FOURTH FIVE-YEAR REVIEW REPORT FOR NORTH SEA LANDFILL SUPERFUND SITE SUFFOLK COUNTY, NEW YORK

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

Walter E. Mugdan, Division Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency

September 30, 2013
Date

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The remedy for the North Sea Municipal Landfill Site in Southampton, New York includes the capping of contaminated soils on site, methane recovery and gas migration control, air and groundwater monitoring, institutional controls and no action for off-site groundwater. The remedy is fully in place. The site was deleted from the National Priorities List (NPL) in September 2005. The remedy for operable unit 1 (OU1) is protective of human health and the environment. The low permeability cap is in good condition and properly maintained, a fence restricts access to the Site and deed restrictions are in place so that there are no exposure pathways that could result in unacceptable risks and none expected as long as the site use remains consistent with the engineering and institutional controls, and those controls are properly operated, maintained and monitored. The no action remedy for OU2 protects human health and the environment in the short term because groundwater sampling results do not indicate an unacceptable risk. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate. The site is protective in the short term. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: North Sea Landfill		
EPA ID: NYD980762520		
Region: 2	State: NY	City/County: Southampton/Suffolk

SITE STATUS	
NPL Status: Deleted	
Multiple OUs? Yes	Has the site achieved construction completion? Yes

REVIEW STATUS
Lead agency: EPA If "Other Federal Agency" was selected above, enter Agency name: Click here to enter text.
Author name (Federal or State Project Manager): Ashley Wiedemer
Author affiliation: EPA
Review period: 09/24/2008 – 04/30/2013
Date of site inspection: 10/23/2012
Type of review: Statutory
Review number: 4
Triggering action date: 09/23/2008
Due date (five years after triggering action date): 09/23/2013

The table below is for the purpose of the summary form and associated data entry and does not replace the two tables required in Section VIII and IX by the FYR guidance. Instead, data entry in this section should match information in Section VII and IX of the FYR report.

Issues/Recommendations

OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU1

Issues and Recommendations Identified in the Five-Year Review:

OU(s): 2	Issue Category: Monitoring			
	Issue: The concentrations of site related contaminants appear to be increasing in the furthest downgradient monitoring well cluster (MW-4) located closest to Fish Cove, specifically manganese, iron and chromium exceeded screening levels during some of the recent sampling events.			
	Recommendation: It is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.			
Affect Current Protectiveness	Affect Future Protectiveness	Implementing Party	Oversight Party	Milestone Date
No	Yes	EPA	EPA	12/2014

To add additional issues/recommendations here, copy and paste the above table as many times as necessary to document all issues/recommendations identified in the FYR report.

Protectiveness Statement(s)

Include each individual OU protectiveness determination and statement. If you need to add more protectiveness determinations and statements for additional OUs, copy and paste the table below as many times as necessary to complete for each OU evaluated in the FYR report.

Operable Unit: 1	Protectiveness Determination: Protective	Addendum Due Date (if applicable): Click here to enter date.
Protectiveness Statement: The remedy for OU1 is protective of human health and the environment.		
Operable Unit:	Protectiveness Determination:	Addendum Due Date

2	Short-term Protective	(if applicable): Click here to enter date.

Protectiveness Statement:

The remedy at OU2 is protective in the short term. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.

Sitewide Protectiveness Statement (if applicable)	
For sites that have achieved construction completion, enter a sitewide protectiveness determination and statement.	
Protectiveness Determination: Short-term Protective	Addendum Due Date (if applicable): Click here to enter date.

Protectiveness Statement:

The site is protective in the short term. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.

I. Introduction

This is the fourth five-year review for the North Sea Landfill site, located in Southampton, Suffolk County, New York. This review was conducted by United States Environmental Protection Agency (EPA) Remedial Project Manager (RPM), Ashley Wiedemer. The five-year review was conducted pursuant to Section 121 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §9601 et seq. and 40 Code of Federal Regulations (CFR) 300.430(f)(4)(ii) and in accordance with the Comprehensive Five-Year Review Guidance, Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-03B-P (June 2001). The purpose of five-year reviews is to ensure that implemented remedies are protective of human health and the environment and they function as intended by the decision documents. This document will become part of the site file.

The North Sea Landfill property includes three landfill cells and former sludge lagoons. Two of the landfill cells are being addressed under state regulatory programs. The Superfund site has two OUs. OU1 covers Landfill Cell No. 1, the decommissioned sludge lagoons and on-site groundwater. OU2 covers off-site groundwater and impacts to Fish Cove.

This is the forth five-year review for the North Sea Landfill site. After completion of the OU1 remedial action, contaminants remain on the Site. This five-year review is being conducted as a statutory requirement. In accordance with the Section 1.3.3 of the five-year review guidance, a subsequent statutory five-year review is triggered by the signature date of the previous five-year review report. The trigger for this subsequent five-year review is the date of the previous five-year review report, which is September 23, 2008. The site was deleted from the NPL in September 2005. Five-year reviews are not required for OU2; however, this review will consider the OU2 no action remedy.

II Site Chronology

See Table 1 for the Site chronology.

III. Background

Site Description

The North Sea Landfill, which is owned and operated by the Town of Southampton, was initially constructed in 1963 for the disposal of municipal solid waste, refuse and septic system waste. The landfill accepted waste from residential, industrial and commercial sources. Significant features of the 131 acre site include:

- Landfill Cell No. 1- an inactive, unlined landfill which was capped and closed in 1994 in accordance with 6 New York Codes, Rules and Regulations (NYCRR) Part 360;
- Landfill Cell No. 2 - an inactive, lined landfill, with a leachate collection system which was capped and closed in 1990 in accordance with 6NYCRR Part 360;
- Landfill Cell No. 3 - an inactive, lined landfill with a leachate collection system which was capped and closed in 2001 in accordance with 6NYCRR Part 360;

- Sludge Lagoons - septic lagoons located at the south end of the property which were excavated and refilled to grade with sandy loam in 1986.

For the purposes of the federal Superfund Program, Cell No. 1 and the sludge lagoons make up the Superfund site; continued monitoring of the groundwater and the benthic community at nearby Fish Cove is also being addressed under the Superfund program. Cells No. 2 and 3 are closed and monitored by New York State Department of Environmental Conservation (NYSDEC).

In the late 1960s, a series of 14 scavenger lagoons, approximately 50 feet long, 10 feet deep, 25 feet wide and 50 feet above the water table were constructed at the southern portion of the landfill property. The lagoons accepted septic systems wastes from both commercial and residential sources. Sludge was allowed to drain and dry, and it was subsequently disposed of in Cell No. 1. It is estimated that 11 million gallons of septic wastes were disposed into the lagoons. The lagoons were decommissioned in 1985, and most of their solid and liquid contents were removed. After this removal, an additional two feet of soil was excavated. The sludge lagoons were refilled to grade with sandy loam.

The landfill is located in the Township of Southampton, at the intersection of Majors Path and Old Fish Cove Road. The nearest surface water is Fish Cove, located approximately 1500 feet northwest of the landfill. Groundwater in this area ultimately discharges to Fish Cove, which is an arm of the Little Peconic Bay. The area between Fish Cove and the landfill is moderately populated.

Most of the homes in the area that obtained their drinking water from private domestic wells tapped the highly permeable Pleistocene deposits of the Upper Glacial aquifer. A plume of contaminated groundwater in this aquifer, moving northwest from the landfill, has resulted in the closure of several drinking water wells. Public water supplies have been extended to serve residents of the area.

Geology/Hydrogeology

The North Sea Municipal Landfill is situated on the north side of the South Fork of Long Island. The area surrounding the landfill has considerable natural topographic relief; there is a natural difference of about 100 feet in elevation between the eastern boundary of the landfill property and the banks of Fish Cove. The top of the capped landfill Cell No. 1 is about 157 feet above sea level.

The unconsolidated deposits in the study area, which total about 1,300 feet in thickness, are from the Cretaceous and Quaternary Ages and rest unconformably on Precambrian-Upper Paleozoic bedrock. The Upper Cretaceous deposits include, in ascending order: (1) the Raritan Formation consisting of the Lloyd sand member, that forms the Lloyd aquifer, and an overlying clay member; (2) the Magothy Formation-Matawan Group, undifferentiated, that forms the Magothy aquifer; and (3) the Monmouth Group. Except for the Monmouth Group, these units are continuous throughout the North Sea study area. The Cretaceous deposits are overlain by sediments of Quaternary age (Pleistocene and Holocene); the Pleistocene deposits consist mostly of glacially-derived sediments that form the Upper Glacial aquifer.

The two major freshwater aquifers in the study area are the Magothy aquifer and the Upper Glacial aquifer. The elevation of the top of the Magothy aquifer ranges from about 150 to 180 feet below mean sea level and it is about 600 feet thick in the study area. The Magothy sediments consist of layers of sand, silty sand, clay, sandy clay and silty clay, and the aquifer contains fresh water beneath the site, but deeper parts of the aquifer may contain salt water.

The Upper Glacial aquifer contains fresh water in the study area and directly overlies the Magothy aquifer. It is estimated to be about 200 to 300 feet thick in the area of the landfill and is primarily composed of variably-sorted sands and gravels, with some silt and clay layers. The sediments were formed as part of the terminal moraine and glaciofluvial outwash that was deposited during the Pleistocene glaciation. The water table is present within the Upper Glacial aquifer and most nearby wells in the area are completed in this aquifer. The unsaturated soil zone (measured by the depth to the water table) on the landfill property ranges from about 40 to 100 ft below land surface.

Groundwater is replenished primarily from infiltration of precipitation. The freshwater recharge, which reaches the saturated sand and gravel of the Upper Glacial aquifer, continues to flow laterally at a rate of movement proportional to the slope of the water table and the permeability of the soils and some also flows vertically through the Upper Glacial aquifer to the Magothy aquifer. Shallow groundwater beneath the landfill flows to the northwest and ultimately discharges to Fish Cove. A downward vertical hydraulic gradient exists in monitoring well clusters 1 and 3. A strong upward gradient exists in monitoring well cluster 4. Average water-level elevations are approximately four feet higher in the deepest well (MW-4C) than in the other two wells of the cluster. Groundwater elevation ranges from 10-15 feet below grade (fbg).

Surficial soils within and surrounding the landfill are classified as the Plymouth-Carver Association Sands and urban fill material. The soils of Suffolk County were deposited as a result of glaciation during the Wisconsin Age. The glacial outwash consists of sorted sand and gravels. The Plymouth-Carver Association soils are found on rolling moraines and side slopes of drainage channels of outwash plains. These soils consist of deep, excessively drained, coarse textured soils that are not suitable as a source of topsoil. Urban fill does not contain natural soil, but typically consists of concrete, bricks, trash, wire and other types of material. This defines the landfill area.

The North Sea Municipal Landfill is located in an oak-dominated forest, where oak trees are the principal species. No surface water bodies (except puddles created by rain water accumulation) exist on the landfill property. The landfill is located near several naturally occurring surface-water bodies. These are Fish Cove, North Sea Harbor, Big Fresh Pond and Little Fresh Pond. The latter two are fresh surface waters.

Groundwater in this area ultimately discharges to Fish Cove. Fish Cove is a body of saltwater with marshes connected via a tidal inlet to the North Sea Harbor, which flows into Peconic Bay. The low marshes within Fish Cove are relatively stable and productive, supporting a variety of marine invertebrates, juvenile fish species and water fowl. The intertidal marsh is dominated by salt marsh cord grass (*spartina alterniflora*). The total marsh area at Fish Cove includes both the intertidal and high marsh and is about 45,000 square feet combined.

