart. A complete list of Subparts in this regulation appears in the Chapter 4 contents page.]

Contents:

Sec.

360-2.11 Hydrogeologic report.
360-2.12 Landfill siting.

§360-2.11 Hydrogeologic report.

The hydrogeologic report must define the landfill site geology and hydrology and relate these factors to regional and local hydrogeologic patterns; define the critical stratigraphic section for the site; provide an understanding of groundwater and surface water flow at the site sufficient to determine the suitability of the site for a landfill; establish an environmental monitoring system capable of readily detecting a contaminant release from the facility and determining whether the site is contaminating surface or subsurface waters; and form the basis for design of the facility and contingency plans relating to ground or surface water contamination or gas migration as required in section 360-2.10 of this Subpart. The scope and extent of investigations necessary in the hydrogeologic report will vary based upon the hydrogeologic complexity of the site and the ability of the site to restrict contaminant migration. Additionally, the hydrogeologic report must define the engineering properties of the site as necessary for

proper design and construction of any facilities proposed to be built at the site.

(a) Requirements of the site investigation plan. The site investigation plan must clearly define all methods used in investigating the hydrogeologic conditions of the site, the scope of the intended investigation, and any specific hydrogeologic questions to be addressed. The applicant is strongly encouraged to develop a draft version of the plan for review by the department before starting the hydrogeologic investigation that begins to define the critical stratigraphic section, and to keep the department informed of the findings and subsequent investigative proposals as the study proceeds. The final version of the plan, included in the hydrogeologic report section of the permit application, must fully describe all methods of investigation used. Unless otherwise approved by the department, the plan must comply with the following:

(1) General requirements for all methods used. In obtaining the required hydrogeologic information, the applicant must employ current, standard, and generally accepted procedures. All work must be done in accordance with applicable American Society for Testing Materials standards or current and appropriate U.S. Environmental Protection Agency and department guidance documents. Alternative or innovative methodologies may be approved by the department; however, the department may initially require redundant technologies to prove the reliability of a new methodology. All procedures must be conducted under the supervision of a qualified groundwater scientist having experience in similar hydrogeologic investigations, in a manner that ensures accuracy of the data and precludes environmental degradation. The location of all installations, geophysical and geochemical surveys, and seismic lines for the proposed investigation must be shown on a map with the same scale and coordinate grid system used on the engineering plans (see section 360-1.9[e] of this Part).

(2) Literature search. A comprehensive search must be made for pertinent and reliable information concerning regional and site specific hydrogeologic conditions. The literature search must include, as available, records and reports of the New York State Department of Health, the New York State Department of Transportation, the U.S. Soil Conservation Service, and the New York State Geological Survey; basin planning reports, groundwater bulletins, water supply papers, professional papers and other open file reports of the U.S. Geological Survey; bulletins, circulars, map and chart series, memoirs and other publications of the New York State Geologic Survey; publications and bulletins of the Geological Society of America and other professional organizations; and publications of the U.S. Environmental Protection Agency and the department, college and university reports; and aerial photography or remotely sensed imagery.

(3) Surficial geologic mapping. The site must be mapped to determine the distribution of surficial deposits on and surrounding the site based upon information from the hydrogeologic investigation, field evaluations, and field confirmation of all interpretations made on the site itself.

(4) Test pits. Test pits may be used to determine shallow stratigraphy. The test pits must not create a health or safety hazard and must be logged by a geologist or geotechnical engineer with experience in similar hydrogeologic investigations. Logs must include: elevations; surface features before excavation; depth of the test pit and of all relevant horizons or features; moisture content of units; standard soil classifications (including the Unified Soil Classification System), stratigraphy, soil structure, bedrock lithology, brittle, or

secondary structures in soil and bedrock; and a sketch showing these features for each test pit constructed. Test pits must be promptly backfilled and compacted with excavated materials. The department may require that, if a test pit is dug, undisturbed soil samples be taken and tested in accordance with subparagraph (9)(ii) of this subdivision.

(5) Water well surveys. A survey of public and private water wells within one mile downgradient and one-quarter mile upgradient of the proposed site must be conducted. Surveys must obtain, where available, the location of wells, which must be shown on a map with their approximate elevation and depth, name of owner, age and usage of the well; stratigraphic unit screened; well construction; static water levels; well yield; perceived water quality; and any other relevant data which can be obtained.

(6) Geophysical and geochemical surveys. The department may require the use of geophysical and geochemical methods, such as electromagnetic, resistivity, seismic surveys, remote sensing surveys, downhole geophysics, isotope geochemistry, and soil gas analysis, where necessary to justify the interpretations and conclusions of the site investigation report and to provide information between boreholes, and aid in the siting of wells.

(7) Tracer studies. The department may require the use of tracer studies to aid in understanding groundwater flow or to otherwise assist in devising an effective environmental monitoring plan.

(i) Where sites overlie weathered limestone or dolostone bedrock or where karst environments cannot be avoided, the department may require tracer studies before finalizing the bedrock monitoring plan. Tracer studies must identify, in specific detail, areas of groundwater flow from the facility attributed to secondary permeability, recharge and discharge areas on and surrounding the site, storage of groundwater, and variations of water quality seasonally and during high and low flow periods.

(ii) Where a site is otherwise unmonitorable because of existing contamination, the department may allow the use of tracers to aid in monitoring.

(8) Monitoring wells and piezometers.

(i) Construction in general.

(a) Monitoring wells and piezometers must define the three-dimensional flow system within the critical stratigraphic section to justify the interpretations and conclusions of the hydrogeologic report.

(b) Construction techniques must be appropriate to ensure that groundwater samples and head level measurements characterize discrete stratigraphic intervals; and to prevent leakage of groundwater or contaminants along the well annulus. If leakage is detected, it must be corrected or the well abandoned.

(c) Monitoring wells and piezometers may be placed individually or as well clusters. Well clusters consist of individual wells at varying depths in close proximity, each installed in its own boring. Multiple wells placed into one large borehole are prohibited unless prior department approval in writing is obtained.

(d) Soil borings, soil samples, and rock cores must characterize each stratigraphic unit within the critical stratigraphic section to justify the interpretations and conclusions

of the hydrogeologic report.

(e) Every precaution must be taken during drilling and construction of monitoring wells to avoid introducing contaminants into a borehole. Only potable water of known chemistry may be used in drilling monitoring wells or piezometers unless otherwise approved by the department.

(f) All equipment placed into the boring must be properly decontaminated before use at the site and between boreholes. The initial cleaning at the site must ensure that no contaminants from the last site drilled will be introduced into the borings. All equipment must be steam cleaned between holes. Where possible, upgradient wells should be drilled first.

(g) Use of drilling muds is to be avoided unless prior department approval in writing is granted. If drilling muds are used, the material used must avoid the introduction of stray contaminants. Drilling muds must not be used within 10 feet of the screened interval.

(h) Air systems and drilling lubricants must not introduce contaminants into the borehole.

(i) Well borings must have an inside diameter at least two inches larger than the outside diameter of the casing and screen to ensure that a tremie may be properly used.

(j) Wells and borings must not be placed through or into waste unless prior department approval has been granted and sufficient safety precautions are employed. If waste is encountered unexpectedly during drilling, drilling of that boring must cease, the hole properly abandoned with cuttings properly disposed of and the department notified.

(ii) Construction of monitoring wells and piezometers.

(a) Well screens and risers must be constructed of materials selected to last for the required monitoring period of the facility without contributing contaminants to, or removing contaminants from, the groundwater. All materials used are subject to department approval. Joints, caps, and end plugs are to be secured by welds, threads with teflon tape, or force fittings. Solvents and glues or other adhesives are prohibited. Caps must be vented to allow for proper pressure equalization. The inside diameter of each well screen or riser pipe must be nominally two inches in diameter and must allow for proper development, survey and sampling equipment to be used within the screen and casing. A permanent mark should be made at the top of the riser pipe to provide a datum for subsequent water level measurements.

(b) Unless otherwise approved by the department, well screens are required for all wells and piezometers. All screens used must be factory constructed non-solvent welded/bonded continuous slot wire wrap screens of a material appropriate for long-term monitoring without contributing contaminants to or removing contaminants from the groundwater. The slot size of the screen must be compatible with the sand pack. Water table variations, site stratigraphy, expected contaminant behavior, and groundwater flow must be considered in determining the screen length, materials, and position. Where existing contamination is suspected or known, down hole geophysical

techniques may be required by the department to aid in selecting well screen elevations.

(c) The sand pack surrounding the well screen must consist of clean,inert, siliceous material. Grain size must be based upon a representative sieve analysis of the zone to be screened. The sand pack must minimize the amount of fine materials entering the well and must not inhibit water inflow to the well. The sand pack must be placed in the annular space around the well screen and extend two feet or 20 percent of the screen length (whichever is greater) above the top, and six inches below the bottom, of the screen. The sand pack material must be placed using the tremie method or another method approved by the department and must avoid bridging. The sand pack must be checked for proper placement. A finer grained sand pack material (100 percent passing the No. 30 sieve and less than two percent passing the No. 200 sieve) six inches thick must be placed at the top of the sand pack between the sand and the bentonite seal.

(d) Bentonite must be placed above the sand pack using the tremie or other approved method to form a seal at least three feet thick. A 6 to 12 inch fine grained sand pack must be placed above the bentonite seal to minimize grout infiltration. If pellets or chips are used, sufficient time should be allotted to allow for full hydration of the bentonite prior to emplacement of overlying materials.

(e) Grout of cement/bentonite, bentonite alone, or other suitable, low permeability material, if approved by the department, must completely fill the remaining annular space to the surface seal. The grout mixture must set up without being diluted by formation water, and must displace water in the annular space to ensure a continuous seal. The grout mixture must be placed under pressure using a tremie or other method approved by the department. Auger flights or casing must be left in the hole before grouting to prevent caving. The cement used must be appropriate for the groundwater chemistry of the site.

(f) A protective steel casing, at least two inches larger in diameter than the well casing, must be placed over the well casing or riser pipe and secured in a surface well seal to adequately protect the well casing. A distinctive, readily visible marker must be permanently affixed to the protective casing or near the well to identify the well number and ensure visibility even in periods of high snow cover. A drain hole must be drilled at the base of the protective casing. A vent hole must be located near the top of the protective casing to prevent explosive gas build up and to allow water levels to respond naturally to barometric pressure changes. The annulus of the protective casing should be filled with gravel. A locking cap must be installed with one to two inches clearance between the top of the well cap and the bottom of the locking cap when in the locked position and a weather resistant padlock must be placed on the protective casing and duplicate keys provided to the department.

(g) A concrete surface seal designed to last throughout the planned life of the monitoring well must be constructed. The surface seal must extend below the frost depth to prevent potential well damage. The top of the seal must be constructed by pouring the concrete into a pre-built form with a minimum of three foot long sides. The seal must be designed to prevent surface runoff from ponding and entering the well casing. In areas where traffic may cause damage to the well, bumperguards or other

suitable protection for the well is required. Any damaged or deteriorated surface seals must be reported to the department and repaired or replaced in an appropriate manner. The department may allow alternate designs when documentation is presented which demonstrates the intent of the regulations.

(h) Where under the circumstances of a particular situation the department believes that the methods identified in this section are inadequate, it may require that additional measures be taken to prevent migration of contaminants along the annulus of the well or to protect the well.

(i) Alternative construction methods for piezometers and wells which are not to be part of the environmental monitoring plan may be approved by the department if those methods meet the requirements set forth in clause (i)(b) of this paragraph.