Land and Resource Use

According to the 2010 Census, the North Sea hamlet has a year-round population of approximately 4,458 residents. Southampton's overall year-round population is 56,790. It is estimated that the population of the entire Town doubles during the peak summer season.

The site is located near the southern shore of Little Peconic Bay in an area with extensive ponds, coves and wetlands. The Peconic Bay system is a major recreational resource in this region. The Town of Southampton has built a recreation center within the landfill property.

The Town has filed a deed restriction with the County Clerk's office in June 2003 to limit the future uses of the landfill property. The site is currently zoned for Open Space Conservation and Park District.

History of Contamination

A groundwater monitoring program, initiated by the Town in 1979, revealed a plume of contamination migrating from Cell No. 1 to Fish Cove. The plume contained lead, manganese and cadmium. A second plume was discovered originating from the sludge lagoons. The presence of nitrate/nitrite in this plume confirmed the presence of septics. In addition to the typical landfill leachate parameters and heavy metals noted, organics (i.e., dichloroethane, tetrachloroethene and trichloroethene) were also detected in the groundwater.

Initial Response

The detection of contaminated groundwater migrating northwest from the landfill resulted in the closure of several private domestic wells. Public water supplies were extended to serve residents in the affected areas. Based on the above, Cell No.1 and the sludge lagoons (which will be referred to as the site) were investigated and placed on the NPL in 1986. As a result of EPA's initial efforts to place the landfill on the NPL, Cell No. 1 was closed by the Town in 1985. Cell closure consisted of the following; capping the top flat portion of the landfill (approximately eight acres in area) with a 20 mil polyvinyl chloride (PVC) membrane to minimize infiltration, installation of a silty sand protective layer (approximately two feet thick) above the membrane and, placement of a topsoil cover to support vegetation. The Town also installed a storm water diversion/collection system to improve area drainage. The system, installed along the haul road, included: manholes (which were utilized for inlet collection), interconnecting piping and a recharge basin to which all runoff was routed.

Basis for Taking Action

The OU1 remedial investigation (RI) and feasibility study (FS) was initiated in 1987. The media of concern at the landfill include groundwater, soil and surface water. The investigation identified a groundwater plume containing heavy metals (e.g. chromium, iron, lead and manganese) and leachate indicator parameters (e.g., ammonia and total organic carbon) migrating from the landfill property. Soil samples collected from surface soil, subsoil and sludge lagoon borings showed elevated levels of metals (e.g. arsenic, cadmium, iron, lead and

magnesium). Surface water samples showed elevated levels of inorganics (e.g., ammonia, chromium, iron, and manganese).

Environmental fate and transport mechanisms were evaluated for each chemical found during the RI. Seven exposure routes were identified including ingestion of contaminated surface water, ingestion of contaminated fish and shellfish, ingestion of contaminated soil, direct contact (dermal) exposure to contaminated surface water, direct contact (dermal) exposure to contaminated soil, ingestion of groundwater and inhalation of dust from the landfill. Exposed populations generally included site workers, visitors to the site and residents of the Town in the area of the site. Individuals who play, swim or wade in Fish Cove near or topographically downgradient from the landfill and neighborhood children venturing onto the site were also included.

Groundwater is replenished primarily from recharge via precipitation and lateral underground flow of fresh water into the Upper Glacial aquifer. Most of the homes in the Southampton area obtain their drinking water from private domestic wells tapping the Upper Glacier aquifer.

The risk assessment conducted for OU1 concluded that cumulative risks were exceeded for future use of site groundwater. The soils did not pose an unacceptable risk however it was recommended that source control measures be conducted to address migration of landfill contaminants to groundwater and surface water.

The OU2 RI was initiated in June 1989 to determine the nature and extent of contamination in the groundwater and its impact to Fish Cove. That RI did not find significant site-related contamination in the off-site ground and surface waters. In addition, there were no appreciable environmental impacts from the site to Fish Cove, a body of saltwater marshes. The OU2 risk assessment indicated that off-property groundwater contamination did not pose a threat to human health or the environment.

IV. Remedy Selection

Following completion of the RI/FS, EPA issued a record of decision (ROD) on September 29, 1989. The ROD selected:

- Covering Cell No. 1 with a low permeability cap while undertaking action consistent with New York State Part 360, sanitary landfill closure requirements.
- No action at the former sludge lagoons with confirmatory sampling.
- Installation of a six foot high chain link fence around the site to restrict access.
- Deed restrictions on future use of the landfill.
- Long term operation and maintenance to provide inspection and repairs to the landfill cap.
- Long term air and water quality monitoring of both the former sludge lagoons and Cell No. 1. Parameters to be monitored included the USEPA's and NYSDEC's Target Compound List (TCL).

Based on the results of the OU2 RI/FS, EPA issued a No Action ROD for OU2 in September 1992.

V. Remedial Actions

OU1 Remedy Implementation

In August 1990, the Town entered into a Consent Decree with EPA. The Consent Decree required the Town to undertake the design and construction of the OU1 remedy.

Malcolm Pirnie, Inc. was retained by the Town to design the capping and closure of landfill Cell No. 1. A pre-design cap investigation was conducted in 1990. The resulting Cap Investigation Report was submitted to EPA and NYSDEC for review/approval in 1990. Based on the report findings, NYSDEC permitted landfill closure utilizing the existing 20 mil PVC liner located on the plateau area of the cell. A Remedial Design Work Plan (RDWP) was submitted for review to the USEPA in April 1991 and was approved in July 1991. Since access to the 130-acre landfill is limited due to the wooded area surrounding the landfill, EPA granted a variance to the Town which allowed the perimeter landfill fence to be eliminated. Instead, the fence was installed at the perimeter of the recharge basin.

The H2M Group was retained by the Town to prepare the work plan for Confirmatory Sludge/Soil Sampling Program for the sludge lagoons. A Work/Quality Assurance Plan Short Form was prepared and submitted to the USEPA for approval in September 1991. Both plans were approved in November 1991.

RD Capping and Closure Cell No. 1

The RDWP identified the final capping and closure requirements which are based upon existing site conditions. Final design details include: structural regrading, final cover composition and placement requirements, stability analysis, cover vegetation, storm water management, erosion control requirements and a gas venting system.

The capping of Cell No. 1 included regrading and capping of the side slopes with a geomembrane. Approximately one half acre on the east side slope required capping with a concrete revetment since the slopes are steeper than 33 percent. The structural regrading of Cell No. 1 included demolition of two concrete drainage manholes and regrading of the area to promote overland flow of storm water to the existing recharge basin.

EPA and the NYSDEC approved the final RD in September 1992.

Confirmatory Soil/Sludge Sampling Program

The Confirmatory Sludge/Soil Sampling Program was performed by Malcolm Pirnie, Inc. during January 1992. The program (prepared by the H2M Group) required installation of soil borings and implementation of a Sludge/Soil Sampling Program in the former sludge lagoons. The sampling included drilling borings (a minimum of one and a maximum of three) in each of the ten sludge lagoons which had not been sampled during the RI/FS. Data from this study were used to confirm the absence of hazardous waste and/or substances which could pose a health or environmental threat. All data collected were validated using full Contract Laboratory Program

(CLP) analytical and quality assurance/quality control (QA/QC) procedures. The confirmatory soil sludge sampling report was reviewed to confirm the "no action" alternative for the Sludge Lagoon remediation. The information provided states that confirmatory samples were collected for ten lagoons; however, the samples were not analyzed since visual observation of the borings did not identify any remaining sludge. EPA approved the final report that documented the findings of this work in September 1992. The Town awarded the remedial action (RA) construction contract to Tully Construction, and the construction engineering contract to Dvirka and Bartilucci in April 1993. Work began in June 1993 and was completed in August 1994. Construction completion was determined by EPA in September 1994, and the RA documentation was approved by EPA in September 1995.

Benthic Survey

Benthic surveys were performed at Fish Cove in 1989 and September 2001. The first survey was performed in 1989 as part of the RI for OU2 and did not find any significant environmental impacts from site contamination. This second survey was required as part of the operations and maintenance procedures for the post-closure care of the Cell No. 1 cap at the landfill. The purpose of the September 2001 Fish Cove benthic survey was to:

- Evaluate the effectiveness of the source control measures implemented at the landfill, namely the capping of Cell No. 1;
  and
- Assess the potential toxicity of leachate-impacted groundwater entering Fish Cove on the surface waters and sediments.

When compared to previous surveys, an improvement in surface water quality was observed in 2001. Data indicate that an impacted zone is no longer present; locations previously defined as transition are at background levels.

Institutional Controls

Institutional controls have been put in place at the site. EPA has been provided with a copy of restrictive covenants placed on the real property at the site by the Town, filed with the local land record office on June 11, 2003. The restrictions require, "Owner shall not suffer or allow any development or other use of the property that would create an unacceptable high risk to human health or the environment relating directly to the conditions that led to the issuance of the September 1989 ROD, without first obtaining the express written consent of EPA and the concurrence of the New York State Department of Environmental Conservation." This item completes the institutional controls requirement of the ROD.

Currently, the residential properties downgradient of the site between the landfill and Fish Cove, as well as other nearby properties, are connected to a public water supply. The public supply is required to meet appropriate state and federal drinking water standards. However, some homes across Fish Cove are currently on private drinking water wells. The ROD for OU2 selected no action and did not discuss ICs. However, previous five year reviews have recommended that deed and well restrictions prevent the installation of drinking water wells in impacted areas. This recommendation has been addressed by the Suffolk County Department of Health Services,

Private Water Systems Standards. In addition, NYSDEC Part 602 requires well permits for any private well with a total capacity of over 45 gallons per minute. These institutional controls and the monitoring of off-landfill groundwater provide an extra protection above federal requirements under CERCLA.

System Operations/Operation and Maintenance

Until December 2004, groundwater monitoring of the leachate plume has been conducted quarterly by P.W. Grosser Consulting, Inc. (PWGC) and its subcontractors. Since 2005, groundwater monitoring has been conducted on a semi-annual basis.

Monitoring of the perimeter methane gas monitoring wells is performed on a monthly basis by the Southampton Fire Marshall. An analysis of the data is included in the P.W. Grosser's semi-annual reports submitted to EPA and NYSDEC. In June 2007, the Town installed a passive venting system in the landfill.

The landfill cap is scheduled for a physical inspection on a quarterly basis and/or after significant storm events. Informal visual inspections of the entire landfill site are conducted monthly. These inspections determine when landscape maintenance work is needed, such as clearing vegetation from the swales, removing overgrown planting that may affect the cap and maintaining access to roads and paths. Cell No. 1 is included in an overall vector control system in place for the entire North Sea Landfill property. Controls are in place for ticks, mosquitoes and rodents.

VI. Progress Since the Last Five-Year Review

The last FYR was completed in September 2008. The FYR concluded that the remedies were protective of human health and the environment. No issues or recommendations were identified.

During the past five-year reporting period, the monitoring and maintenance of the North Sea Landfill's Cell No. 1 progressed concurrent with monitoring and maintenance performed at Cells No. 2 and 3.

In July 2010, Siemens Industry, Inc. performed an on-site calibration on the flow meter for the secondary leachate collection system. The intrinsic calibration validated that the meter is measuring flow properly without errors.

In March 2011, Fenley & Nocol performed maintenance/repair of the leachate pump station that included the removal of a rock that had jammed in a check valve, repair of a small leak in a flange between the well and the tank and replacement of a kinked hose.

In July 2011, Wire to Water Electrical Contractors was contracted to troubleshoot problems with the leachate pump station not being able to operate in automatic mode. The pump was cleaned and replacement parts were installed. The system was restarted and is currently working properly.

VII. Five-Year Review Process

Administrative Components

The five-year review team consisted of Ashley Wiedemer (RPM), Michael Scorca (Hydrogeologist), Sharissa Singh (Hydrogeologist) and Julie McPherson (Risk Assessor) of EPA.

Data Review

Reduction-oxidation (redox) conditions of a landfill leachate plume usually differ from the surrounding aquifer. When organic matter and other reduced compounds are leached from a landfill, a chemically-reducing environment develops beneath and downgradient of the landfill. The sequential use of electron receptors during the degradation of the reduced material results in the development of a redox gradient within the plume along the main groundwater flow direction. On the outskirts of the plume, redox conditions will approach the redox conditions of the actual aquifer.

In order to evaluate the extent of the leachate plume and the quality of groundwater in the aquifer for the five-year review, groundwater trends from four well clusters were evaluated, with particular attention to redox-sensitive parameters, such as dissolved oxygen, redox potential, iron, manganese, ammonia, nitrate, sulfate, total organic carbon and alkalinity (measured as the concentration of bicarbonate).

A tendency toward a more oxidizing (less reducing) environment will result from a decreasing volume of leachate entering the groundwater beneath the landfill cell and can be identified by an increase in redox potential corresponding with a decrease in dissolved iron, dissolved manganese, ammonia and total organic carbon concentrations. Under oxidizing conditions, dissolved iron and manganese precipitate as iron and manganese oxides and are adsorbed onto sediment particles. Ammonia, sulfide and total organic carbon will be converted to their less reduced forms: nitrate, sulfate and carbonate, respectively.

Specific conductance is an indicator of the amount of dissolved solids in groundwater, and often, but not exclusively, a nonspecific indicator of landfill affects on groundwater. The trace metal arsenic was also considered in the review. Decreasing values of these parameters generally indicate improving conditions in the aquifer. In addition, chloride was analyzed because it is only attenuated by dilution and therefore is considered a conservative tracer.

Groundwater sampling results and a figure of well locations are located in the appendix of this document.

Monitoring Well Cluster 1

Monitoring well cluster 1 (MW-1A, MW-1B and MW-1C) is located upgradient of Cell No. 3 and had been considered to reflect background conditions at the site during previous investigations and reviews.

Geochemical conditions in the two deeper wells (MW-1B and MW-1C) have been generally stable and continue to reflect background water-quality conditions. The review of the data indicates that groundwater in shallow well MW-1A is still influenced by the leachate plume. Chloride, sulfate, iron, specific conductivity and total organic carbon levels are higher in this well than the other two wells of the cluster and are of similar magnitude as groundwater from wells sampled within the leachate plume at the downgradient clusters. The concentration of arsenic was observed above the maximum contaminant level (MCL, 10 µg/L) at well 1A in just one sampling round during the past five years and has remained below the MCL in wells 1B and 1C.

Monitoring Well Cluster 12

Monitoring well cluster 12 (MW-12A and MW-12B) is located on the north-west side of Cell No. 1, immediately adjacent to the landfill. MW-12A is screened at the top of the water table from 60 – 80 fbg and MW-12B is screened within the contaminant plume from 92 – 102 fbg.

Groundwater quality conditions at monitoring well cluster 12 have been historically affected by the landfill and current conditions generally are improved and stable in both wells.

Iron concentrations in well MW-12A historically were high, but overall they have declined during the last five years. Iron concentrations in well MW-12B have also dropped from historical high levels to below New York State Groundwater Quality Standards (NYS GWQS, 0.3 mg/L) in several sampling rounds.

Manganese levels were generally low in well MW-12A until April 2010 when it was detected above groundwater standards and levels have remained above standards since. Manganese concentrations have decreased substantially in MW-12B. However, it was detected above the groundwater standard in April 2012. Total organic carbon and alkalinity concentrations are stable in both wells of the cluster.

Arsenic concentrations in well MW-12A have shown no long-term trend, but fluctuate seasonally from below to slightly above the arsenic MCL (10 µg/L). Arsenic concentrations in well MW-12B were not detected above MCLs in this five-year review period.

Monitoring Well Cluster 3

Monitoring well cluster 3 (MW-3A, MW-3B and MW-3C) is located on the west side of Cell No. 1, near Majors Path, and is approximately 600 feet downgradient of the landfill. MW-3A is screened above the contaminant plume from 40 – 60 fbg, MW-3B is screened within the contaminant plume from 90 – 110 fbg and MW-3C is screened beneath the contaminant plume from 159 – 179 fbg.

Iron concentrations in well MW-3A fluctuate from low levels to above NYS GWQS in the unfiltered groundwater samples, but have been below standards in the filtered samples. Specific conductance, alkalinity and total organic carbon values at well MW-3A fluctuated seasonally, and arsenic concentrations usually are below standards.

Groundwater conditions in MW-3B, which is within the groundwater plume and historically one of the most affected wells, are stable to improving during this review period. Specific conductance and ammonia concentrations are below historical levels and are fairly stable. Arsenic concentrations have also decreased over time, but are still slightly above the MCL. Total (unfiltered) iron concentrations are well above NYS GWQS (0.3 mg/L) and have ranged from 8 to 22 mg/L. One dissolved (filtered) iron concentration in October 2011 was below NYS GWQS.

Groundwater conditions in MW-3C still indicate little to no effect from the plume. Iron levels are generally stable and arsenic and ammonia levels are nondetect and/or below applicable standards. Specific conductance, however, has increased during this review period.

Monitoring Well Cluster 4

Monitoring well cluster 4 (MW-4A, MW-4B and MW-4C) is located on the north side of Fish Cove Road, adjacent to Fish Cove. Cluster 4 is the furthest downgradient well cluster from Cell No. 1 (approximately 2000 feet downgradient) and is near the discharge zone of the groundwater. MW-4A is considered to be screened above the contaminant plume, from 10 – 30 fbg, intermediate well MW-4B is screened within the contaminant plume, from 58 – 78 fbg and deep well MW-4C is considered to be screened below the contaminant plume, from 130 – 150 fbg.

Specific conductivity and nitrate concentrations at well MW-4A have increased during the last five years. Other constituents, such as iron, chloride, alkalinity, sulfate and ammonia levels are considered to be fairly stable, with no significant observable trends. Arsenic concentrations usually have been nondetect during this review period.

Water-quality conditions in MW-4B, screened within the downgradient plume, appear to show the beginning of an upward concentration trend for iron and manganese. Ammonia concentrations showed a noticeable rise from 2008 to 2010. Total organic carbon, chloride and sulfate levels are stable. Alkalinity concentrations are higher in MW-4B than in the other wells of the cluster and have been fairly stable.

Iron and chromium concentrations at well MW-4C during the last five years have generally increased to above their respective MCL's. The rise in specific conductivity, first noticed in the 2008 five-year review, have continued during the last five years, but its immediate cause is not known. Ammonia, nitrate and sulfate are still nondetect.

Site Inspection

A site inspection was conducted on October 23, 2012. The following parties were in attendance:

Ashley Wiedemer, EPA, Region 2 RPM
Michael Scorca, EPA , Region 2 Risk Hydrogeologist
Christine Fetten, Town of Southampton
John LaRosa, Town of Southampton
Derek Ersbak, P.W. Grosser Consulting, Inc.
Paul Grosser, P.W. Grosser Consulting, Inc.

Cynthia Whitfield, New York State Department of Environmental Conservation

The purpose of the site inspection was to gather information about the current status of the site and to visually confirm and document the conditions of the remedy, the site and the surrounding area. Interviews were also conducted as a component of the site inspection. Individuals who were interviewed included the Director of Public Works from the Town of Southampton and the President and project manager of P.W. Grosser Consulting, Inc., consultant to the Town. The site inspections found the landfill cap to be in good condition. Operation and maintenance is being conducted annually. During the site inspection and interviews, it was brought to EPA's attention that private wells are in use across Fish Cove. If groundwater monitoring results in the downgradient MW cluster 4 continue to increase, it is recommended that plume fate and transport be evaluated.

VIII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The 1989 ROD (OU1) addresses source control of Cell No. 1 and the former sludge lagoons. The ROD identified 6 components of the remedy: 1) Covering Cell No. 1 with a low permeability cap while undertaking action consistent with NYCRR Part 360, sanitary landfill closure requirements; 2) No further action at the former sludge lagoons with confirmatory sampling from each of the 14 identified sludge lagoons; 3) Installation of a six foot high chain link fence around the site to restrict access; 4) Deed restrictions on future use of the landfill; 5) Long- term operation and maintenance to provide inspection and repairs to the landfill cap; and 6) Long-term air and water quality monitoring of both the former sludge lagoons and Cell No. 1. Parameters to be monitored included TCL components.

The 1992 ROD (OU2) addresses groundwater and Fish Cove. The remedy selected is no further action for OU2 and is based upon the remedies selected and implemented as part of OU1 and the risks identified which were within the risk range as per the 1992 OU2 Risk assessment.

All of the components of the remedy have been implemented. Implementation of deed restrictions on the future land use, installation of a fence around the landfill and well restrictions downgradient between the site and Fish Cove from the landfill has interrupted the exposure to any site related contamination. All residents downgradient of the site between the site and Fish Cove are connected to the public water supply. Groundwater use is not expected to change in this area within the next five years, the period of time considered in this review. As observed during the site visit, there are no breaches in the landfill cap and thus the remedy remains protective.

In regards to the former sludge lagoons, the ROD identified no further action for the lagoons, but did require confirmatory sampling within the ten sludge lagoons that had not previously been sampled. Four lagoons had previously been sampled as part of the RI investigation. Historical reports indicated that the actions within the sludge lagoon area included excavation of sludge to a depth of 10 feet and included an additional two feet of soil excavation and removal. The confirmatory soil sludge sampling report was reviewed and the information provided states that confirmatory samples were collected for 10 lagoons; however, the samples were not analyzed since visual observation of the borings did not identify any remaining sludge. The remedy has

eliminated exposure (via ingestion of and direct contact with contaminants) to ecological receptors. The selected no further action remedy for the sludge lagoons remains protective of human health and the environment.

As part of the 1992 Operations and Maintenance Plan for Cell No. 1 a "benthic survey" of Fish Cove was to be performed every three years for a period of nine years. Studies (surface water and sediment toxicity tests) were conducted in 1989, 1992, 1997, 2001 and 2004. Study results showed acceptable survival rates throughout Fish Cove. Therefore, at this time surface water samples are no longer collected and benthic investigations have been discontinued for Fish Cove.

During the five-year review, it was brought to EPA's attention that private wells were installed and are in use across Fish Cove from the landfill since the RI. It is recommended that the data from the next two rounds of sampling events for the MW 4 cluster be evaluated to see if contaminant concentrations continue to increase. If an increase is present, it is recommended that the plume fate and transport be evaluated.

Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy still valid?

The landfill cap and previous activities to provide potable water supplies to residents have interrupted the exposure pathways to both current/future on-site workers and residents in the area between the site and Fish Cove. This assessment addresses the contaminants in Cell No. 1 only since the remaining cells are being addressed by NYSDEC.

The land use considerations, exposure assumptions and potential exposure pathways considered in the baseline human health risk assessment for this pathway are still valid.

The toxicity values used to calculate the noncancer health hazards and cancer risks have changed. Some chemical specific toxicity values have increased and some new toxicity values were developed for other contaminants since the site was originally assessed. In order to account for changes in toxicity values since the baseline human health risk assessment was performed, the site groundwater maximum detected concentrations identified during the sampling period from 2008-2012, which were identified in the Quarterly Groundwater Monitoring Reports (P.W. Grosser), were compared to residential groundwater MCLs. This analysis indicates that arsenic, manganese, chromium, lead, antimony and iron continue to exceed their respective MCLs in several wells downgradient from Cell No. 1 on and off-property.