(iii) Well and piezometer development. All wells and piezometers must be developed as soon as possible after installation, but not before the well seal and grout have set. Water must not be introduced into the well for development, except with approval of the department. Any contaminated water withdrawn during development must be properly managed. Development must not disturb the strata above the water-bearing zone or damage the well. The entire saturated screened interval must be developed. The department may require multiple attempts at well development to increase the likelihood that sediment free water can be obtained. Development methods should be appropriate for conditions/stratigraphy encountered. Placement of screens in a fine grained strata may require gentle development techniques to avoid pulling sediment into the well. The selected method must minimize to the greatest extent possible the amount of turbidity in the well.

(iv) Survey. The locations and elevations of all existing and abandoned test pits, soil borings, monitoring wells, and piezometers must be surveyed to obtain their precise location and plotted on a map in the hydrogeologic report. The vertical location of the ground surface and the mark made on the top of the monitoring well and piezometer risers must be accurately measured to the nearest 100th foot.

(v) Replacement of wells. All wells must be properly protected to ensure their integrity throughout the active and post-closure period of the facility. If, in the opinion of the department, water quality or other data show that the integrity of a well is lost, the well must be replaced and sampled within a time period acceptable to the department (but not to exceed 120 days) after written notification by the department. The initial sample for the replacement well must be analyzed for baseline parameters in the Water Quality Analysis Tables in this section.

(vi) Abandonment of wells. All soil borings or rock cores which are not completed as monitoring wells or piezometers and other abandoned wells must be fully sealed in a manner appropriate for the geologic conditions to prevent contaminant migration through the borehole. Generally, such sealing must include:

(a) Overboring or removal of the casing to the greatest extent possible, followed by perforation of any casing left in place. All casing and well installations in the upper five feet of the boring, or within five feet of the proposed level of excavation, must be removed.

(b) Sealing by pressure injection with cement bentonite grout, using a tremie pipe or

other method acceptable to the department, must extend the entire length of the boring to five feet below the ground surface or the proposed excavation level. The screened interval of the borehole must be sealed separately and tested to ensure its adequacy before sealing the remainder of the borehole. Where the surrounding geologic deposits are highly permeable, alternate methods of sealing may be required to prevent the migration of the grout into the surrounding geologic formation. The upper five feet must be backfilled with appropriate native materials compacted to avoid settlement.

(c) The sealed site must be restored to a safe condition. The site must be inspected periodically after sealing for settlement or other conditions which require remediation.

(9) Geologic sampling.

(i) All borings and rock cores must be sampled continuously to the base of the critical stratigraphic section. For well clusters, continuous samples must be collected from the surface to the base of the deepest well. Other wells in the cluster must be sampled at all stratigraphic changes, and at the screened interval. At sites where the geology is not of a complex nature the department may allow a reduction in the number of wells requiring continuous sampling. Soil borings must be sampled using the split spoon method and bedrock or boulders must be sampled by coring with standard size NX or larger diameter core bits. Samples must be retained in labeled glass jars or wooden core boxes. All samples must be securely stored and accessible throughout the life of the facility. The location of the storage area must be designated in the operation and maintenance plan for the facility.

(ii) A representative number of undisturbed samples must be collected from test pits and soil borings using appropriate methods to identify the soil characteristics of all cohesive soil units. Such samples must be analyzed in the laboratory for: Atterberg limits; gradation curves by sieve or hydrometer analysis or both, as appropriate; undisturbed permeabilities; and visual descriptions of undisturbed soil structures and lithologies.

(10) Logs.

(i) Complete and accurate drilling logs must be provided to the department for all soil borings. These logs must provide detailed soil classification according to the Unified Soil Classification System (USCS). The USCS visual method must be used on all samples supplemented by the USCS laboratory tests on a representative number of samples from each stratigraphic unit and each screened interval. Logs also must contain a description of matrix and clasts, mineralogy, roundness, color, appearance, odor, and behavior of materials using an appropriate descriptive system. A clear description of the system used must be included with the logs. When undisturbed samples have been taken, the interval tested and the test results must be clearly shown on the logs. All well logs must contain drilling information as observed in the field including: moisture content, location of the water table during drilling, water loss during drilling; depth to significant changes in material and rock; sample recovery measured in tenths of a foot; hammer blow counts, and other pertinent comments; the method of drilling, anomalous features such as gas in the well, and the use and description of drilling fluids or additives, including the source, and calculated and actual amounts of materials used.

(ii) Rock core logs must describe the lithology, mineralogy, degree of cementation, color, grain size, and any other physical characteristics of the rock; percent recovery and the

rock quality designation (RQD); other primary and secondary features, and contain all drilling observations and appropriate details required for soil boring logs. A clear photograph of all labeled cores must also be taken and submitted with the logs.

(iii) Well completion logs must contain a diagram of the completed well, all pertinent details on well construction, a description of the materials used, and elevations of all well features.

(iv) Copies of original field logs must be submitted to the department upon request.

(11) In situ hydraulic conductivity testing.In situ hydraulic conductivity testing must be done in all monitoring wells and piezometers, unless other methods that are approved by the department, are used. The testing method used must not introduce contaminants into the well. If contamination is known or suspected to exist, all water removed must be properly managed. Hydraulic conductivities may be determined using pump tests, slug tests, packer tests, tracer studies, isotopic geochemistry, thermal detection, or other suitable methods.

(b) Site investigation report. The site investigation report must include a final version of the site investigation plan, raw field data, analytical calculations, maps, flow nets, cross-sections, interpretations (and alternative interpretations where applicable), and conclusions. All maps, drawings and diagrams must have a minimum scale of 1:24,000, unless otherwise acceptable to the department. Such report must comprehensively describe:

(1) Regional geology. The discussion of regional geology must demonstrate how the regional geology relates to the formation of on-site geologic materials, the potential for and effects of off-site contaminant migration, and the location of nearby sensitive environments. This discussion must include available and appropriate information to describe:

(i) bedrock stratigraphy and structural features (represented on maps and columnar diagrams) constructed from field exposures and the geologic literature, describing formation and member names, geologic ages, rock types, thicknesses, the units' mineralogic and geochemical compositions and variabilities, rock fabrics, porosities and bulk permeabilities, including karst development, structural geology, including orientation and density or spacing of folds, faults, joints, and other features;

(ii) glacial geology, including a discussion of the formation, timing, stages, and distribution of glacial deposits, advances and retreats, hydrologic characteristics of the surficial deposits, such as kames, eskers, outwash moraines, etc.;

(iii) major topographic features, their origin and influence upon drainage basin characteristics; and

(iv) surface water and groundwater hydrologic features, including surface drainage patterns, recharge and discharge areas, wetlands and other sensitive environments, inferred regional groundwater flow directions, aquifers, aquitards and aquicludes, known primary water supply and principal aquifers, public water supply wells, and private water supply wells identified in the water supply well survey; any known peculiarities in surface water and groundwater geochemistry, and any other relevant features.

(2) Site-specific geology. The site investigation report must define site hydrogeologic conditions in three dimensions and their relationship to the proposed landfill. The report must define site geology, surface water and groundwater flow, and must relate site-specific conditions to the regional geology. The report must describe the potential impact the landfill

may have on surface and groundwater resources and other receptors, including future hydrogeologic conditions, which may occur with site development, and it must describe the hydrogeologic conditions in sufficient detail to construct a comprehensive understanding of groundwater flow, which can be quantified and verified through hydrologic, geochemical, and geophysical measurements. The report must provide sufficient data to specify the location and sampling frequency for environmental monitoring points; form the basis for contingency plans regarding groundwater and surface water contamination and explosive gas migration; and support the engineering design of the landfill. The site- specific hydrogeologic evaluation must specifically discuss all units in the critical stratigraphic section. Such evaluation must include maps, cross- sections, other graphical representations, and a detailed written analysis of the following:

(i) all hydrogeologic units such as aquifers, aquitards and aquicludes, and how they relate to surface water and groundwater flow. This must include all hydrogeologic data collected during the site investigation and explain and evaluate the hydrologic and engineering properties of the site and each specific unit; and

(ii) local groundwater recharge and discharge areas, high and low groundwater tables and potentiometric surfaces for each hydrologic unit, vertical and horizontal hydraulic gradients, groundwater flow directions and velocities, groundwater boundary conditions, surface water and groundwater interactions, and an evaluation of existing water quality.

(c) Environmental monitoring plan. The environmental monitoring plan must describe all proposed on-site and off-site monitoring, including the location of all environmental, facility, and other monitoring points, sampling schedule, analyses to be performed, statistical methods, and reporting requirements. The plan must also include a schedule for construction of the groundwater monitoring wells based on site-specific hydrogeology and the sequencing of construction of landfill cells; a schedule for initiation of the existing water quality and operational water quality monitoring programs and a contingency water quality monitoring plan which specifies trigger mechanisms for its initiation. Unless otherwise approved by the department, the plan must comply with the following:

(1) Groundwater sampling. Groundwater monitoring wells must be capable of detecting landfill-derived groundwater contamination within the critical stratigraphic section.

(i) Horizontal well spacing.

(a) Horizontal spacing of wells must be based upon site-specific conditions including groundwater flow rates, estimated longitudinal and transverse dispersivity rates, proximity to or presence of sensitive environments and groundwater users, the nature of contaminants disposed of at the site, and the proposed design and size of the landfill.

(b) In the first water-bearing unit of the critical stratigraphic section, monitoring well spacing must not exceed 500 feet along the downgradient perimeter of the facility. In sensitive environments or geologically complex environments, closer well spacing may be required. Upgradient or crossgradient well spacing must not exceed 1,500 feet and may be less in sensitive environments, or where up-gradient sources of contamination are known to exist. Subsequent water-bearing units must be monitored, as required by the department, based upon the potential for contaminant migration to that unit. Well spacing must provide at least one upgradient and three downgradient

monitoring wells or well clusters for each water- bearing unit of the critical stratigraphic section.

(c) Sensitive environments or areas where public health concerns exist may be subject to more intensive groundwater monitoring requirements. In addition, the department may require the applicant to develop acceptable computer models of contaminant plume behavior from hypothetical leaks in the liner system, if necessary to determine optimum monitoring well spacing.

(d) In areas where waterflow is irregular and unpredictable and where otherwise determined to be appropriate, the applicant may be required to conduct spring, sinkhole, or other sampling to enhance the monitoring.

(e) All downgradient monitoring wells must be located as close as practical to but not more than 50 feet from the waste boundary, unless otherwise approved by the department due to site specific conditions, to ensure early detection of any contaminant plume.

(f) All upgradient and crossgradient monitoring wells must be placed far enough from the waste boundary to avoid any facility derived impacts.

(ii) Well screen placement.

(a) Well screens must be located to readily detect groundwater contamination within the saturated thickness of the first water-bearing unit, and must be installed at a representative number of points at each subsequent permeable unit throughout the critical stratigraphic section. Well screens must not act as conduits through impermeable layers. Wells monitoring the water table should be screened to ensure that the water table can be sampled at all times.

(b) Upgradient and crossgradient wells must monitor the same hydrologic units whenever possible within the critical stratigraphic section as the downgradient monitoring wells.

(iii) Screen length. Well screens must not exceed 20 feet in length, unless otherwise approved by the department. The applicant must provide technical justification for the actual screen length chosen.

(iv) Geophysical and geochemical techniques. Where existing contamination is suspected, the department may require the use of geophysical and geochemical techniques to locate contaminated zones before selecting well locations and screen depths for environmental monitoring points.