Groundwater use is not expected to change in the next 5 years. Currently, the residential properties within the potential down-gradient plume area between the landfill and Fish Cove are connected to the public water supply. The public water supply meets the appropriate state and federal drinking water standards. Deed and well restrictions to prevent the installation of drinking water wells in impacted areas has been carried out in part by compliance with Suffolk County Department of Health Services, Private Water Systems Standards. In addition, NYSDEC Part 602, Applications for Long Island wells, states that all new private wells with total pumping capacity over 45 gpm are required to obtain a well permit. Residences downgradient of the North Sea Landfill site are supplied with public water. Therefore, the remedy is protective to these receptors between the landfill and Fish Cove since routes of exposure have been interrupted. As

noted above, based on results of the next few rounds of sampling events, it may be appropriate to recommend further evaluation of groundwater plume fate and transport.
Soil vapor intrusion pathway was assessed as part of the 2003 and 2008 five-year review. It was determined that this pathway is not expected to be of concern at the site because VOC concentrations were low and not a concern.

The land use of the landfill and surrounding property has not changed since the last five year review. As mentioned previously, the town of Southampton built a recreational center on the property adjacent to the landfill. In addition, a recycling facility is located on a portion of the property. The Town has built a fence separating the landfill and recycling facility from the recreational facility; thereby preventing potential trespassing onto the landfill. In addition, the landfill has been capped with a 20 mil PVC membrane to minimize infiltration into the mound, covered with a silty sand layer two feet thick on top of the geomembrane and covered with a layer of top soil (one foot thick) to prevent soil erosion and maintain vegetative growth, therefore preventing direct exposure (i.e., ingestion or dermal contact of soil) to potential receptors.

Although it is unclear whether an ecological risk assessment was conducted to support the 1989 and 1992 ROD (an "endangerment assessment" was conducted), the remedy is protective of ecological resources as 1) the contaminated sediments from the lagoons were excavated and disposed of off-site and the area was capped, 2) the landfill was closed and capped according to NYCRR Part 360, and 3) previously collected surface water and sediment toxicity tests indicate that the survival of aquatic organisms is not being impacted by site contaminants. However, the last five years of data indicate an increasing trend in the MW-4 cluster closest to Fish Cove. If the next two sampling events indicate this increased trend continues, groundwater impacts to Fish Cove may be re-evaluated.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

It has come to the attention of the EPA that wells are located on the other side of Fish Cove. The concentrations of site related contaminants appear to be increasing in the furthest downgradient monitoring well cluster (MW-4) located closest to Fish Cove. Concentrations of manganese, iron and chromium during some of the recent sampling events exceeded screening levels. It is recommended that EPA continue to closely monitor the semi-annual sampling results for increasing trends to determine if additional work to characterize the groundwater is appropriate.

Although there was no iron flocculation in Fish Cove visible during the site visit, surface water sampling may need to be considered to ensure that iron concentrations remain below the NYSDEC ambient water quality criterion of 300 µg/L, as groundwater iron concentrations in those monitoring wells closest to groundwater discharge (MW-4 cluster) indicate elevated concentrations of iron are present.

IX. Recommendations and Follow-Up Actions

OU(s): 2	Issue Category: Monitoring			
	Issue: The concentrations of site related contaminants appear to be increasing in the furthest downgradient monitoring well cluster (MW-4) located closest to Fish Cove, specifically manganese, iron and chromium exceeded screening levels during some of the recent sampling events.			
	Recommendation: It is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.			
Affect Current Protectiveness	Affect Future Protectiveness	Implementing Party	Oversight Party	Milestone Date
No	Yes	EPA	EPA	12/2014

X. Protectiveness Statement

The remedy for operable unit 1 (OU1) is protective of human health and the environment.

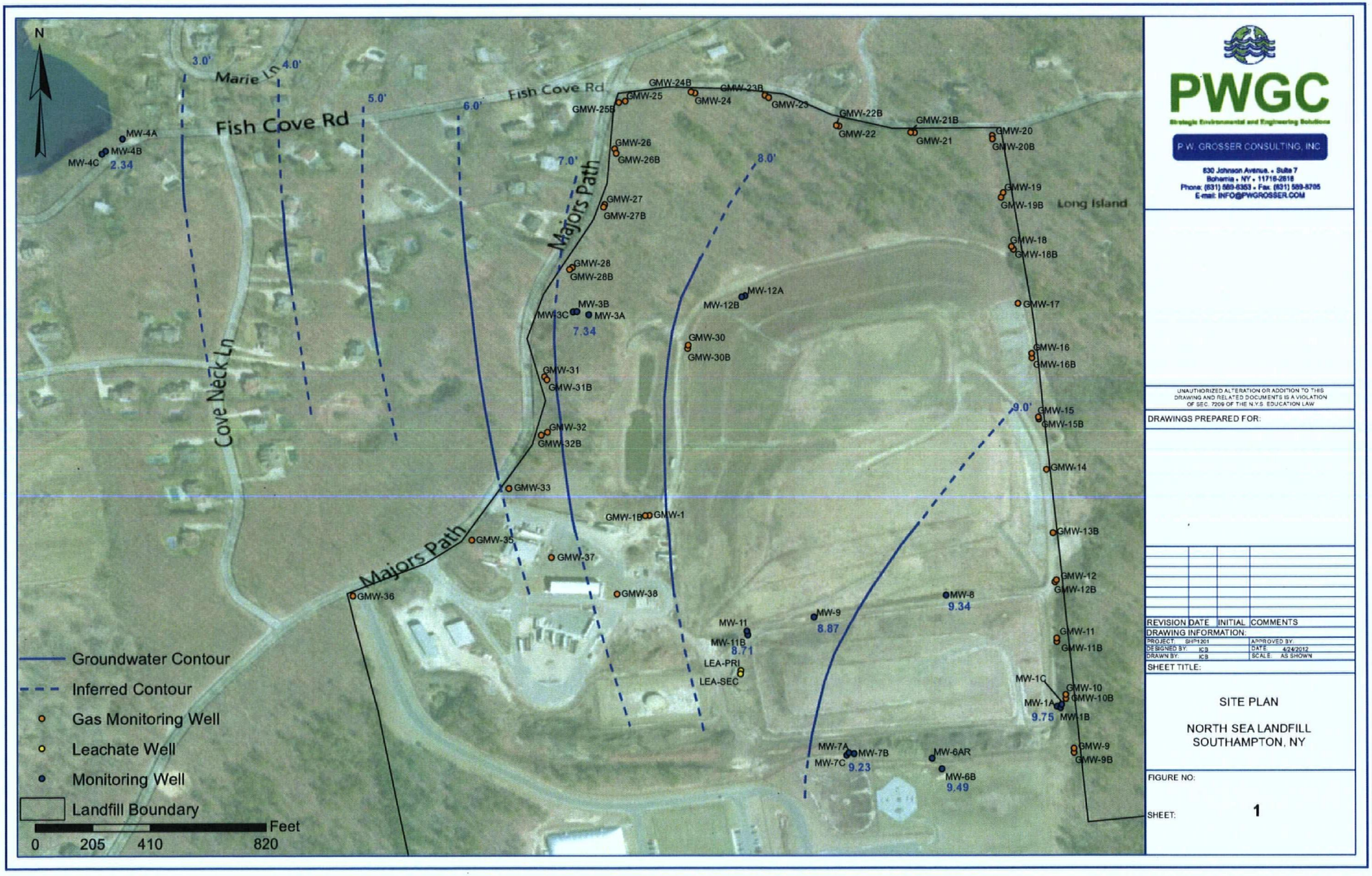
The no action remedy for OU2 protects human health and the environment in the short term because groundwater sampling results do not indicate an unacceptable risk. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.

The site is protective in the short term. In order for the remedy to be protective in the long term, it is recommended that EPA continue to closely monitor the next two rounds of semi-annual sampling results for increasing inorganic contaminant trends. If increasing trends exist after the next two rounds of sampling events, EPA will determine if additional work to characterize the groundwater is appropriate.

XI. Next Review

The next five-year review for the North Sea Landfill site should be completed within five years of the signature date of this five-year review.

Site Plan



PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING, INC
830 Johnson Avenue, • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-8353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

DRAWINGS PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

PROJECT:	SHP1201	APPROVED BY:	
DESIGNED BY:	ICB	DATE:	4/24/2012
DRAWN BY:	ICB	SCALE:	AS SHOWN

SHEET TITLE:

SITE PLAN

NORTH SEA LANDFILL
SOUTHAMPTON, NY

FIGURE NO:

SHEET: 1

Table 1 : Chronology of Site Events	
Event	Date
Site placed on National Priorities List	1986
Administrative Consent Order No. II issued by EPA to Town of Southampton to conduct RI/FS	March 1987
Operable Unit I Record of Decision signed by EPA	September 1989
Consent Decree CV-90-3309 to perform the OU I ROD entered in the Eastern District Court	February 1991
Operable Unit II ROD signed by EPA	September 1992
Notice of Contract Award issued to Tully Construction by the Town of Southampton	April 1993
Mobilization and start of construction activities	May 1993
Pre-final inspection conducted by EPA, NYSDEC and all contractors	January 1994
Final Operation and Maintenance Plan submitted by Dvirka and Bartilucci	September 1995
Final As-Built Drawings submitted by Dvirka and Bartilucci	June 1995
Benthic Survey Investigation performed	April 1997
First five-year review signed by EPA	September 1998
Groundwater monitoring sampling performed	December 1998 to Present
Quarterly groundwater monitoring report submitted by PWGC (Town contractor)	March 1999 to December 2004
Monthly gas monitoring performed	January 2002 to present

Second five-year review report Signed by EPA	September 2003
Site deleted from the National Priorities List	December 2005
Semi-annual monitoring report submitted by PWGC	February 2005 to Present
Monitoring well abandonments & replacement at the site	December 2006 to January 2007
Implementation of passive venting system	June 2007
Third five-year review signed by EPA	September 2008

Table 2 : Documents Reviewed

Author	Date	Title/Description
H2M Group	July 1989	Public Health Evaluation for the North Sea Landfill
US EPA	September 1989 and September 1992	Record of Decision for Operation Unit One and Two, North Sea Landfill
US EPA	February 2001	Consent Decree for OU I
Dvirka and Bartilucci Consulting Engineers	September 1995	Operation and Maintenance Manual for the Post Closure Care of the North Sea Landfill, Cell No. 1 Cap
US EPA	September 1998	Five-Year Review Report for the North Sea Landfill
US EPA	September 2003	Second Five-Year Review Report for the North Sea Landfill
US EPA	September 2008	Third Five-Year Review Report for the North Sea Landfill
P.W. Grosser Consulting, Inc	March 2009-February 2013	Semi Annual Post-Closure Monitoring Report, North Sea Landfill, Southampton , NY
P.W. Grosser Consulting, Inc	March 2009 – February 2013	Annual Post-Closure Monitoring Report, North Sea Landfill, Southampton , NY

Table 3: Groundwater Monitoring Tables

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-1A																			
			April 2005	Oct. 2005	April 2006	Oct. 2006	April 2007	Oct. 2007	April 2008	Oct. 2008	April 2009	Oct. 2009	April 2010	Oct. 2010 Unfiltered	Oct. 2010 Filtered	April 2011	Oct. 2011	April 2012
Aluminum as Al	mg/L	NA	0.78	0.18	0.35	0.13	0.51	PNA	0.027 B	PNA	0.0092 U	PNA	0.0407 BJ	PNA	PNA	0.0156 B	PNA	0.174 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	PNA	0.0041 B	PNA	0.0085 B
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	PNA	0.0028 U	PNA	PNA	0.0019 U	PNA	0.0221 U
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	PNA	0.0126 B	PNA	0.0186 B	PNA	0.0575 B	PNA	PNA	0.0185 BE	PNA	0.062 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	PNA	0.0004 B	PNA	PNA	0.00013 U	PNA	0.00062 U
Boron as B	mg/L	1.0	0.11	PNA	0.13	PNA	0.11	PNA	0.055 B	PNA	0.0945 B	PNA	0.156	PNA	PNA	0.0688 BE	PNA	0.263 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	0.00035	0.0004 B	0.00025 U	0.00025 U	0.00027 U	0.00017 U	0.00089 U
Calcium as Ca	mg/L	NA	57	42	61	72	56	39.7	27.3	68.6	80	70.4	10.6	44.5	46.1	39.3	66.8	182
Chromium as Cr	mg/L	0.05	0.035	PNA	0.038	PNA	0.14	PNA	0.00075 U	PNA	0.0013 B	PNA	0.0033 B	PNA	PNA	0.00068 B	PNA	0.013 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0017 U	PNA	0.0012 U	PNA	0.0012 U	PNA	PNA	0.00049 U	PNA	0.0026 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	PNA	0.006 B	PNA	PNA	0.0012 B	PNA	0.0045 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	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	0.18	0.179	0.018 B	0.0071 B	0.0312 B	**1.1**	0.254 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	0.0018 U	**0.0326** J	0.009	0.0077	0.0015 U	0.008	0.0247
Magnesium	mg/L	35 #	PNA	16	NA	27	PNA	16.2	13.3	30	**36.1**	31.6	**48.2**	21.7	21.5	22.5	27.5	**82.7**
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	0.085	0.0555	0.0015 B	0.0007 B	0.104	**0.95** E	0.0665 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	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	PNA	0.0018 B	PNA	PNA	0.0012 U	PNA	0.005 B
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	15.3	8.19	27.4	28.9 E	25.6	45.1	18.6	15.9	11.7	20.2	53.3
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	PNA	0.0026 U	PNA	**0.0242** 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	0.0005 U	PNA	PNA	0.00052 U	PNA	0.0089 B
Sodium as Na	mg/L	20	**21**	PNA	15	PNA	14	13	13.1	**22**	**29.6**	**33.4**	**30**	**21.8**	**20.9**	**20.2**	19.4	**68.6**
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	PNA	0.0056 U	PNA	PNA	0.0037 B	PNA	0.0159 U
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0022 U	PNA	0.00097 U	PNA	0.0012 U	PNA	PNA	0.00056 U	PNA	0.0015 B
Zinc as Zn	mg/L	2 #	0.03	PNA	0.01	PNA	0.04	PNA	0.0054 B	PNA	0.006 B	PNA	0.0057 B	PNA	PNA	0.0103 B	PNA	0.0022 U
Alkalinity tot CaCo3	mg/L	NA	190	140	240	270	220	150	73.8	216	222	211	324	110 D	PNA	37.7	158 D	69 D
Chloride as Cl	mg/L	250.0	47	24	26	21	24	27.7	28.3	43.8	54.8	52.5	49.8	34.5	PNA	27.8	24.3	17.8
Sulfate as SO4	mg/L	250.0	38	24	34	26	27	10.5	33.4	48.8	101	114	171 J	103 D	PNA	141 D	106 D	63.7 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	0.5 U	0.5 U	PNA	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	2 U	2 U	2 U	PNA	2 U	2 U	2 U
COD	mg/L	NA	100	PNA	40 U	PNA	40 U	10 U	19.4	29.3	10 U	10 U	10 U	10.6	PNA	12.4	16.4	10 U
Color	units	NA	5 U	5 U	10	10	15	PNA	5	PNA	10	PNA	5	PNA	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	0.02 U	PNA	PNA	0.02 U	PNA	0.02 U
Hardness as CaC03	mg/L	NA	230	170	250	290	230	160	128	144	520	330	460	210 D	PNA	190 D	288 D	152 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	0.18	0.1 U	0.1 U	0.92	0.1 U	PNA	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	0.1 U	0.1 U	PNA	0.1 U	0.1 U	0.1 U
Nitrate as N	mg/L	10	1.6	PNA	1.9	PNA	2.5	5.93	3.91	3.79	5.55	0.1 U	1.14	2.84	PNA	6.47 D	4.45 D	4.07 D
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	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	340	PNA	380	PNA	340	242	0.1	361	531	489	674	333	PNA	356	398	245
Tot. Kjeldahl Nitrogen	mg/L	NA	1.4	PNA	2.2	PNA	1.6	0.55	0.33	1.02	0.61	0.89	1.02 J	0.47	PNA	0.1 U	0.78	0.1 U
Tot Organic Carbon	mg/L	NA	10	6.5	10	9.5	7.6	5.9	4.7	8.4	7.3	22	12.4	4.6	PNA	4.8	47.2	2.8
Turbidity	NTU	NA	7.6	4.1	8.2	2.4	11	0	18.6	10	5.8	7	0	42	PNA	3.8	5.6	1.4
Temperature	deg.C	NA	15	13	13	13	13	12.8	12.31	13.45	12.85	12.86	13.47	12.39	PNA	11.96	13.13	12.98
pH	units	6.5-8.5	7.3	**6.4**	6.6	6.6	**6.0**	**8.53**	**5.45**	**6.21**	6.58	**6.09**	6.97	**5.38**	PNA	**3.72**	**6.33**	**5.74**
Spec. Cond	umho/cm	NA	500	460	570	620	550	PNA	PNA	542	656	950	1,110	432	PNA	490	630	410

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-1B																					
			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	
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
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
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
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
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
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
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
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
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
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
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
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
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
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	
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
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
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	
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
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
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
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
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
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
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
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
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
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	
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	
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
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
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
Color	units	NA	5	U	5	U	5	U	5	U	10		PNA		5		PNA		5	U	PNA		5		PNA		5	U	PNA		5	
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
Hardness as CaC03	mg/L	NA	16		19		15		18		19		10		0.1	U	34		28		19		14		21		11		18		22	
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
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
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
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
Tot Dissolved Solids	mg/L	NA	55		PNA		74		PNA		69		54		59		44		55		51		45		35		47		24		53	
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
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	
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	
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	
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	
Spec. Cond	umho/cm	NA	62		77		71		82		73		PNA		PNA		61		59		91		78		53		59		77		91	

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-1C																									
			April 2005		Oct. 2005		April 2006		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008		April 2009		Oct. 2009 Unfiltered		Oct. 2009 Filtered		April 2010		Oct. 2010		April 2011		Oct. 2011		April 2012	
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	
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
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
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
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
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
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
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
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	
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
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
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
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	
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	
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
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	
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
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
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
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
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
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	
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
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
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
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
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	
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	
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
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
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
Color	units	NA	5	U	5	U	5	U	5	U	10		PNA		10		PNA		5		PNA		PNA		5		PNA		5	U	PNA		20	
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
Hardness as CaC03	mg/L	NA	28		19		17		19		20		17		26		24		18		64		PNA		18		64	D	18		23		19	
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
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
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	
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
Tot Dissolved Solids	mg/L	NA	74		PNA		88		PNA		73		54		63		43		43		374		PNA		46		55		68		34		61	
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
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
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	
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	
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	
Spec. Cond	umho/cm	NA	64		79		70		75		77		PNA		PNA		59		56		100		PNA		92		65		75		86		841	

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 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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-3A																					
			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				
										Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	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	0.0498 B	0.0196 U	PNA	PNA	0.0787 B	PNA	0.0311 B				
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	**0.0042** B	0.0028 U	PNA	PNA	**0.0109** B	PNA	0.0011 U				
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	0.0028 U	0.0028 U	PNA	PNA	0.0019 U	PNA	0.0044 U				
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	0.111 B	PNA	0.0659 B	0.0586 B	PNA	PNA	0.0393 B	0.0288 B	PNA	PNA	0.0804 BE	PNA	0.0344 B				
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	0.00017 U	0.0004 B	PNA	PNA	0.00013 U	PNA	0.00012 U				
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	0.017 B	0.0227 B	PNA	PNA	0.0318 BE	PNA	0.0274 B				
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	0.00024 U	0.0003 B	0.00025 U	0.00025 U	0.00027 U	0.00017 U	0.00018 U				
Calcium as Ca	mg/L	NA	19	14	11	37	18.1	15.5	14.3	28.5	28.10	19	18.9	13.4	14.1	14.9	14.8	21.5	7.04	15.5				
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	**0.553**	0.0048 B	PNA	PNA	**1.69**	PNA	**0.126**				
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.0397 B	PNA	0.0018 B	0.0012 U	PNA	PNA	0.0034 B	0.0012 U	PNA	PNA	0.0119 B	PNA	0.0008 B				
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	0.0177 B	0.0058 B	PNA	PNA	0.0333	PNA	0.0058 B				
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	0.01 U	PNA	PNA	PNA	0.01 U	PNA	0.01 U				
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	2.4	0.0235 B	0.378	0.0258 B	7.73	4.47	0.569				
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	0.0088	0.0088	0.0047	0.0053	0.0015 U	0.0016 U	0.0055				
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	3.17 B	3.3 B	4.2 B	3.98 B	4.96 B	1.28 B	3.74 B				
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	**0.953**	0.0025 B	**0.304**	0.0041 B	0.0355	0.0089 B	**1.04**	0.185 E	0.103				
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	0.0001 U	0.0001 U	PNA	PNA	0.0001 U	PNA	0.0001 U				
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	0.0381 B	0.0134 B	PNA	PNA	**0.151**	PNA	0.0351 B				
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	3.1 B	2.7 B	5.8	4.45 B	5.92	0.925 B	3.64 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	0.0042 U	0.0042 U	PNA	PNA	0.0026 U	PNA	0.0028 U				
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	0.0005 U	0.0005 U	PNA	PNA	0.00052 U	PNA	0.00032 U				
Sodium as Na	mg/L	20	**78**	**34**	PNA	**140**	**26.4**	**32.2**	17.1	**60.1**	**60**	12.4	11.9	16.7	15.8	16.6	14.5	**58.4**	18.9	8.94				
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	0.0056 U	0.0056 U	PNA	PNA	0.0027 U	PNA	0.0032 U				
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.0213 B	PNA	0.0015 B	0.0010 U	PNA	PNA	0.0012 U	0.0012 U	PNA	PNA	0.0064 B	PNA	0.0003 B				
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	0.0036 B	0.0039 B	PNA	PNA	0.0139 B	PNA	0.0083 B				
Alkalinity tot CaCo3	mg/L	NA	30	50	50	32	65	60.8	62	41	PNA	68.2	PNA	36.3	PNA	55 D	PNA	39.8	41.4 D	47.8 D				
Chloride as Cl	mg/L	250.0	140	41	18	**320**	28.8	45.4	14.6	139	PNA	9.53	PNA	29.9	PNA	16.6	PNA	109 D	17.2	10.6				
Sulfate as SO4	mg/L	250.0	19	10	6	7.0	13.9	9.5	11.8	6.76	PNA	7.36	PNA	6.42	PNA	8.34	PNA	5 U	5 U	5.77				
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	<0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	0.5 U	0.5 U				
BOD5	mg/L	NA	2 U	2 U	2 U	2 U	2 U	14	2 U	2 U	PNA	2 U	PNA	2 U	PNA	2 U	PNA	2 U	2 U	2 U				
COD	mg/L	NA	40	40 U	PNA	40 U	10 U	16.9	10 U	10 U	PNA	10 U	PNA	10 U	PNA	10 U	PNA	10 U	10 U	10 U				
Color	units	NA	5 U	5 U	5 U	5 U	PNA	40	PNA	5	PNA	PNA	PNA	20	PNA	PNA	PNA	10	PNA	10				
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	0.02 U	PNA	PNA	PNA	0.02 U	PNA	0.02 U				
Hardness as CaC03	mg/L	NA	64	51	35	120	66	100	115	160	PNA	74	PNA	38	PNA	58 D	PNA	76 D	32	62 D				
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	0.15	PNA	0.1 U	PNA	0.98	0.1 U	0.17				
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA	PNA	0.10 U	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	0.1 U	0.1 U				
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	0.56	PNA	0.41	PNA	0.59	0.15	1.01				
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	0.005 U	PNA	0.005 U	PNA	0.005 U	0.005 U	0.005 U				
Tot Dissolved Solids	mg/L	NA	290	150	PNA	680	169	155	97	307	PNA	120	PNA	86	PNA	128	PNA	291	58	87				
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	0.72	PNA	0.44	PNA	1.32	0.27	0.41 U				
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	1.6	PNA	1.3	PNA	1.2	12.2	1.9				
Turbidity	NTU	NA	7.7	77	20	66	21	88.2	834	100	PNA	93.6	PNA	184	PNA	114	PNA	120	49.3	6.6				
Temperature	deg.C	NA	14	14	14	15	11.9	12.76	12.15	13.31	PNA	10.52	PNA	12.06	PNA	10.74	PNA	12.19	11.86	12.95				
pH	units	6.5-8.5	**8.4**	**8.3**	6.9	**8.3**	8.47	**8.30**	**8.37**	**8.27**	PNA	**8.57**	PNA	6.79	PNA	**8.88**	PNA	**8.47**	**8.68**	**8.26**				
Spec. Cond	umho/cm	NA	590	270	220	1100	PNA	PNA	152	434	PNA	213	PNA	223	PNA	153	PNA	480	202	166				