(v) If a groundwater suppression system exists at a facility, the department may require representative sampling points to be designated as environmental monitoring points. Existing water quality monitoring at these points may not be required.

(2) Surface water and sediment sampling. The environmental monitoring plan must designate monitoring points, for use in operational or contingency monitoring or both of the facility pursuant to subparagraphs (5)(ii) and (iii) of this subdivision, for all surface water bodies that may be significantly impacted by a contaminant release from the facility. Sampling activities at these monitoring points shall be for surface water and sediment. The department may require the sampling and analysis of surface water and sediment

sampling points during a site investigation to understand site hydrogeology or existing patterns of contamination. In bodies of standing water, these points must be located at the closest point to the facility and must be included in existing water quality monitoring. In flowing water bodies, these points must include sufficient upgradient and downgradient locations to allow the facility's impact to be measured. These points, however, do not require existing water quality analysis. The detailed analysis requirements of these points must be specified in the contingency monitoring plan and the detailed sampling requirements must be specified in the site analytical plan.

(3) Leachate sampling. The environmental monitoring plan must specify the location of facility leachate sampling points and parameters to be analyzed so as to obtain a representative characterization of the leachate composition in the primary leachate collection and removal system and to determine the nature of liquids detected in the secondary leachate collection and removal system. The following must be included:

(i) Sampling points. All sampling points should be located to minimize pumping of leachate before sampling. Sampling points in the secondary leachate collection system should be adequate to sample liquids beneath each discrete leachate collection area or landfill cell.

(ii) Analysis required. Except as allowed by the department when a specific waste stream and its leachate are already well defined, analysis of the leachate in the primary and secondary leachate collection and removal systems must be performed semi-annually for expanded parameters. The department may require the use of specific analytical methods in these analyses when minimum detection levels are determined inadequate to fully characterize leachate.

(4) Water supply well sampling. If sampling and analysis of water supply wells is to be performed, the analytical requirements must be in accordance with those specified in the site analytical plan. Sampling frequency and analysis shall be at least quarterly for baseline parameters. Sampling methods must be consistently applied each time a well is sampled and before sampling any residential well, the New York State Department of Health and/or local health department must be notified.

(5) Water quality monitoring program. A water quality monitoring program must be implemented for all environmental monitoring points specified in the environmental monitoring plan. This program must be tailored to the site to establish existing water quality for the site prior to landfilling, operational water quality during operation of the site and the post-closure period, and contingency water quality, if contamination is detected at the site. These programs must meet the following minimum requirements:

(i) Existing water quality. The applicant must establish an existing water quality database to characterize the site geochemistry.

(a) The permit application must contain a preliminary evaluation of water quality, consisting of the first two rounds of sampling and analyses for a representative number of monitoring points at both upgradient and downgradient locations, in each water bearing hydrogeologic unit within the critical stratigraphic section, with a minimum of two samples taken from each well during the first round of sampling, unless otherwise approved by the department. The first round of these samples must be analyzed for the expanded parameters. The second round must be analyzed for the

baseline parameters, except as specified in clause (d) of this subparagraph. These samples should be taken in early spring and late summer, or equivalent, to approximate periods of high and low groundwater flow. The department may require sampling and analysis of additional monitoring points as necessary to define site hydrogeology and geochemistry in support of the interpretations and conclusions of the site investigation report.

(b) Before deposition of waste in the facility, all environmental monitoring points not previously sampled must be sampled and analyzed for four rounds of quarterly sampling. The first of these sampling rounds must be analyzed for expanded parameters and the other three rounds must be analyzed for baseline parameters. Those environmental monitoring points which were sampled in accordance with clause (a) of this subparagraph must be sampled and analyzed for baseline parameters for two rounds of samples. The samples shall be obtained at different times of the year than when the sampling required by clause (a) of this subparagraph was performed. If elevated contaminant levels were detected during the preliminary evaluation of water quality, then the sampling required in this clause shall be as specified in clause (d) of this subparagraph. The department may approve phased sampling, where hydrogeologic conditions warrant, as landfill cells are constructed. The sampling of these phased monitoring points shall commence at least one year prior to solid waste deposition and shall be in conformance with the requirements of clause (b) of this subparagraph or as approved by the department. As these phased monitoring points are added to the monitoring program, the procedures contained in clause (c) of this subparagraph shall be followed to reestablish existing water quality at the facility and recompute the standard deviation.

(c) Prior to facility operation, existing water quality must be established for each hydrogeologic flow regime being monitored at the site. Existing water quality for each hydrogeologic flow regime shall be the arithmetic mean, per parameter, of the analytical results of the samples obtained from those environmental monitoring points within that flow regime prior to deposition of solid waste; provided there is no reason to believe that the distribution of the analytical results was non-uniform. The standard deviation of the analytical results for each parameter within each flow regime shall also be established at that time. Should the department determine that the sampling results are non-representative of existing water quality or do not constitute a normal, uniform distribution, then the department shall specify such additional sampling and analyses as it deems necessary to confidently establish existing water quality at the site. For those facilities where solid waste has been placed previously in other than a contiguous landfill cell, the existing water quality may be based on only some of the environmental monitoring points, subject to the approval of the department.

(d) If elevated contaminant levels are detected and additional detailed information is needed to establish a complete existing water quality database, the department may require one or more rounds of baseline or expanded parameter sampling and analysis in any sampling point, using the procedure specified for contingency monitoring required in subparagraph (iii) of this paragraph when contamination is detected.

(e) Additional sampling and analysis beyond the site boundaries may be required to determine the nature and extent of contamination and the source, if possible. This evaluation may include construction, sampling, and analysis of any additional

monitoring wells, and surface water sampling points required by the department. Based upon the results of this additional data, the department may require analysis for any and all expanded parameters, to be included in quarterly or annual operational water quality sampling.

(ii) Operational water quality. The environmental monitoring plan must include a plan for operational water quality monitoring to be conducted during the operation, closure, and post-closure periods of the facility. The operational water quality monitoring plan must be able to distinguish landfill-derived contamination from the existing water quality at the site. The plan must also describe trigger mechanisms for initiating contingency water quality monitoring. The department may require modification of this plan as additional sampling data becomes available during the life of the facility. The minimum requirements for operational water quality monitoring are:

(a) Except as provided below, in each calendar year sampling and analysis must be performed at least quarterly, once for baseline parameters and three times for routine parameters. The baseline sampling event must be rotated quarterly; one round of baseline parameters to be analyzed in each calendar year will be sufficient unless a pattern of contamination exists which may require the department to change the sampling frequency. For double lined landfills, the department may allow omission of the winter sampling once a complete understanding of water chemistry has been obtained, provided that a demonstration of acceptable liner performance is made to the department. The department will require sampling and analysis on a quarterly basis, alternately analyzing for routine and baseline parameters, at all landfills which do not have a liner system constructed in accordance with section 360-2.13(f) of this Subpart.

(b) The department may approve phased sampling, where hydrogeologic conditions warrant, as landfill cells are constructed or as post-closure monitoring is completed as specified in section 360-2.15(i) of this Subpart. With department approval, sampling of specific environmental monitoring points which are not potentially impacted by the portions of the landfill already constructed, may be deferred, provided that scheduled sampling commences at least one year before landfill construction in the vicinity. The department may withdraw this approval at any time, based upon a change in facility design, operation, or performance.

(c) Operational water quality analysis must include at least those parameters specified in the Water Quality Analysis Tables for routine and baseline parameters. The department may modify these tables before granting a permit for the facility, or during the duration of the permit, if leachate composition so warrants. If subsequent leachate compositions vary or if the waste disposed of at the facility changes, the department may adjust analytical requirements accordingly.

(d) Within 90 days of completing the quarterly field sampling activities, the facility owner/operator must determine whether or not there is a significant increase from existing water quality levels established for each parameter pursuant to clause (c)(5)(i)(c) of this section.

(1) In determining whether a significant increase has occurred, the facility owner/operator must compare the groundwater quality of each parameter at each monitoring well to the existing water quality value of that parameter.

(2) A significant increase has occurred if:

(i) the groundwater quality for any parameter at any monitoring well exceeds the existing water quality value for that parameter, as established pursuant to clause (c)(5)(i)(c) of this section, by three standard deviations; or

(ii) the groundwater quality for any parameter at any monitoring well exceeds the existing water quality value for that parameter, as established pursuant to clause (c)(5)(i)(c) of this section and exceeds the water quality standards for that parameter as specified in Part 701, 702, or 703 of this Title. (e) If the owner/operator determines, pursuant to clause (d) of this subparagraph, that there is a significant increase from existing water quality levels for one or more of the parameters during field sampling for the routine parameters, excluding the field parameters, at any monitoring well, the facility owner/operator:

(1) must, within 14 days of this finding, notify the department indicating which parameters have shown significant increases from existing water quality levels; and

(2) must sample and analyze all monitoring points for the baseline parameters during the next quarterly sampling event. Subsequent sampling and analysis for baseline parameters must be conducted at least semiannually until the significant increase is determined not to be landfill-derived or the department determines such monitoring is not needed to protect public health or the environment.

(f) If the owner/operator determines, pursuant to clause (d) of this subparagraph, that there is a significant increase from existing water quality levels for one or more of the parameters during field sampling for the baseline parameters, excluding the field parameters, at any monitoring well, the facility owner/operator:

(1) must, within 14 days of this finding, notify the department indicating which parameters have shown significant increases from existing water quality levels; and

(2) must establish a contingency monitoring program meeting the requirements of subparagraph (iii) of this paragraph within 90 days except as provided for in subclause (3) of this clause.

(3) The facility owner/operator may attempt to demonstrate to the department that a source other than the facility caused the contamination or that the significant increase resulted from error in sampling, analysis, or natural variation in groundwater quality. A report documenting this demonstration must be submitted to the department for approval. If a successful demonstration is made, documented and approved by the department, the facility owner/operator may continue operational water quality monitoring as specified in this subparagraph. If, after 90 days, a successful demonstration is not made, the owner/operator must initiate a contingency monitoring program as required in subparagraph (iii) of this paragraph.

(iii) Contingency water quality. The environmental monitoring plan must include a plan for contingency water quality monitoring, as described in this subparagraph, which must be conducted when a significant increase over existing water quality has been detected pursuant to clause (c)(5)(ii)(d) of this section for one or more of the baseline parameters listed in the Water Quality Analysis Tables. All contingency water quality monitoring plans are subject to department approval, may be modified at any time by the department

when necessary to protect public health and the environment, and must include the following:

(a) Within 90 days of triggering a contingency water quality monitoring program, the facility owner/operator must sample and analyze the groundwater for the expanded parameters listed in the Water Quality Analysis Tables. A minimum of one sample from each monitoring well (upgradient and downgradient) must be collected and analyzed during this sampling. If any constituents are detected in the downgradient wells as a result of the expanded parameter analysis, a minimum of two independent samples from each well (upgradient and downgradient) must be collected within 30 days of obtaining the results of the expanded parameter analysis and analyzed for the detected constituents. These samples must be collected within two weeks of each other and then compared to the existing groundwater quality values established pursuant to subparagraph (c)(5)(i) of this section. If an increase in the existing water quality values in the upgradient wells is indicated by this comparison, the existing water quality values for these parameters shall be revised to be the arithmetic mean of the results of each parameter for which analyses were performed in the upgradient wells within each hydrogeologic flow regime. The department may delete any of the expanded parameters if it can be shown that the removed parameters are not reasonably expected to be in, or derived from, the waste contained in the landfill based on the leachate sampling being performed pursuant to paragraph (c)(3) of this section.