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.

1.8 = Compound exceeded standard.

1.8 = Compound at standard.

NM = Not Monitored

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL
TABLE 1
INORGANIC GROUNDWATER QUALITY RESULTS
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-3B																									
			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 Unfiltered		Oct. 2011 Filtered		April 2012	
Aluminum as Al	mg/L	NA	0.03		0.06		0.04		0.02		PNA		0.0	B	PNA		0.0092	U	PNA		0.0341	B	PNA		0.0161	B	PNA		PNA		0.0354	B
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		0.0046	B	PNA		PNA		0.0011	U
Arsenic as As	mg/L	0.025	0.025		0.023		0.019		0.024		PNA		0.0116		PNA		0.0128		PNA		0.0125		PNA		0.0134		PNA		PNA		0.0063	B
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		0.042	B	PNA		0.052	B	PNA		0.0165	B	PNA		0.0409	BE	PNA		PNA		0.0319	B
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		0.00019	B	PNA		PNA		0.00012	U
Boron as B	mg/L	1.0	0.1		0.08		PNA		0.12		PNA		0.1	B	PNA		0.0868	B	PNA		0.0131	B	PNA		0.0893	BE	PNA		PNA		0.0502	B
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	0.0002	B	0.00018	U
Calcium as Ca	mg/L	NA	9.8		12		15		16		11.5		10.7		11.9		13.3		8.74		5.72		9.71		12		13		11.4		7.79	
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		0.002	B	PNA		0.0011	B	PNA		PNA		0.0081	B
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0056	B	PNA		0.0075	B	PNA		0.0031	B	PNA		0.0054	B	PNA		PNA		0.0041	B
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		0.0037	B	PNA		0.00055	U	PNA		PNA		0.0007	U
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		PNA		0.01	U
Iron as Fe	mg/L	0.3	13		21		20		21		13.1		14.8		15.7		21.9		10.0		8.06		13.3		16.8		9.64		0.136		11.2	
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	0.0169		0.0017	U	0.0018	B	0.0034		0.0061		0.0038	
Magnesium	mg/L	35 #	PNA		PNA		5.3		PNA		3.99	B	4.04	B	4.49	B	5.06		3.26	B	2.09	B	3.8	B	4.45	B	3.09	B	3.18	B	2.51	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		1.79		2.58		2.37		4.36	E	0.995		2.34	
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		PNA		0.0001	U
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		0.001	U	PNA		0.0027	B	PNA		PNA		0.002	B
Potasium	mg/L	NA	PNA		PNA		PNA		PNA		5.99		4.81	B	5.59		6.21		4.96	B	2.99	B	3.68	B	6.82		4.37	B	6.61	E	4.86	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		PNA		0.0028	U
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		PNA		0.00032	U
Sodium as Na	mg/L	20	8.8		11		PNA		18		12.9		15.6		15.9		20		9.52		7.92		9.91		16		12.8		12.8		11.5	
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		0.0056	U	PNA		0.0027	U	PNA		PNA		0.0032	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0022	U	PNA		0.00097	U	PNA		0.0012	U	PNA		0.00072	B	PNA		PNA		0.00023	U
Zinc as Zn	mg/L	2 #	0.01		0.02		PNA		0.02		PNA		0.0	B	PNA		0.0068	B	PNA		0.0101	B	PNA		0.0092	B	PNA		PNA		0.00044	U
Alkalinity tot CaCo3	mg/L	NA	42		60		100		110		60.2		60.8		64		72		47.6		28.1		44	D	64.4	D	44.5	D	PNA		63	D
Chloride as Cl	mg/L	250.0	10		5		20		23		17.1		18.5		19.6		21.9		10.4		8.61		11.6		12.7		12.6		PNA		13.1	
Sulfate as SO4	mg/L	250.0	40		12		7		7.0		11.1		11.9		12.2		9.9		10.1		8.06		8.62		8.24		7.3		PNA		8.61	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	0.5	U	0.50	U	0.5	U	0.5	U	0.5	U	0.5	U	PNA		0.5	U
BOD5	mg/L	NA	2	U	6.0		3.0	U	3	U	2	U	12		2	U	2	U	2	U	2	U	2	U	2	U	4		PNA		2	U
COD	mg/L	NA	80		40	U	PNA		40	U	10	U	21.8		26.8		13.3		10	U	10	U	10	U	13.7		10	U	PNA		10	U
Color	units	NA	5	U	5	U	5	U	10		PNA		140		PNA		60		PNA		50		PNA		75	E	PNA		PNA		200	D
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	PNA		0.02	U	PNA		PNA		0.02	U
Hardness as CaC03	mg/L	NA	40		51		60		62		54		60		52		170		48		37		58	D	60	D	64	D	PNA		41	
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		1.62		1.07		2.6		0.74		PNA		4.21	D
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	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	0.12		0.1	U	0.1	U	0.9		PNA		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	0.005	U	0.005	U	0.005	U	0.005	U	PNA		0.005	U
Tot Dissolved Solids	mg/L	NA	91		110		PNA		180		135		111		101		127		93		63		104		116		73		PNA		85	
Tot. Kjeldahl Nitrogen	mg/L	NA	2.4		2.4		PNA		8.6		7.66		5.73		5.39		6.01		3.64		1.9		1.63		2.67		1.42		PNA		8.44	D
Tot Organic Carbon	mg/L	NA	1	U	2.4		3.6		1.7		2.6		2.6		2.8		4.1		1.0		1	U	1.7		2.5		13		PNA		1	U
Turbidity	NTU	NA	8.4		150		110		92		7		7.3		24.6		0		16.5		0		10.6		10.4		14.8		PNA		2.2	
Temperature	deg.C	NA	14		14		13		14		11.9		12.96		12.78		12.84		10.73		12.76		10.54		12.67		12.55		PNA		14.22	
pH	units	6.5-8.5	6.5		6.1		6.5		6.4		8.35		6.39		6.43		6.56		5.77		6.92		7.54		6.97		6.29		PNA		6.49	
Spec. Cond	umho/cm	NA	170		210		340		350		PNA		PNA		212		258		365		154		152		361		254		PNA		245	

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-3C																					
			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	
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
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
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
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
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
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
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
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	
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	
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
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
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
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	
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	
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	
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	
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
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
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
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
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
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	
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
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
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
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
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	
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
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
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
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
Color	units	NA	5	U	5	U	5	U	10		PNA		5		PNA		5	U	PNA		5		PNA		5	U	PNA		5	
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
Hardness as CaC03	mg/L	NA	45		70		77		76		91		86		78		150		72		78		86	D	74	D	84	D	64	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
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
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
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
Tot Dissolved Solids	mg/L	NA	100		130		PNA		210		187		141		132		129		147		132		130		139		95		120	
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
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
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	
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	
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	
Spec. Cond	umho/cm	NA	150		200		320		260		PNA		PNA		187		170		256		264		195		PNA		210		210	

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.

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
April 2012

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	
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
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
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
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
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
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
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
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	
Chromium as Cr	mg/L	0.05	0.056		PNA		0.064		PNA		0.041		PNA		0.0	B	PNA		0.171		PNA		0.0033	B	PNA		0.0302		PNA		0.0041	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
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
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
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
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	
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
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	
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
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
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
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
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
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	
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
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
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
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	
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	
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	
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
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
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
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
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
Hardness as CaC03	mg/L	NA	26		35		31		32		39		29		26		32		140		40		47		30	D	33		33		35	
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	0.12		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	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
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
Tot Dissolved Solids	mg/L	NA	84		PNA		110		PNA		130		97		68		111		176		134		133		76		103		79		103	
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
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
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	
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	
pH	units	6.5-8.5	5.5		5.7		5.6		6.5		5.8		6.46		4.90		5.29		5.17		4.68		5.27		4.62		PNA		5.28		5.42	
Spec. Cond	umho/cm	NA	130		200		170		340		210		PNA		PNA		167		137		214		244		124		PNA		181		186	

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-4B															
			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
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
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
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
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
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
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
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
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
Chromium as Cr	mg/L	0.05	0.005 U	PNA	0.005 U	PNA	0.006	PNA	0.0 B	PNA	0.0075 B	PNA	0.0611	PNA	0.0168	PNA	0.0051 B
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
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
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
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
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
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
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
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
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
Potasium	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
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
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
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
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
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
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
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
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
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
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
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
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
Color	units	NA	5 U	15	5 U	5 U	10	PNA	30	PNA	35	PNA	50	PNA	50	PNA	90 D
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
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
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
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
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	0.13	0.1 U	0.1 U	0.1 U	0.72	0.1 U
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
Tot Dissolved Solids	mg/L	NA	260	PNA	260	PNA	270	232	200	194	189	207	188	174	158	140	149
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
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
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
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
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
Spec. Cond	umho/cm	NA	440	430	460	440	440	PNA	PNA	298	304	906	452	242	PNA	306	354

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-4C																					
			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	
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
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
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
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
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
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
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
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	
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**	
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
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		0.0089	B	PNA		0.0067	B	PNA		0.0058	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
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**	
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	
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	
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	
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
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**	
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
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
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
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**	
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
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
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
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
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
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
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
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
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
Color	units	NA	5	U	5	U	5	U	5	U	5	U	PNA		5		PNA		5		PNA		5		PNA		10		PNA		10	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.01		PNA		0.02		PNA		0.0	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
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
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
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
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
Tot Dissolved Solids	mg/L	NA	110		PNA		150		PNA		190		178		165		158		117		185		183		211		232		196		223	
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
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	
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	
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	
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	
Spec. Cond	umho/cm	NA	180		230		250		300		260		PNA		PNA		207		208		302		315		250		PNA		324		354	