(b) After obtaining the results from the initial or subsequent sampling required in clause (a) of this subparagraph, the facility owner/operator must:

(1) within 14 days, notify the department to identify the expanded parameters that have been detected;

(2) within 90 days, and on a quarterly basis thereafter, resample all wells, conduct analyses for all baseline parameters, and for those expanded parameters that are detected in response to clause (a) of this subparagraph. In addition, the facility owner/operator shall sample and conduct analyses annually on all wells for the expanded parameters. At least one sample from each upgradient and downgradient well must be collected and analyzed during these sampling events. The department may reduce the requirements of this subclause based on site specific conditions; and

(3) establish groundwater protection standards for all parameters detected pursuant to clause (a) of this subparagraph. The groundwater protection standards must be established in accordance with clause (f) of this subparagraph.

(c) If the concentrations of any of the expanded parameters are shown to be at or below existing water quality values for two consecutive sampling events, the owner/operator must notify the department of this finding and, if approved by the department, may remove that parameter from the contingency water quality monitoring program. If the concentrations of all the expanded parameters are shown to be at or below existing water quality values for two consecutive sampling events, the owner/operator must notify the department and, if approved by the department, may return to operational water quality monitoring.

(d) If the concentrations of any expanded parameters are above existing water quality values, but all concentrations are below the groundwater protection standard

established under clause (f) of this subparagraph, the owner/operator must continue contingency monitoring in accordance with this subparagraph.

(e) If one or more expanded parameters are detected at significant levels above the groundwater protection standard established under clause (f) of this subparagraph in any sampling event, the facility owner/operator must, within 14 days of this finding, notify the department to identify the expanded parameters that have exceeded the groundwater protection standard, and notify all appropriate local government officials identified in the Contingency Plan, required pursuant to section 360-2.10 of this Subpart, that the notice has been sent to the department. The owner/operator must also:

(1) characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(2) install at least one additional monitoring well at the facility boundary in the direction of contaminant migration, and sample this well in accordance with subparagraph (c)(5)(i) of this section;

(3) notify all persons who own the land or reside on the land that is directly over any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells in accordance with subclause (1) of this clause; and

(4) initiate an assessment of corrective measures as required by section 360-2.20 of this Subpart within 90 days; or

(5) demonstrate that a source other than the landfill caused the contamination, or that the significant increase resulted from error in sampling, analysis, or natural variation in groundwater quality. This report must be submitted for approval by the department. If a successful demonstration is made, the facility owner/operator must continue monitoring in accordance with the contingency water quality monitoring program pursuant to subparagraph (c)(3)(iii) of this section, and may return to operational monitoring if the expanded parameters are at or below existing water quality as specified in subparagraph (c)(5)(i) of this section. Unless and until a successful demonstration is made, the owner/operator must comply with this clause, including initiating an assessment of corrective measures.

(f) The owner/operator must establish a groundwater protection standard for each expanded parameter detected in the groundwater. The groundwater protection standard shall be:

(1) for parameters for which a maximum contaminant level (MCL) has been established in section 1412 of the Safe Drinking Water Act under 40 CFR part 141 (see section 360-1.3 of this Part) or for which standard has been established pursuant to Part 701, 702, or 703 of this Title, whichever is more stringent when the parameters are the same, the MCL or standard for that constituent;

(2) for parameters for which MCLs or standards have not been established, the existing water quality concentration for the parameter established from wells in accordance with subparagraph (c)(5)(i) of this section; or

(3) for parameters for which the existing water quality level is higher than the MCL or standard identified under subclause (1) of this clause, the existing water quality

concentration.

(iv) Reporting of data. Unless more rapid reporting is required to address an imminent environmental or public health concern, the owner or operator of the facility must report all water quality monitoring results to the department within 90 days of the conclusion of the sample collection. The report must include:

(a) A table showing the sample collection date, the analytical results (including all peaks even if below method detection limits [MDL]), designation of upgradient wells andlocation number for each environmental monitoring point sampled, applicable water quality standards, and groundwater protection standards if established, MDL's, and Chemical Abstracts Service (CAS) numbers on all parameters.

(b) In addition, tables or graphical representations comparing current water quality with existing water quality and with upgradient water quality must be presented. These comparisons may include Piper diagrams, Stiff diagrams, tables, or other analyses.

(c) A summary of the contraventions of State water quality standards, significant increases in concentrations above existing water quality, any exceedances of groundwater protection standards, and discussion of results, and any proposed modifications to the sampling and analysis schedule necessary to meet the requirements of subparagraphs (i) through (iii) of this paragraph.

(d) All AQA/AQC documentation must be submitted to the department in a form acceptable to the department.

(e) The annual report must contain a summary of the water quality information presented in clauses (b) and (c) of this subparagraph with special note of any changes in water quality which have occurred throughout the year.

(f) The data quality assessment report required pursuant to paragraph (d)(5) of this section.

(d) Site analytical plan. The site analytical plan must describe the method of sample collection and preservation, chain of custody documentation, analyses to be performed, analytical methods, data quality objectives, procedures for corrective actions, and procedures for data reduction, validation and reporting. The site analytical plan will pertain to existing water quality monitoring programs, operational water quality monitoring programs, and a contingency water quality monitoring program which specifies trigger mechanisms for its initiation. Unless otherwise approved by the department, the site analytical plan must comply with the following:

(1) Data quality objectives.

(i) The data quality objectives for the data generation activity must be established prior to the initiation of any sampling.

(ii) The data quality objectives shall define the goals of each phase of the water quality monitoring program, including, but not limited to, the following:

(a) reasons for the analytical program;

(b) identification of any regulatory programs and standards applicable to the analytical program; and

(c) minimum detection limits for each of the parameters listed in the Water Quality Analysis Tables.

(iii) The data quality objectives shall be the basis for the development of all other portions of the site analytical plan.

(2) Analytic quality assurance (AQA)/analytic quality control (AQC).

(i) The site analytical plan must include a discussion of the AQA/AQC for the sampling program associated with the facility and shall be sufficient to ensure that the data generated by the sampling and analysis activities are of a quality commensurate with their intended use and the requirements of the department. The discussion shall detail the AQA/AQC goals and protocols for each type of environmental monitoring to be performed at the facility. Elements must include a discussion of the quality objectives of the project, identification of the qualifications of those persons who will be performing the work and their responsibilities and authorities, enumeration of AQC procedures to be followed, and reference to the specific standard operating procedures that will be followed for all aspects of the environmental monitoring program.

(3) Field sampling procedures.

(i) All field sampling procedures shall be described in detail in the site analytical plan. All field quality control procedures shall be described including types and frequency of field quality control samples to be collected such as field blanks, trip blanks, field duplicates, reference materials and material blanks.

(ii) All samples must be collected and stored in the order of the parameter's volatilization sensitivity using methods, consistently applied, which ensure sample integrity.

(iii) All sampling equipment must be constructed of inert materials designed to obtain samples with minimal agitation and contact with the atmosphere; be cleaned and protected during transport to avoid contamination; and checked before use. Dedicated equipment must be constructed of appropriate inert materials and must be appropriate for the types of sampling to be performed.

(iv) Samples must be properly preserved and delivered to the laboratory with proper chain of custody within all appropriate holding times for the parameters to be analyzed.

(v) The sampling procedures and frequencies must be protective of human health and the environment.

(vi) Monitoring well sampling techniques. Monitoring well sampling techniques must be consistently performed each time a well is sampled, and must comply with the following:

(a) In areas where the presence of explosive or organic vapors is suspected, ambient air in the well must be checked for their presence before the well is evacuated.

(b) For wells with documented contamination, where contamination by non- aqueous phase liquids may be present, standing water in the well must be checked for immiscible layers or other contaminants that are lighter or heavier than water (floaters or sinkers). If present, floaters or sinkers must be sampled and analyzed separately by

a method described in the site analytical plan.

(c) Evacuation of the well must replace stagnant water in the well and the sand pack with fresh water representative of the formation. Evacuation methods, including pumping rate, depth of pump intake, and method of determining sufficiency of evacuation must be consistently applied each time the well is sampled. Evacuation methods must create the least possible turbidity in the well and must not lower the water in the well below the top of the sand pack whenever feasible. Evacuated water must be properly managed.

(d) After evacuation of the well, volatile organic samples must be collected.

(e) analysis must be performed after volatile organic samples have been collected, either within the borehole using a probe or from the next sample collected. All field test equipment must be calibrated at the beginning of each sampling day and checked and recalibrated according to the manufacturer's specifications. Calibration data must be reported with the analytical results.

(f) Groundwater samples shall not be filtered, unless otherwise approved by the department. If, due to site-specific conditions, sample turbidity cannot be reduced to 50 nephelometric turbidity units (NTUs) or less by good sampling technique or well redevelopment, the department may approve collection of both filtered and unfiltered samples for analyses of the inorganic parameters. All other analyses required will be on the unfiltered samples.

(vii) Surface water and sediment sampling techniques. Surface water and sediment sampling methods must be consistently applied to all samples, and must comply with the following:

(a) Surface water samples collected from shallow water should not include bottom sediment. In shallow moving water, downstream samples must be collected first to avoid disturbances from the bottom sediments.

(b) Each water body over three feet deep that is sampled must be checked for stratification, and each stratum must be checked for contamination using field parameters. Each stratum showing evidence of contamination must be separately analyzed. If no stratum shows such evidence, a composite sample having equal parts of water from each stratum must be analyzed.

(c) Sediment samples must be taken at each location from which surface water samples are taken, and should consist of the upper five centimeters of sediment.

(viii) Water supply well sampling techniques. Sampling methods must be consistently applied each time a well is sampled and must comply with the following:

(a) Samples should be collected directly from the well so as to yield water representative of the formations supplying the well. If this is not possible, samples must be collected as near to the well as possible and before the water is softened, filtered, or heated.

(b) If possible, samples must be collected before the water enters the pressure tank, otherwise the water must run long enough to flush water stored in the tank and pipes.

(c) Before sampling, water must be evacuated from the well to ensure a fresh sample

of aquifer water.

(d) If samples are collected from a tap, aerators, filters, or other devices must be removed before sampling.

(ix) Corrective action. Standard operating procedures must be established which describe the procedures used to identify and correct deficiencies in the sample collection process. The standard operating procedure shall specify that each corrective action must be documented in the sampling report submitted to the department, with a description of the deficiency, the corrective action taken, and the persons responsible for implementing the corrective action. Any alterations to the field sampling procedures shall be included as an amendment to the site analytical plan.

(4) Laboratory procedures.

(i) Laboratory analyses must be performed by a laboratory currently certified under the appropriate approval categories by the New York State Department of Health's Environmental Laboratory Approval Program (ELAP).

(ii) The site analytical plan should contain the standard operating procedures of all laboratory activities related to the environmental monitoring plan. Any revisions to these standard operating procedures must be documented. Standard operating procedures should be available for the following, at a minimum:

(a) receipt, storage and handling of samples;

(b) sample scheduling to ensure that holding time requirements are met;

(c) reagent/standard preparation;

(d) general laboratory techniques such as glassware cleaning procedures, operation of analytical balances, pipetting techniques and use of volumetric glassware;

(e) description of how analytical methods are actually to be performed including precise reference to the analytical method used; and not a simple reference to standard methods; and

(f) standard operating procedures for equipment calibration and maintenance to ensure that laboratory equipment and instrumentation are in working order, including, but not limited to procedures and schedules for calibration and maintenance in accordance with manufacturers' specifications; and

(g) for a corrective action, standard operating procedures must be established for identifying and correcting deficiencies in the laboratory procedures. The standard operating procedure shall specify that each corrective action must be documented in the sampling event report submitted to the department with a description of the deficiency, the corrective action taken, and the person responsible for implementing the corrective action. Any alterations to the laboratory procedures shall be included as an amendment to the site analytical plan.