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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-6AR												MW-5B					
			April 2007		Oct. 2007		Oct. 2008		Oct. 2009		Oct. 2010 Unfiltered		Oct. 2010 Filtered		Oct. 2011		Oct. 2007		Oct. 2008		Oct. 2009		Oct. 2010		Oct. 2011	
Aluminum as Al	mg/L	NA	1.2		6.73		0.0	U	0.339		0.158	B	0.0061	U	0.809		0.114	B	0.0	U	0.247		0.0241	B	0.0044	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	0.0023	U	0.0	U	0.0021	U	0.0029	U	0.0022	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	0.0018	U	0.0	U	0.0023	U	0.0027	U	0.0018	U
Barium	mg/L	1	PNA		0.128	B	0.1	BE	0.0873	B	0.0783	B	0.0715	B	0.0789	B	0.0122	B	0.0	BE	0.014	B	0.013	B	0.0139	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	0.00022	B	0.0	U	0.00026	U	0.00016	U	0.00013	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	0.0086	B	0.0	B	0.0092	B	0.0054	B	0.003	U
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	0.00032	U	0.0	U	0.00034	U	0.00025	U	0.0005	B
Calcium as Ca	mg/L	NA	36		21.6		12.5		25.4		19.8		20.2		13.5		3.35	B	2.9	B	3.22	B	3.01	B	3.35	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		0.0378		0.018		**0.164**		0.0093	B	**0.0933**	
Cobalt	mg/L	NA	PNA		0.0055	B	0.0	U	0.003	B	0.0013	U	0.0013	U	0.009	B	0.0011	U	0.0	U	0.0016	B	0.0013	U	0.0031	B
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	0.00087	U	0.0	B	0.0053	B	0.0045	B	0.0094	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.0	U	PNA		PNA		PNA		PNA		PNA		0.0	U	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**		**0.303**		0.195		**1.24**		**0.141**		**0.464**	
Lead as Pb	mg/L	0.025	0.005	U	0.0105		0.0	U	0.0026	B	0.0117		0.0103		0.0109		0.0019	B	0.0	U	0.0029	B	0.0087		0.0101	
Magnesium	mg/L	35 #	PNA		9.5		5.7		14.1		7.86		7.74		4.77	B	1.93	B	1.9	B	2.04	B	1.82	B	1.65	B
Manganese as Mn	mg/L	0.3	**0.77**		**0.338**		0.1		**1.32**		0.0684		0.0509		**0.927**	E	0.0253		0.0189		0.0251		0.0079	B	0.0489	E
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	0.0	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	0.0371	B	0.0	B	0.0481		0.0308	B	0.0533	
Potasium	mg/L	NA	PNA		2.72	B	3.4	B	2.12	B	2.13	B	1.36	B	3.85	B	0.617	B	0.6	B	0.932	B	1.16	B	0.0489	U
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	0.0024	U	0.0	U	0.0025	U	0.0032	U	0.0028	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	0.00041	U	0.0	U	0.00083	U	0.00043	U	0.00042	U
Sodium as Na	mg/L	20	**33**		8.87		9.1		14.7		10.4		9.21		8.36		6.42		7.53		8.1		8.74		8.4	
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	0.0023	U	0.0	U	0.0032	U	0.0036	U	0.0034	U
Vanadium	mg/L	NA	PNA		0.0202	B	0.0	U	0.0014	U	0.0013	U	0.0013	U	0.006	B	0.00089	U	0.0	U	0.0014	U	0.0013	U	0.00021	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		0.0056	B	0.0	B	0.0096	B	0.0456		0.0194	B
Alkalinity tot CaCo3	mg/L	NA	130		60.8		44.4		105		74	D	PNA		43.4	D	7.8		8.6		8		8.4		10.4	
Chloride as Cl	mg/L	250.0	30		12.2		11.6		13.6		10.4		PNA		8.82		10.5		10.7		9.53		10.2		9.01	
Sulfate as SO4	mg/L	250.0	19		13.9		11.1		16.9		13.2		PNA		7.9		8.3		8.7		7.2		7.72		6.25	
Bromide	mg/L	2 #	PNA		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
BOD5	mg/L	NA	2.6		2	U	2.0	U	2	U	2	U	PNA		2	U	2	U	2.0	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	10.0	U	10	U	10	U	10	U
Color	units	NA	5	U	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	
Hardness as CaCO3	mg/L	NA	170		86		50.0		126		84	D	PNA		148	D	15		19.0		15		26		23	
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	0.1	U	0.1	U	0.1	U	0.12	
Nitrite as N	mg/L	NA	PNA		PNA		0.1	U	0.1	U	0.1	U	PNA		0.1	U	PNA		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		0.1	U	0.1	U	0.1	U	0.1	U	0.17	
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	0.0	U	0.005	U	0.005	U	0.005	U
Tot Dissolved Solids	mg/L	NA	320		150		87.0		168		134		PNA		69		64		41.0		48		36		41	
Tot. Kjeldahl Nitrogen	mg/L	NA	3.4		0.19		0.2		0.1	U	0.15		PNA		0.43		0.1	U	0.22		0.3		0.26		0.38	
Tot Organic Carbon	mg/L	NA	1.2		1	U	1.0	U	1.3		1	U	PNA		11.8		1	U	1.0	U	1	U	1	U	3.7	
Turbidity	NTU	NA	240		50		10.1		34.1		60.2		PNA		33.4		1		21.2		31.6		1.9		10.5	
Temperature	deg.C	NA	12		12.2		11.8		11.07		11.75		PNA		12.34		11.4		11.37		11.2		11.0		11.86	
pH	units	6.5-8.5	**6.2**		8.45		**5.7**		**5.74**		**5.7**		PNA		**6.00**		8.43		**5.89**		**5.73**		**6.44**		**6.15**	
Spec. Cond	umho/cm	NA	360		PNA		124		336		167		PNA		145		PNA		59		89		63		83	

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.

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
April 2012

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	
Aluminum as Al	mg/L	NA	1.1		0.63		0.76		0.27		0.16		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	
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	
Barium	mg/L	1	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	
Boron as B	mg/L	1.0	0.08		PNA		0.05	U	PNA		0.02		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
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	
Chromium as Cr	mg/L	0.05	0.01		PNA		0.008		PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA	
Cobalt	mg/L	NA	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	
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	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	
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	
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	
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
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	
Nickel as Ni	mg/L	0.1	0.02		PNA		0.02		PNA		0.01	U	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
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	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	
Sodium as Na	mg/L	20	11		PNA		13		PNA		8.3		7.34		8.02		8.05		7.91		9.03		8.99	
Thallium as Tl	mg/L	0.0005 #	0.004	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA	
Vanadium	mg/L	NA	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	
Alkalinity tot CaCo3	mg/L	NA	38		46		52		140		36		31.4		27.1		PNA		32.5		28	D	41.9	D
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	
Sulfate as SO4	mg/L	250.0	13		12		15		5		6		9.6		9.9		PNA		9.9		98.3	D	5.98	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	PNA		0.5	U	5	UD	0.5	U
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
COD	mg/L	NA	80		PNA		40	U	PNA		40	U	10	U	10.0	U	PNA		10	U	10	U	10	U
Color	units	NA	5	U	5	U	5	U	5	U	10		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	
Hardness as CaC03	mg/L	NA	41		37		73		74		34		44		38		PNA		48		19		66	D
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	
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
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	
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
Tot Dissolved Solids	mg/L	NA	83		PNA		150		PNA		110		82		65		PNA		90		64		73	
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	
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	
Turbidity	NTU	NA	6.9		43		28		280		74		20		54.9		PNA		27.2		26.8		12.4	
Temperature	deg.C	NA	15		13		12		13		12		11.7		12.5		PNA		11.3		11.6		12.40	
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		5.36	
Spec. Cond	umho/cm	NA	100		280		160		150		100		PNA		94		PNA		161		97		151	

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.

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
April 2012

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	
Aluminum as Al	mg/L	NA	0.74		0.12		1.8		0.83		1.3		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	
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	
Barium	mg/L	1	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	
Boron as B	mg/L	1.0	0.06		PNA		0.05	U	PNA		0.02		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
Calcium as Ca	mg/L	NA	18		7		17		22		21		14.2		3.9		4.2	BF	13.3		6.74		9.38	
Chromium as Cr	mg/L	0.05	0.011		PNA		0.011		PNA		0.013		PNA		PNA		PNA		PNA		PNA		PNA	
Cobalt	mg/L	NA	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	
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	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	**12.44**		**0.82**		**15.8**	
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	
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
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
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	
Nickel as Ni	mg/L	0.1	0.02		PNA		0.02		PNA		0.02		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
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	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	
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	
Thallium as Tl	mg/L	0.0005 #	0.005	U	PNA		0.005	U	PNA		0.005	U	PNA		PNA		PNA		PNA		PNA		PNA	
Vanadium	mg/L	NA	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	
Alkalinity tot CaCo3	mg/L	NA	78		40		36		110		98		42.3		14		PNA		44.2		20		37.1	D
Chloride as Cl	mg/L	250.0	13		13		13		10		11		10.3		6.67		PNA		9.25		10.6		11	
Sulfate as SO4	mg/L	250.0	20		8		13		12		10		9.4		9.8		PNA		8.74		10.7		10.2	
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
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
COD	mg/L	NA	80		PNA		40	U	PNA		40	U	10	U	10.0	U	PNA		10	U	10	U	10	U
Color	units	NA	5	U	5	U	5	U	5	U	40		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	
Hardness as CaC03	mg/L	NA	94		29		61		95		91		53		0.1	U	PNA		58		34	D	64	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	
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
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	
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
Tot Dissolved Solids	mg/L	NA	170		PNA		100		PNA		200		86		45		PNA		88		46		75	
Tot. Kjeldahl Nitrogen	mg/L	NA	1.0		PNA		1.6		PNA		2		0.1		0.17		PNA		0.16		0.29		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	
Turbidity	NTU	NA	7.8		6.7		94		32		42		44		74.6		PNA		42.7		27.2		40.2	
Temperature	deg.C	NA	18		15		15		15		14		13.8		13.84		PNA		13.24		13.11		13.50	
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**	
Spec. Cond	umho/cm	NA	180		130		130		170		130		PNA		64		PNA		188		79		136	

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 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.