(5) Data quality assessment. At the conclusion of each sampling event and analysis of the samples collected, data quality assessment shall occur. A data quality assessment report must be submitted with the results from each sampling event. Data quality assessment shall occur in two phases.

(i) Data validation.

(a) For those sampling events for which only routine parameters are analyzed, the data validation shall be performed by the laboratory that performed the sample analyses.

(b) For those sampling events for which baseline or expanded parameters are analyzed, the data validation shall be performed by a person other than the laboratory that performed the analyses and that is acceptable to the department.

(c) The data validation shall be performed on all analytical data for the facility at a rate acceptable to the department, but not less than five percent of the data generated, and shall consist, at a minimum, of the following:

(1) field records and analytical data are reviewed to determine whether the data are accurate and defensible. All AQA/AQC information shall be reviewed along with any corrective actions taken during that sampling event; and

(2) all data summaries shall be clearly marked to identify any data that are not representative of environmental conditions at the site, or that were not generated in accordance with the site analytical plan.

(ii) Data usability analysis.

(a) The data usability analysis shall be performed on all analytical data for the facility and shall consist of the following:

(1) an assessment to determine if the data quality objectives were met;

(2) for consistency, comparison of the analytical data with the results from previous sampling events;

(3) evaluation of field duplicate results to indicate the samples are representative;

(4) comparison of the results of all field blanks, trip blanks, equipment rinsate blanks, and method blanks with full data sets to provide information concerning contaminants that may have been introduced during sampling, shipping, or analyzing;

(5) evaluation of matrix effects to assess the performance of the analytical method with respect to the sample matrix, and determine whether the data have been biased high or low due to matrix effects;

(6) integration of the field and laboratory data with geological, hydrogeological, and meteorological data to provide information about the extent of contamination, if it occurs; and

(7) comparison of precision, accuracy, representativeness, comparability, completeness, and defensibility of the data generated with that required to meet the data quality objectives established in the site analytical plan.

(6) The following Water Quality Analysis Tables in this section list the routine, baseline, and expanded parameters for analysis of all monitoring samples.

WATER QUALITY ANALYSIS TABLES

ROUTINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Field Parameters:			
Static water level(in wells and sumps)			
Specific Conductance		9050	
Temperature			
Floaters or Sinkers[5]			
Temperature			
pH		9040	
Eh		9041	
Dissolved Oxygen[6]			
Field Observations[7]			
Turbidity		180.1	
Leachate Indicators:			
Total Kjeldahl Nitrogen		351.1 351.2 351.3	60
Ammonia.....	7664-41-7	351.4 350.1 350.2	200 60
Nitrate.....		350.3	100
Chemical Oxygen Demand.....		9200 410.1 410.2 410.3 410.4	50000 50000 5000 80000
Biochemical Oxygen Demand (BOD_5).....		405.1	2000
Total Organic Carbon.....			
Total Dissolved Solids		9060	
Sulfate.....		160.1 9035	40000
Alkalinity.....		9036 9038	
Phenols.....		310.1	20000
Chloride.....	108-95-2	310.2 8040 9250	6000
Bromide.....		9251	
Total hardness as $CaCO_3$		9252 320.1 130.1 130.2	2000 20000 30000
Inorganic Parameters:			
Cadmium.....	(Total)	3010 7130	40 50
Calcium.....		7131	1
Iron.....	(Total) (Total)	7140 7380	40 100
Lead.....	(Total)	7381 6010	4 400

		7420	1000
Magnesium.....		7421	10
Manganese.....	(Total) (Total)	7450 7460	4 40
Potassium.....		7461	0.8
Sodium.....	(Total) (Total)	7610 7770	40 8

The department may modify this list as necessary.

Notes

[1]This list contains parameters for which possible analytical procedures are provided in EPA Report SW-846 *Test Methods for Evaluating Solid Waste*, third edition, November 1986, as revised December 1987, and *Methods for Chemical Analysis of Water and Wastes*, USEPA 600/4-79-020, March, 1979. The regulatory requirements pertain only to the list of parameters; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnote 4.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service Registry Number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[5]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[6]Surface water only.

[7]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Field Parameters:			
Static water level..... (in wells and sumps)			
Specific Conductance.....		9050	
Temperature.....			
Floaters or Sinkers[5].....			
pH.....		9040 9041	

Eh.....			
Dissolved Oxygen6.....			
Field Observations7.....		180.1	
Turbidity.....			
Leachate Indicators:			
Total Kjeldahl Nitrogen...		351.1 351.2 351.3	60
Ammonia.....	7664-41-7	351.4 350.1 350.2	200 30
Nitrate.....		350.3	100
Chemical Oxygen Demand....		9200 410.1 410.2 410.3	50000 50000 50000
Biochemical Oxygen Demand (BOD_5).....		410.4 405.1	80000 2000
Total Organic Carbon.....			
Total Dissolved Solids....		9060	
Sulfate.....		160.1 9035	40000
Alkalinity.....		9036 9038	
Phenols.....		310.1	20000
Chloride.....		310.2 9250	6000
Bromide.....		9251	
Total hardness as $CaCO_3$ ...		9252	
Color.....		320.1 130.1 130.2 110.1 110.2 110.3	2000 20000 30000 80
Boron.....	7440-42-8		
Inorganic Parameters:			
Aluminum.....			
Antimony.....	(total) (total)	7020 6010 7040	10 300 2000
Arsenic.....	(total)	7041 6010 7060	30 500 10
Barium.....	(total)	7061 6010	20 20
Beryllium.....	(total)	7080 6010 7090	1000 3 50
Cadmium.....	(total)	7091 6010 7130	2 40 50

Calcium.....		7131	1
Chromium.....	(total) (total)	7140 6010 7190	40 70 500
Chromium(Hexavalent)*....	18540-29-9	7191 7195 7196	10 600
Cobalt.....	(total)	7197 7198 6010	30 70
Copper.....	(total)	7200 7201 6010	500 10 60
Cyanide.....		7210	200
Iron.....	(total)	7211 9010	10 200
Lead.....	(total) (total)	7380 7381 6010	100 4 400
Magnesium.....		7420	1000
Manganese.....	(total)	7421 7450	10 4
Mercury.....	(total)	7460	40
Nickel.....	(total)	7461 7470	0.8 2
Potassium.....	(total) (total)	6010 7520 7610	150 400 40
Selenium.....	(total)	6010 7740	750 20
Silver.....	(total)	7741 6010	20 70
Sodium.....		7760	100
Thallium.....	(total) (total)	7761 7770 6010	10 8 400
Vanadium.....	(total)	7840 7841 6010	1000 10 80
Zinc.....	(total)	7910 7911 6010 7950 7951	2000 40 20 50 0.5
Organic Parameters:			
Acetone.....	67-64-1	8260	100
Acrylonitrile.....	107-13-1	8030 8260	5 200
Benzene.....	71-43-2	8020 8021 8260	2 0.1 5
Bromochloromethane.....	74-97-5	8021 8260	0.1 5
Bromodichloromethane.....	75-27-4	8010 8021	1 0.2

		8260	5
Bromoform; Tribromomethane	75-25-2	8010 8021 8260	2 15 5
Carbon disulfide.....	75-15-0	8260	100
Carbon tetrachloride.....	56-23-5	8010 8021 8260	1 0.1 10
Chlorobenzene.....	108-90-7	8010 8020 8021 8260	2 2 0.1 5
Chloroethane; Ethyl chloride.....	75-00-3	8010 8021	5 1
Chloroform; Trichloromethane.....	67-66-3	8010 8021	0.5 0.2
Dibromochloromethane; Chlorodibromomethane....	124-48-1	8260 8010 8021	5 1 0.3
1,2-Dibromo-3-chloropro-pane; DBCP.....	96-12-8	8260 8011 8021	5 0.1 30
1,2-Dibromoethane; Ethyl-ene dibromide; EDB.....	106-96-4	8260 8011 8021	25 0.1 10
o-Dichlorobenzene; 1,2-Dichlorobenzene.....	95-50-1	8026 8010 8020 8021 8120 8260	5 2 5 0.5 10 5
p-Dichlorobenzene; 1,4-Dichlorobenzene.....	106-46-	8270 8010 8020 8021 8120 8260	10 2 5 0.1 15 5
trans-1,4-Dichloro-2-bu- tene.....		8270	10
1,1-Dichloroethane; Ethylidene chloride.....	110-57-6 75-34-3	8260 8010 8021	100 1 0.5
1,2-Dichloroethane; Ethylene dichloride.....	107-06-2	8260 8010 8021	8 0.5 0.3
1,1-Dichloroethylene;		8260	5
1,1-Dichloroethene;		8010	1
Vinylidene chloride.....	75-35-4	8021	0.5
cis-1,2-Dichloroethylene;		8260	5
cis-1,2-Dichloroethene..		8021	0.2
trans-1,2-Dichloroethyl-ene;	156-59-2	8260	5
trans-1,2-Dichloro- ethene.....	156-60-5	8010 8021	1 0.5
1,2-Dichloropropane;		8260	5
Pro-pylene dichloride.....	78-87-5	8010 8021	0.5 0.05
cis-1,3-Dichloropropene...		8260	5

		8010	20
trans-1,3-Dichloropropene.	10061-01-5 10061-02-6	8260 8010 8260	10 5 10
Ethylbenzene.....	100-41-4	8020 8221 8260	2 0.05 5
2-Hexanone; Methyl butyl ketone.....	591-78-6	8260	50
Methyl bromide; Bromo- methane.....	74-83-9	8010 8021	20 10
Methyl chloride; Chloro- methane.....	74-87-3	8010 8021	1 0.3
Methylene bromide; Dibro- momethane.....	74-95-3	8010 8021	15 20
Methylene chloride; Dichloromethane....	75-09-02	8260 8010 8021	5 0.2 10
Methyl ethyl ketone; MEK; 2-Butanone....	78-93-3	8260 8010	100 40
4-Methyl-2-pentanone; Methyl isobutyl ketone..	108-10-1	8260 8015	10 5
Styrene.....	100-42-5	8260 8020 8021	100 1 0.1
1,1,1,2-Tetrachloroethane.	630-20-6	8260 8010 8021	10 5 5
1,1,2,2-Tetrachloroethane....	79-34-5	8260 8010 8021	0.5 0.1 0.05
Tetrachloroethylene; Tet- rachloroethene; Per-chloroethylene.....	127-18-4	8260 8010 8021	5 0.5 0.5
Toluene.....	108-88-3	8260 8020 8021	5 2 0.1
1,1,1-Trichloroethane; Methylchloroform.....	71-55-6	8260 8010 8021	5 0.3 0.3
1,1,2-Trichloroethane.....	79-00-5	8260 8010	5 0.2
Trichloroethylene; Tri- chloroethene.....	79-01-6	8260 8010 8021	5 1 0.2
Trichlorofluoromethane; CFC-11.....	75-69-4	8260 8010 8021 8260	5 10 0.3 5
1,2,3-Trichloropropane....	96-18-4	8010 8021 8260	10 5 15
Vinyl acetate.....	108-05-4	8260	50
Vinyl chloride; Chloro- ethene.....	75-01-4	810 8021 8260	2 0.4 10
Xylenes.....	1330-20-7	8020 8021	5 0.2

		8260	5

The department may modify this list as necessary.

Notes

[1]This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 *Test Methods for Evaluating Solid Waste*, third edition, November 1986, as revised December 1987, includes Method 8260; 25 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods; and additional parameters for which possible procedures are provided in *Methods for Chemical Analysis of Water and Wastes*, USEPA-600/4-79-020, March, 1979. The regulatory requirements pertain only to the list of parameters; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnote 4.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service Registry Number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[5]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[6]Surface water only.

[7]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

*The department may waive the requirement to analyze Hexavalent Chromium provided that Total and Hexavalent and Trivalent Chromium values do not exceed 0 .05 mg/l.

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Field Parameters:			
Static water level..... (in wells and sumps)			
Specific Conductance.....		9050	
Temperature.....			
Floaters or Sinkers[5].....			
pH.....		9040 9041	

Eh.....			
Dissolved Oxygen6.....			
Field Observations7.....		180.1	
Turbidity.....			
Leachate Indicators:			
Total Kjeldahl Nitrogen...		351.1 351.2 351.3	60
Ammonia.....	7664-41-7	351.4 350.1 350.2	200 30
Nitrate.....		350.3	100
Chemical Oxygen Demand....		9200 410.1 410.2 410.3 410.4	50000 50000 50000 80000
Biochemical Oxygen Demand (BOD_5).....		405.1	2000
Total Organic Carbon.....			
Total Dissolved Solids....		9060	
Sulfate.....		160.1 9035	40000
Alkalinity.....		9036 9038	
Phenols.....		310.1	20000
Chloride.....	108-95-2	310.2 8040 9250	6000
Bromide.....		9251	
Total hardness as $CaCO_3$ ...	24959-67-9	9252 320.1 130.1 130.2	2000 20000 30000
Color.....		110.1 110.2 110.3	80
Boron.....	7440-42-8		
Inorganic Parameters:			
Aluminum.....	(total)	7020	10
Antimony.....	(total)	6010 7040 7041	300 2000 30
Arsenic.....	(total)	6010 7060 7061	500 10 20
Barium.....	(total)	6010	20
Beryllium.....	(total)	7080 6010 7090	1000 3 50
Cadmium.....	(total)	7091 6010 7130	2 40 50

Calcium.....		7131	1
Chromium.....	(total) (total)	7140 6010 7190	40 70 500
Chromium(Hexavalent)*....	18540-29-9	7191 7195 7196 7197	10 600 30
Cobalt.....	(total)	7198 6010 7200	70 500
Copper.....	(total)	7201 6010	10 60
Cyanide.....		7211	10
Iron.....	(total) (total)	9010 7380	200 100
Lead.....	(total)	7381 6010 7420	4 400 1000
Magnesium.....		7421	10
Manganese.....	(total) (total)	7450 7460	4 40
Mercury.....	(total)	7461 7470	0.8 2
Nickel.....	(total)	6010 7520	150 400
Potassium.....	(total)	7610	40
Selenium.....	(total)	6010 7740 7741	750 20 20
Silver.....	(total)	6010 7760 7761	70 100 10
Sodium.....	(total)	7770	8
Thallium.....	(total)	6010 7840 7841	400 1000 10
Tin.....	(total)	6010	40
Vanadium.....	(total)	6010 7910 7911	80 2000 40
Zinc.....	(total)	6010 7950 7951	20 50 0.5
Organic Parameters:			
Acenaphthene....	83-32-9	8100 8270	200 10
Acemaphthylene	208-96-8	8100 8270	200 10
Acetone.....	67-64-1	8260	100
Acetonitrile; Methyl cyanide.....	75-05-8	8015	100
Acetophenone.....	98-86-2	8270	10
2-Acetylaminofluorene; 2-AAF.....	53-96-3	8270	20

Acrolein.....	107-02-8	8030 8260	5 100
Acrylonitrile.....	107-13-1	8030 8260	5 200
Aldrin.....	309-00-2	8080 8270	10 5
Ally chloride.....	107-05-1	8010 8260	5 10
4- aminobiphenyl...	92-67-1	8270	20
Anthracene.....	120-12-7	8100 8270	200 10
Benzene.....	71-43-2	8020 8021 8260	2 0.1 5
Benzo[a]anthracene; Benzanthracene.....	56-55-3	8100 8270	200 10
Benzo[b]fluoranthene..	205-99-2	8100 8270	200 10
Benzo[k]fluoranthene..	207-08-9	8100 8270	200 10
Benzo[ghi]perylene..	191-24-2	8100 8270	200 10
Benzo[a]pyrene...	50-32-8	8100 8270	200 10
Benzyl alcohol..	100-51-6	8270	20
alpha-BHC.....	319-84-6	8080 8270	0.05 10
beta-BHC....	319-85-7	8080 8270	0.05 10
delta-BHC.....	319--86-8	8080 8270	0.1 20
gamma-BHC; Lindane...	58-89-9	8080 8270	0.05 20
Bis(2-chloroethoxy)methane	111-91-1	8110 8270	5 10
Bis(2-chloroethyl) ether; Dichloroethyl ether...	111-44-4	8110 8270	3 10
Bis-(2-chloro-1-methyl-ethyl) ether; 2,21-Di- chlorodiisopropyl ether	108-60-1	8110 8270	10 10
DCIP, See note 9.....			
Bis(2-ethylhexyl)phthalate Bromochloromethane; Chlorobromomethane....	117-81-7 74-97-5	8060 8021 8260	20 0.1 5
Bromodichloromethane; Dibromochloromethane...	75-27-4	8010 8021	1 0.2
Bromoform; Tribrommomethane	75-25-2	8260 8010 8021	5 2 15
4-Bromophenyl phenyl ether	101-55-3	8260 8110	5 25
Butyl benzyl phthalate; Benzyl butyl phthalate..	85-68-7	8270 8060	10 5
Carbon disulfide.....		8270	10

Carbon tetrachloride.....	75-15-0 56-23-5	8260 8010 8021 8260	100 1 0.1 10
Chlordane.....	See Note 10	8080 8270	0.1 50
p-Chloroaniline.....	106-47-8	8270	20
Chlorobenzene.....	108-90-7	8010 8020 8021 8260	2 2 0.1 5
Chlorobenzilate.....	510-15-6	8270	10
p-Chloro-m-cresol; 4-Chloro-3-methylphenol...	59-50-7	8040 8270	5 20
Chloroethane; Ethyl chloride.....	75-00-3	8010 8021 8260	5 1 10
Chloroform; Trichloromethane.....	67-66-3	8010 8021 8260	0.5 0.2 5
2-Chloronaphthalene...	91-58-7	8120 8270	10 10
2-Chlorophenol.....	95-57-8	8040 8270	5 10
4-Chlorophenyl phenyl ether.....	7005-72-3	8110 8270	40 10
Chloroprene.....	126-99-8	8010 8260	50 20
Chrysene.....	218-01-9	8100 8270	200 10
m-Cresol; 3-methylphenol..	108-39-4	8270	10
o-Cresol; 2-methylphenol..	95-48-7	8270	10
p-Cresol; 4-methylphenol..	106-44-5	8270	10
2,4-D; 2,4-Dichlorophen- oxyacetic acid.....	94-75-7	8150	10
4,41-DDD.....	72-54-8	8080	0.1
4,41-DDE.....		8270	10
4,41-DDT.....	72-55-9	8080	0.05
Diallate.....		8270	10
Dibenz[a,h]anthracene.....	50-29-3	8080 8270	0.1 10
Dibenzofuran.....	2303-16-4	8270	10
Dibromochloromethane; Chlorodibromomethane....	53-70-3 132-64-9 124-48-1	8100 8270 8270 8010 8021 8260	200 10 10 1 0.3 5
1,2-Dibromo-3-chloro- propane; DBCP.....	96-12-8	8011 8021 8260	0.1 30 25
1,2-Dibromoethane; Ethylene dibromide; EDB....	106-93-4	8011 8021 8260	0.1 10 5

Di-n-butyl phthalate.....	84-74-2	8060	5
o-Dichlorobenzene; 1,2-Dichlorobenzene.....	95-50-1	8270 8010 8020 8021 8120 8260	10 2 5 0.5 10 5
m-Dichlorobenzene; 1,3-Dichlorobenzene.....	541-73-1	8270 8010 8020 8021 8120 8260	10 5 5 0.2 10 5
p-Dichlorobenzene; 1,4-dichlorobenzene....	106-46-7	8270 8010 8020 8021 8120 8260	10 2 5 0.1 15 5
3,31-Dichlorobenzidine....		8270	10
trans-1,4-Dichloro- 2-butene.....	91-94-1	8270	10
Dichlorodifluoromethane; CFC 12.....	110-57-6 75-71-8	8260 8021	100 0.5
1,1-Dichloroethane; Ethyldidene chloride....	75-34-3	8260 8010	5 1
1,2-Dichloroethane; Ethylene dichloride....	107-06	8021 8260 8010	0.5 5 .05
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride.....	75-35-4	8021 8260 8010	0.3 5 1
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene..		8021 8260	0.5 5
trans-1,2-Dichloroethylene	156-59-2	8021 8260	0.2 5
trans-1,2-Dichloroethene	156-60-5	8260 8010	5 1
2,4-Dichlorophenol.....	120-83-2	8021 8260 8040 8270	0.5 5 5 10
2,6-Dichlorophenol.....	87-65-0	8270	10
1,2-Dichloropropane; Propylene dichloride....	78-87-5	8010 8021 8260	0.5 0.05 5
1,3-Dichloropropane; Trimethylene dichloride.	142-28-9	8021 8260	0.3 5
2,2-Dichloropropane; Isopropylidene chloride.	594-20-7	8021 8260	0.5 15
1,1-Dichloropropene...	563-58-6	8021	0.2
cis-1,3-Dichloropropene..	10061-01-5	8260 8010	5 20
trans-1,3-Dichloropropene	10061-02-6	8260 8010	10 5
Dieldrin.....	60-57-1	8260 8080	10 0.05
Diethyl phthalate....	84-66-2	8270	10

		8060	5
0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin.....	297-97-2	8270 8141 8270	10 5 20
Dimethoate.....	60-51-5	8141	3
p-(Dimethylamino)azo- benzene.....		8270	20
7,12-Dimethylbenz[a]- anthracene.....	60-11-7	8270	10
3,31-Dimethylbenzidine....	57-97-6	8270	10
2,4-Dimethylphenol; m-Xylenol.....	199-93-7 105-67-9	8270 8040	10 5
Dimethyl phthalate...		8270	10
m-Dinitrobenzene...	131-11-3	8060	5
4,6-Dinitro-o-cresol 4,6- Dinitro-2-methylphenol..	99-65-0	8270 8270	10 20
2,4-Dinitrophenol....	534-52-1	8040 8270	150 50
2,4-Dinitrotoluene.....	51-28-5	8040 8270	150 50
2,6-Dinitrotoluene....	121-14-2	8090 8270	0.2 10
Dinoseb; DNBP; 2-sec- Butyl-4,6-dinitrophenol.	606-20-2	8090 8270	0.1 10
Di-n-octyl phthalate...	88-85-7 117-84-0	8150 8270 8060 8270	1 20 30 10
11 Diphenylamine.....	122-39-4	8270	10
Disulfoton.....	298-04-4	8140 8141	2 0.5
Endosulfan I.....	959-98-8	8270 8080	10 0.1
Endosulfan II.....	33213-65-9	8270 8080	20 005
Endosulfan sulfate.....		8270	20
Endrin.....	1031-07-8	8080 8270	0.5 10
Endrin aldehyde.....	72-20-8	8080	0.1
Ethylbenzene.....	7421-93-4	8270 8080 8270	20 0.2 10
Ethyl methacrylate.....	100-41-4	8020 8021	2 0.05
Ethyl methanesulfonate....		8260	5
Famphur.....	97-63-2	8015	5
Fluoranthene.....		8260 8270	10 10
Fluorene.....	62-50-0 52-85-7	8270 8270	20 20
Heptachlor.....	206-44-0	8100 8270	200 10
Heptachlor epoxide.....	86-73-7	8100	200

		8270	10
Hexachlorobenzene.....	76-44-8	8080 8270	0.05 10
Hexachlorobutadiene.....	1024-57-3 118-74-1	8080 8270 8120	1 10 0.5
Hexachlorocyclopentadiene	87-68-3	8270 8021 8120	10 0.5 5
Hexachloroethane.....	77-47-7	8260 8270 8120	10 10 5
Hexachloropropene.....		8270	10
2-Hexanone; Methyl butyl ketone.....	67-72-1	8120 8260	0.5 10
Indeno(1,2,3-cd)pyrene...	1888-71-7 591-78-6 193-39-5	8270 8270 8260 8100 8270	10 10 50 200 10
Isobutyl alcohol.....	78-83-1	8015 8240	50 100
Isodrin.....	465-73-6	8270 8260	20 10
Isophorone.....	78-59-1	8090 8270	60 10
Isosafrole.....	120-58-1	8270	10
Kepone.....	143-50-0	8270	20
Methacrylonitrile.....	126-98-7	8015 8260	5 100
Methapyrilene.....	91-80-5	8270	100
Methoxychlor....	72-43-5	8080 8270	2 10
Methyl bromide; Bromomethane...	74-83-9	8010 8021	20 10
Methyl chloride; Chloromethane...	74-87-3	8010 8021	1 0.3
3-Methylcholanthrene....	56-49-5	8270	10
Methyl ethyl ketone; MEK; 2-Butanone.....	78-93-3	8015 8260	10 100
Methyl iodide;Iodomethane	74-88-4	8010 8260	40 10
Methyl methacrylate..	80-62-6	8015 8260	2 30
Methyl methanesulfonate..	66-27-3	8270	10
2-Methylnaphthalene....	91-57-6	8270	10
Methyl parathion; Parathion methyl....	298-00-0	8140 8141 8270	0.5 1 10
4-Methyl-2-pentanone; Methyl isobutyl ketone..	108-10-1	8015 8260	5 100
Methylene bromide; Dibromomethane...	74-95-3	8010 8021 8260	15 20 10

Methylene chloride; Dichloromethane....	75-09-2	8010 8021 8260	5 0.2 10
Naphthalene.....	91-20-3	8021 8100 8260 8270	0.5 200 5 10
1,4-Naphthoquinone.....	130-15-4	8270	10
1-Naphthylamine.....	134-32-7	8270	10
2-Naphthylamine.....	91-59-8	8270	10
o-Nitroaniline; 2-Nitroaniline.....	88-74-4	8270	50
m-Nitroaniline;			
3-Nitroaniline....	99-09-2	8270	50
p-Nitroaniline; 4-Nitroaniline.....	100-01-6	8270	20
Nitrobenzene...	98-95-3	8090 8270	40 10
o-Nitrophenol; 2-Nitrophenol...	88-75-5	8040 8270	5 10
p-Nitrophenol; 4-Nitrophenol....	100-02-7	8040 8270	10 50
N-Nitrosodi-n-butylamine.	924-16-3	8270	10
N-Nitrosodiethylamine....	55-18-5	8270	20
N-Nitrosodimethylamine...	62-75-9	8070	2
N-Nitrosodiphenylamine...	86-30-6	8070	5
N-Nitrosodipropylamine; N-Nitroso-N-dipropyl- amine; Di-n-propylni- trosamine.....	621-64-7	8070	10
N-Nitrosomethylethalamine	10595-95-6	8270	10
N-Nitrosopiperidine..	100-75-4	8270	20
N-Nitrosopyrrolidine..	930-55-2	8270	40
5-Nitro-o-toluidine.....	99-55-8	8270	10
Parathion.....	56-38-2	8141 8270	0.5 10
Pentachlorobenzene.....	608-93-5	8270	10
Pentachloronitrobenzene..	82-68-8	8270	20
Pentachlorophenol.....	87-86-5	8040 8270	5 50
Phenacetin.....	62-44-2	8270	20
Phenanthrene.....	85-01-8	8100 8270	200 10
Phenol.....	108-95-2	8040	1
p-Phenylenediamine...	106-50-3	8270	10
Phorate.....	298-02-2	8140 8141 8270	2 0.5 10
Polychlorinated biphenyls; PCB's; Aroclors...	See Note 11	8080 8270	50 200
Polychlorinated dibenzo-p-dioxins; PCDD's.....	See Note 12	8280	0.01

Polychlorinated dibenzo-furans; PCDF's.....	See Note 13	8280	0.01
Pronamide.....	23950-58-8	8270	10
Propionitrile; Ethyl cyanide.....	107-12-0	8015 8260	60 150
Pyrene.....	129-00-0	8100 8270	200 10
Safrole.....	94-59-7	8270	10
Silvex; 2,4,5-TP.....	93-72-1	8150	2
Styrene.....	100-42-5	8020 8021 8260	1 0.1 10
2,4,5-T; 2,4,5-trichloro- phenoxyacetic acid.....	93-76-5	8150	2
1,2,4,5-Tetrachlorobenzene 2,3,7,8-Tetrachlorodi-benzo-p-dioxin; 2,3,7,8-TCDD.....	95-94-3 1746-01-6 630-20-6	8270 8280	10 0.005
1,1,1,2-Tetrachloroethane.	79-34-5	8010 8021 8260	5 0.05 5
1,1,2,2-Tetrachloroethane.	127-18-4	8010 8021 8260	0.5 0.1 5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.....	58-90-2	8010 8021 8260	0.5 0.5 5
2,3,4,6-Tetrachlorophenol.	108-88-3	8270	10
Toluene.....	95-53-4	8020 8021 8260	2 01 5
o-Toluidine.....	See Note 14	8270	10
Toxaphene.....	120-82-1	8080	2
1,2,4-Trichlorobenzene....	71-55-6	8021 8120 8260 8270	0.3 0.5 10 10
1,1,1-Trichloroethane; Methylchloroform.....	79-00-5	8010 8021 8260	0.3 0.3 5
1,1,2-Trichloroethane.....	79-01-6	8010 8260	0.2 5
Trichloroethylene; Trichloroethene.....	75-69-4	8010 8021 8260	1 0.2 5
Trichlorofluoromethane; CFC-11.....	95-95-4 88-06-2	8010 8021 8260	10 0.3 5
2,4,5-Trichlorophenol...		8270	10
2,4,6-Trichlorophenol.....	96-18-4	8040 8270	5 10
1,2,3-Trichloropropane...		8010 8021 8260	10 5 15
0,0,0-Triethyl phosphoro-	126-68-1	8270	10

thioate.....			
sym-Trinitrobenzene.....	99-35-4	8270	10
Vinyl acetate.....	108-05-4	8260	50
Vinyl chloride; Chloroethene....	75-01-4	8010 8021 8260	2 0.4 10
Xylene (total).....	See Note 15	8020 8021 8260	5 0.2 5

The department may modify this list as necessary. EXPANDED PARAMETERS[1]

Notes

[1]The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 4 and 5.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 *Test Methods for Evaluating Solid Waste*, third edition, November 1986, as revised, December 1987 and *Methods for Chemical Analysis of Water and Wastes*, USEPA-600-4/79-020, March, 1979. CAUTION: The methods listed are representative procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[5]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation. [6]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[7]Surface water only.

[8]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

[9]This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2"-oxybis[2]-chloro- (CAS RN 39638-32-9).

[10]Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 µg/l by method 8270.

[11]Polychlorinated biphenyls (CAS RN 1336-36-3): This category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[12]Polychlorinated dibenzo-p-dioxins: This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners. Upon request of the applicant, the department may waive the requirement to analyze for dioxins, where appropriate.

[13]Polychlorinated dibenzofurans: This category contains congener chemicals, including tetrachlrodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners. Upon request of the applicant, the department may waive the requirement to analyze for furans, where appropriate.

[14]Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

[15]Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m- or p-xylene. The PQL for m-xylene is 2.0 µg/L by method 8020 or 8260.

*The department may waive the requirement to analyze Hexavalent Chromium provided that Total and Hexavalent and Trivalent Chromium values do not exceed 0.05 mg/l.

§360-2.12 Landfill siting.

(a) Applicability. New landfills and lateral or vertical expansions of existing active landfills must be located on a site that exhibits the following characteristics unless the requirements of subdivision (b) of this section are met. A site selection study will be required only if the applicant proposes a site that does not exhibit all of the characteristics identified in either paragraph (1) or (2) of this subdivision.

(1) In the case of new landfills and lateral or vertical expansions of existing landfills:

(i) the site is not located in an area identified in section 360-1.7(a)(2) of this Part;

(ii) the site complies with the siting restrictions identified in subdivision (c) of this section;

(iii) bedrock subject to rapid or unpredictable groundwater flow must be avoided, unless it can be demonstrated that a containment failure of the facility would not result in contamination entering the bedrock system;

(iv) the site must not be in proximity of any mines, caves or other anomalous features that may alter groundwater flow;

(v) unconsolidated deposits underlying the proposed landfill must either exist or be constructed to be 20 feet or greater in thickness as measured from the base of the constructed liner system; and

(vi) the upper 20 feet of the unconsolidated deposits on the site must consist

predominantly (greater than 50 percent) of soils throughout the vertical section, with a maximum in situ coefficient of permeability of 5 x 10-6 centimeters per second, with no appreciable continuous deposits having a maximum coefficient of permeability of 5 x 10-4 centimeters per second.

(2) In the case of an existing landfill active on or after November 4, 1992 operating under and in compliance with a current Part 360 permit or order on consent, the department may allow lateral or vertical expansions if the site has less than 20 feet of unconsolidated deposits provided that:

(i) the proposed landfill expansion is identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the integrated solid waste management system for the planning unit in which the facility is located and the proposed landfill expansion must be consistent with the goals and objectives of such plan;

(ii) the unconsolidated deposits underlying the proposed landfill exist or are constructed to be 10 feet or greater in thickness as measured from the base of the constructed liner system;

(iii) the applicant demonstrates that the expansion site will have no significant adverse impact on human health, safety, or welfare, the environment, or natural resources; and

(iv) the site complies with subparagraphs (1)(i)-(iv) of this subdivision.

(3) Except in Nassau and Suffolk Counties, in the case of ash monofills for the disposal offly ash treated in a manner consistent with section 360- 3.6(g)(3) of this Part, combined ash, or bottom ash, the department may allow ash monofill development at sites that have less than 20 feet of unconsolidated deposits provided that:

(i) the proposed monofill must be identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the integrated solid waste management system for the planning unit in which the facility is located and the proposed monofill must be consistent with the goals and objectives of such plan;

(ii) the unconsolidated deposits underlying the proposed landfill on the site exist or are constructed to be 10 feet or greater in thickness as measured from the base of the constructed liner system;

(iii) the applicant demonstrates that the monofill site will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources; and

(iv) the site complies with subparagraphs (1)(i)-(iv) of this subdivision.

(b) Exceptions. New landfills and lateral or vertical expansions of existing landfills may be located on sites that do not exhibit the characteristics identified in subdivision (a) of this section provided that the requirements of paragraphs (1) and (2) of this subdivision are met. The department may impose additional requirements to assure that the permitted activity will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources for any site selected pursuant to this subdivision.

(1) The proposed landfill must be identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the

integrated solid waste management system for the planning unit in which the facility is located, and the proposed landfill must be consistent with the goals and objectives of such plan.

(2) The applicant must perform a site selection study and submit a site selection report as part of a complete application. This report must describe the factors that prevent the applicant from using a site exhibiting the characteristics identified in subdivision (a) of this section. Such factors may include, but are not limited to, the proximity to receiving waters or proximity to sewer lines or POTWs to ensure proper management of leachate during the operational and post-closure period of the landfill. The site selection report must also demonstrate that the chosen site will have no significant adverse impact on public health, safety, or welfare, the environment or natural resources, and will be consistent with the provisions of the ECL.

(i) The site selection process must be comprehensive and must identify and evaluate a reasonable range of alternative sites which are feasible considering the capabilities and objectives of the applicant. All of the criteria used to eliminate and evaluate the suitability of the potential sites must be clearly defined and consistently applied. A phased approach must be used, in which a more detailed evaluation of sites occurs as the number of potential sites is reduced.

(a) The applicant must exclude inappropriate siting areas by avoiding the prohibited siting areas identified in section 360-1.7(a)(2) of this Part and applying the landfill siting restrictions identified in subdivision (c) of this section.

(b) The applicant must evaluate potential siting areas to identify alternative sites that are suitable for landfill development. When applying the siting criteria, the evaluation must include the use of the type of data listed in section 360-2.11(a)(2) of this Subpart. Field reconnaissance to confirm the published information and a morphologic evaluation of landforms must be performed to identify the areas which are likely to have thick low permeable soils available within the study area. The applicant must use the following criteria in the landfill site selection study:

(1) Unconsolidated deposits on the site must be those most likely to minimize the migration of contaminants from the landfill. In evaluating the sites, preferred sites should have the greatest possible thickness of these materials to provide a barrier to contaminant migration into bedrock;

(2) bedrock subject to rapid or unpredictable groundwater flow must be avoided unless it can be demonstrated that a containment failure of the facility would not result in contamination entering the bedrock system resulting in a contravention of groundwater standards;

(3) probable groundwater flow patterns and water quality must be considered in finding areas where containment failure would do the least environmental damage and would be easiest to correct;

(4) proximity and hydrogeologic relationship to water supply sources;

(5) natural topography and its impacts upon the proposed facility; and

(6) relationship to mines, caves, or other anomalous hydrogeologic features that might alter groundwater flow.

(c) Preliminary field investigations must be conducted at the highest ranking available site or sites, to identify any major obstacles to site development, and to provide sufficient data to differentiate among the preferred sites and support a siting decision.

(ii) The report must describe the process used to select the proposed site, including evaluation criteria, deferral (elimination) criteria, assumptions, data sources, decisionmaking means (such as numerical ranking systems) and other factors used to make the siting decisions. The report must demonstrate that, considering the capabilities and objectives of the applicant, a reasonable range of alternative sites available throughout the planning unit in which the project is proposed were evaluated and that the selected site is the most appropriate alternative. The decisionmaking process must be described to provide a clear understanding of how and why the siting decisions were made, and at a level of detail sufficient to provide for a comparative assessment of the alternatives discussed. The report must also include maps of sites and describe the results of the field investigations, the comparative advantages and disadvantages of the highest ranked sites, and the basis for selecting the proposed sites.

(c) Landfill siting restrictions. In addition to the provisions of section 360-1.7(a)(2) of this Part, the following landfill siting restrictions apply.

(1) Primary water supply, and principal aquifers:

(i) Except in Nassau and Suffolk Counties, and except as provided in subparagraph (ii) of this paragraph, no new landfill and no lateral or vertical expansion of an existing landfill may be constructed over primary water supply aquifers, principal aquifers, within a public water supply stabilized cone of depression area, or within a minimum distance of 100 feet to surface waters that are actively used as sources of municipal supply. Greater separation distances may be required in accordance with subparagraph (iii) of this paragraph.

(ii) The commissioner may allow lateral or vertical expansions of landfills, in operation pursuant to a valid Part 360 permit to operate or Order on Consent as of December 31, 1988, that are on principal aquifers, if there is a demonstrated public need for the capacity provided by the expansion that cannot be reasonably provided elsewhere, and that outweighs the potential risk of contamination to the aquifer. Additionally, the landfill expansion must promote the implementation of the State's solid waste management policy set forth in ECL 27-0106 and must be an integral part of any local solid waste management plan that may be in effect for the planning unit (as defined in ECL 27-0107) within which the facility is located; and the expansion must comply with all other requirements of this Part. However, the maximum time period allocated by the commissioner for any such expansion must not allow operation beyond December 31, 1995. In granting any expansion pursuant to this subparagraph, the department must impose specific conditions that are reasonably necessary to assure that the expansion will, to the extent practicable, have no significant adverse impact on public health or safety, welfare, the environment ornatural resources, and such approval contributes to the proper management of solid waste at the earliest possible time.

(iii) The required horizontal separation between deposited solid waste, and primary water supply aquifers, principal aquifers, public water supply stabilized cone of depression areas, or surface waters that are actively used as sources of municipal supply must be sufficient (based on the rate and direction of groundwater and surface water flow, landfill

design and requirements for corrective action in the event of failure of the landfill's containment system) to preclude contravention of groundwater standards in the aquifer and surface water standards in waters that are currently used as a source of municipal drinking water supply.

(2) Floodplains. Owners or operators of new landfill units, existing landfill units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

(3) Aircraft safety.

(i) A landfill or landfill subcell into which putrescible solid waste is to be disposed must be located no closer than 5,000 feet from any airport runway end used by piston-powered fixed-wing aircraft and no closer than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft.

(ii) A landfill or landfill subcell into which putrescible solid waste is to be disposed, which is located within five miles of any airport runway end, must not, in the opinion of the Federal Aviation Administration, pose a potential bird or obstruction hazard to aircraft.

(iii) The permittee of an existing landfill or landfill subcell that is authorized to dispose of putrescible solid waste and that is located less than 10,000 feet from any airport runway end used by turbine-powered fixed- wing aircraft or less than 5,000 feet from any airport runway end used only by piston-powered fixed-wing aircraft must provide in its permit renewal application documentation that the Federal Aviation Administration believes the landfill or landfill subcell does not pose a bird hazard to aircraft.

(iv) Landfills containing only nonputrescible solid waste may be located less than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft or less than 5,000 feet from any airport runway end used only by piston-powered fixed-wing aircraft, if in the opinion of the Federal Aviation Administration they will not present a safety hazard to air traffic.

(v) The final elevation of a new landfill or expansion of an existing landfill must not extend more than 200 feet above the highest elevation of the land surface that existed prior to landfill development, unless the Federal Aviation Administration believes that the proposed fill height in excess of 200 feet will not present a safety hazard to air traffic.

(4) Unstable areas. A landfill must not be located in unstable areas where inadequate support for the structural components of the landfill exists or where changes in the substrate below or adjacent to the landfill are capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. An application for expansion of an existing landfill must demonstrate that adequate support for the structural components of the landfill exists or can be engineered to support any additional loads that may be generated by continued operation of the facility. For purposes of this paragraph:

(i) Unstable area means a location that is susceptible to natural or human- induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can

include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

(ii) Structural components means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the landfill that is necessary for protection of human health and the environment.

(iii) Poor foundation conditions means those areas where features exist which indicate that a natural or human-induced event may result in inadequate foundation support for the structural components of a landfill.

(iv) Areas susceptible to mass movement means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the landfill because of natural or human-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding and rock fall.

(v) Karst terrains means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to sinkholes, sinking streams, caves, large springs and blind valleys.

(5) Unmonitorable or unremediable areas. New landfills must not be located in areas where environmental monitoring and site remediation cannot be conducted. Identification of these areas must be based upon ability to sufficiently characterize groundwater and surface water flow to locate upgradient and downgradient directions; ability to place environmental monitoring points which will detect releases from the landfill; ability to characterize and define a release from the landfill and determine what corrective actions may be necessary; and the ability to carry out those corrective actions. Lateral expansions adjacent to existing landfills which are already contaminating groundwater may be allowed by the department if the proposed expansion area can be constructed in a way that demonstrates compliance with the regulations. This may be demonstrated using remedial actions at the existing site resulting in a demonstrated improvement in groundwater quality; and any additional monitoring requirements that the department needs to ensure the integrity of the expansion area, such as leakage detection lysimeters installed beneath the new liner, statistical triggers of groundwater monitoring, tracers, additional monitoring wells surrounding the entire site, and any other monitoring methods required by the department.

(6) Fault areas. New landfills and lateral expansions shall not be located within 200 feet of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the department that an alternative setback distance of less than 200 feet will not result in damage to the structural integrity of the landfill unit and will be protective of human health and the environment.

(7) Seismic impact zones. New landfills and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the department that all permanent containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration

in lithified earth material for the site pursuant to the provisions of section 360-2.7(b)(7) of this Subpart.

(8) Federally regulated wetlands. For the purpose of this Subpart, federally regulated wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marsh, bogs and similar areas. New landfills and lateral expansions shall not be located in federally regulated wetlands, unless the appropriate permits are obtained from the U.S. Army Corps of Engineers, and unless the owner or operator can make the following demonstrations to the department, to the extent required under federal or State law.

(i) The presumption that a practicable alternative to the proposed landfill is available, which does not involve federally regulated wetlands, is clearly rebutted.

(ii) The construction and operation of the landfill will not:

(a) cause or contribute to violations of any applicable water quality standard;

(b) violate any applicable toxic effluent standard or prohibition;

(c) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat; and

(d) violate any requirement for the protection of a marine sanctuary.

(iii) The landfill will not cause or contribute to significant degradation of federally regulated wetlands. The owner or operator must demonstrate the integrity of the landfill and its ability to protect ecological resources by addressing the following factors:

(a) erosion, stability and migration potential of native wetland soils, muds, and deposits used to support the landfill;

(b) erosion, stability and migration potential of dredged and fill materials used to support the landfill;

(c) the volume and chemical nature of the waste managed in the landfill;

(d) impacts from release of the solid waste on fish, wildlife, and other aquatic resources and their habitat;

(e) the potential effects on catastrophic release of waste to the federally regulated wetland and the resulting impacts on the environment; and

(f) any additional factors, as necessary, to demonstrate that ecological resources in the federally regulated wetland are sufficiently protected.

(iv) Steps have been taken to attempt to achieve no net loss of federally regulated wetlands to the extent required under federal or State law (as defined by acreage and function) by first avoiding impacts to federally regulated wetlands to the maximum extent practicable, then minimizing unavoidable impacts to the maximum extent practicable, and finally by offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g. restoration of existing degraded wetlands or creation of new wetlands).

(v) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

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