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
April 2012

ANALYTICAL	UNITS	GW	MW-11A																											
			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	
PARAMETERS		STND*														Unfiltered	Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Aluminum as Al	mg/L	NA	1		0.24		2.1		0.58		0.98		0.15	B	0.0552	B	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	0.0576	B	0.0187	B	0.0044	U	0.0216	B	0.0865	B	0.0308	B
Antimony as Sb	mg/L	0.003 #	0.01	U	PNA		0.017		PNA		0.009		0.0023	U	0.0061	B	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	0.0056	B	0.0021	U	0.008	B	0.0022	B	0.0011	U	0.0011	U
Arsenic as As	mg/L	0.025	0.884		0.024		0.047		0.021		0.033		0.0182		0.0372		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	0.0106		0.0019	U	0.0529		0.0018	B	0.0121		0.0044	U
Barium	mg/L	1	PNA		PNA		PNA		PNA		PNA		0.221		0.41		0.493	E	0.177	BF	0.194	B	0.1	B	0.36		0.126	B	0.18	B	0.0730	B	0.181	B	0.111	B	0.208	E	0.0989	B	0.851		0.0751	B	0.212		0.1570	B
Beryllium as Be	mg/L	0.003	0.001	U	PNA		0.001	U	PNA		0.001	U	0.00025	B	0.00013	B	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	0.00013	U	0.00013	U	0.00013	U	0.00013	U	0.00012	U	0.00012	U
Boron as B	mg/L	1.0	2.6		PNA		0.05		PNA		0.29		0.0366	B	0.0444	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	0.0391	B	0.0500	B	0.003	U	0.0334	B	0.0194	B	0.0342	B
Cadmium as Cd	mg/L	0.005	0.019		PNA		0.005	U	PNA		0.005	U	0.00032	U	0.00045	B	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	0.00027	U	0.00027	U	0.0032	B	0.00017	U	0.0004	B	0.00020	B
Calcium as Ca	mg/L	NA	79		44		50		50		63		17		37.3		39.2		36	F	37.9		33.30		28.5		26.8		32.4		28.8		23.4		22.8		39.3		41.4		44.7		32.6		30.7		27.5	
Chromium as Cr	mg/L	0.05	0.012		PNA		0.02		PNA		0.018		0.0031	B	0.005	B	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	0.0031	B	0.0025	B	0.0032	B	0.0005	B	0.0283		0.0053	B
Cobalt	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.015	B	0.0214	B	0.028	B	0.0141	BF	0.0054	B	0.0	B	0.0302	B	0.0172	B	0.0097	B	0.0074	B	0.0188	B	0.0141	B	0.0083	B	0.0040	B	0.0181	B	0.0031	B	0.0166	B	0.0132	B
Copper as Cu	mg/L	0.2	0.01	U	PNA		0.02		PNA		0.01		0.0039	B	0.0237	B	0.0353		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	0.00055	U	0.0079	B	0.0007	U	0.0007	U	0.0034	B	0.0007	U
Cyanide as CN	mg/L	0.20	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.01	U	0.01	U	PNA		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	mg/L	0.3	480		400		440		200		250		66.9		253		210		0.0443	BF	60.2		9.8		227		4.56		50.9		1.49		60.9		5.55		10.1		3.54		526		8.53		46.1		7.68	
Lead as Pb	mg/L	0.025	0.005	U	0.027		0.033		0.027		0.032		0.0054		0.0023	U	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		0.0251		0.0015	U	0.0327	U	0.0033		0.0132		0.0069	
Magnesium	mg/L	35 #	PNA		16		PNA		17		PNA		9.29		12.3		19		18.9	F	16.9		15.2		12.5		12.3		10.6		9.44		9.81		9.28		13.9		15.10		10.7		10.70		12.3		11.40	
Manganese as Mn	mg/L	0.3	14		13		16		7.9		20		3.74		6.17		7.44		6.3	F	5.81		3.00		6.43		4.06		2.1		1.31		2.11		1.74		4.6		3.14		18.1	E	3.15		2.66		2.15	
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	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	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	B	0.0001	U
Nickel as Ni	mg/L	0.1	0.01		PNA		0.02		PNA		0.02		0.0053	B	0.0127	B	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	0.0036	B	0.0049	B	0.00066	U	0.0025	B	0.0107	B	0.0073	B
Potassium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		7.66		6.91		7.92		7.93	F	5.99	E	5.4		5.42		5.25		4.9	B	3.99	B	5.02		3.85	B	6.83		7.56		0.0489	U	6.10	E	6.25		5.97	
Selenium as Se	mg/L	0.01	0.004	U	PNA		0.004	U	PNA		0.004	U	0.0024	U	0.0043	U	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	0.0026	U	0.0026	U	0.0282	U	0.0028	U	0.0028	U	0.0028	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	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	0.00052	U	0.0007	B	0.00042	U	0.0004	U	0.00032	U	0.00032	U
Sodium as Na	mg/L	20	17		PNA		15		PNA		14		7.72		11.8		11.2		11.3	F	12.3		10.70		9.5		9.24		9.83		8.5		8.33		7.07		9.76		11.1		10.6		10.9		12.1		11.5	
Thallium as Tl	mg/L	0.0005 #	0.004	U	PNA		0.005	U	PNA		0.005	U	0.0023	U	0.0128		0.0133		0.0032	BF	0.0046	B	0.0	U	0.0251		0.0032	U	0.0056	U	0.0056	U	0.0036	U	0.0036	U	0.0027	U	0.0027	U	0.0034	U	0.0034	U	0.0032	U	0.0032	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.0027	B	0.0084	B	0.0073	B	0.00074	UF	0.0024	B	0.0	B	0.909	B	0.0014	U	0.0012	U	0.0012	U	0.0013	U	0.0013	U	0.0039	B	0.00096	B	0.00021	U	0.00021	U	0.0008	B	0.00023	U
Zinc as Zn	mg/L	2 #	0.08		PNA		0.1		PNA		0.06		0.0118	B	0.0357		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	0.0159	B	0.0312		0.0457		0.0078	B	0.0171	B	0.0069	B
Alkalinity tot CaCo3	mg/L	NA	310		220		260		260		230		77.6		133		148		PNA		154		PNA		0.41		PNA		131		PNA		100	D	PNA		148	D	PNA		97.8	D	PNA		118	D	PNA	
Chloride as Cl	mg/L	250.0	16		15		16		20		12		11		13.6		13.5		PNA		12		PNA		10.9		PNA		9.02		PNA		8.82		PNA		8.33		PNA		14.4		PNA		16.4		PNA	
Sulfate as SO4	mg/L	250.0	19		17		31		12		9.0		16.5		14.0		10.8		PNA		10.2		PNA		9.97		PNA		9.92	J	PNA		7.64		PNA		8.97		PNA		9.14		PNA		21.6		PNA	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		PNA		0.5	U	0.5	U	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		0.5	U	PNA	
BOD5	mg/L	NA	13		20		14		5		3	U	<2		12		4		PNA		3		PNA		2		PNA		2	U	PNA		2	U	PNA		2	U	PNA		3		PNA		2	U	PNA	
COD	mg/L	NA	169		PNA		70		PNA		60		25.7		26.8		39.2		PNA		10	U	PNA		18.2		PNA		10	U	PNA		10	U	PNA		12.4		PNA		29.9		PNA		10	U	PNA	
Color	units	NA	5	U	5	U	10		15		10		PNA		50		PNA		PNA		80		PNA		PNA		PNA		40		PNA		PNA		PNA		25		PNA		PNA		PNA		20		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		0.02	U	PNA		PNA		0.02	U	PNA		PNA		PNA		0.02	U	PNA		PNA		PNA		0.02	U	PNA		PNA		PNA		0.02	U	PNA	
Hardness as CaCO3	mg/L	NA	290		170		190		200		240		200		150		160		PNA		280		PNA		110		PNA		135		PNA		140	D	PNA		180	D	PNA		116	D	PNA		144	D	PNA	
Ammonia as N	mg/L	2.0	1.4		0.9		1.2		2.6		0.88		0.18		0.1	U	0.1	U	PNA		0.43		PNA		0.41		PNA		0.53		PNA		0.43		PNA		0.19		PNA		0.36		PNA		0.3		PNA	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		PNA		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	mg/L	10	1.8		PNA		1.6		PNA		0.5	U	0.1	U	0.16		0.1	U	PNA		0.27		PNA		0.22		PNA		0.48		PNA		0.2		PNA		0.36		PNA		0.37		PNA		0.16		PNA	
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	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		0.005	U	PNA	
Tot Dissolved Solids	mg/L	NA	340		PNA		300		PNA		330		147		198		198		PNA		198		PNA		176		PNA		160		PNA		138		PNA		186		PNA		157		PNA		177		PNA	
Tot. Kjeldahl Nitrogen	mg/L	NA	5.6		PNA		4.2		PNA		6.4		0.63		0.84		1.64		PNA		1.28		PNA		1.03		PNA		0.83		PNA		0.66	J	PNA		0.52		PNA		2.84		PNA		0.64		PNA	
Tot Organic Carbon	mg/L	NA	19		9.6		16		8.1		8.2		1.9		4.4		7.2		PNA		3.1		PNA		2		PNA		1	U	PNA		1		PNA		4.4		PNA		33.4		PNA		1.5		PNA	
Turbidity	NTU	NA	3.5		3500		3200		1500		1200		227		>1,000		1,000		PNA		>1,000		PNA		178		PNA		>1,000		PNA		>1,000		PNA		>1,000		PNA		>1,000		PNA		172		PNA	
Temperature	deg C	NA	15		16		16		16		14		14.8		15.93		15		PNA		13.96		PNA		12		PNA		14.28		PNA		13.87		PNA		13.85		PNA		14.01		PNA		13.94		PNA	
pH	units	6.5-8.5	7.3		6.4		6.3		7.9		6.6		8.21		6.84		6.12		PNA		6.42		PNA		6.96		PNA		6.61		PNA		7.31		PNA		6.09		PNA		5.93		PNA		6.01		PNA	
Spec. Cond	umho/cm	NA	520		440		530		530		510		PNA		PNA		538		PNA		334		PNA		124		PNA		347		PNA		237		PNA		364		PNA		223		PNA		385		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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-11B																													
			April 2005		Oct. 2005		Oct. 2006		April 2007		Oct. 2007		April 2008		Oct. 2008				April 2009				Oct. 2009				April 2010				Oct. 2010			
															Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Aluminum as Al	mg/L	NA	0.44		1.1		0.82		0.51		21.5		0.793		0.411		0.0087	UF	14.1		0.0	U	1.55		0.0177	U	7.03	J	0.0333	B	3.02		0.0626	B
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	0.0031	B	0.0	U	0.0021	U	0.0021	U	0.0028	U	0.0028	U	0.0029	U	0.0029	U
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	0.0115		0.0	U	0.0023	U	0.0023	U	0.0028	U	0.0028	U	0.0027	U	0.0027	U
Barium	mg/L	1	PNA		PNA		PNA		PNA		0.497		0.0346	B	0.0281	BE	0.0137	BF	0.134	B	0.0	B	0.0203	B	0.0083	B	0.0824	B	0.0104	B	0.0429	B	0.0076	B
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	0.00055	B	0.0	U	0.00026	U	0.00026	U	0.00017	U	0.0002	U	0.00016	U	0.00016	U
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	0.0219	B	0.0	B	0.0128	B	0.0122	B	0.0112	B	0.0128	B	0.0063	BJ	0.0074	B
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	0.00023	U	0.0	U	0.00034	U	0.00034	U	0.0003	B	0.0002	U	0.0007	B	0.00025	U
Calcium as Ca	mg/L	NA	70		36		68		72		37.8		12.3		10.5		10.3	F	27.1		21.70		6.18		5.33		22.5		19.50		11.3		9.12	
Chromium as Cr	mg/L	0.05	0.005		PNA		PNA		0.012		0.28		0.0192		0.0137		0.0024	BF	0.0618		0.0	B	0.0156		0.00044	U	0.0276		0.0009	B	0.0147		0.0011	B
Cobalt	mg/L	NA	PNA		PNA		PNA		0.026	B	0.002	B	0.00097	B	0.00097	B	0.00088	UF	0.009	B	0.0	U	0.0013	B	0.0012	U	0.0042	B	0.0012	U	0.0017	B	0.0013	U
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	0.0574		0.0	B	0.007	B	0.00083	U	0.0276		0.0054	B	0.0153	B	0.0036	B
Cyanide as CN	mg/L	0.20	0.02	U	PNA		PNA		0.02	U	PNA		0.01	U	0.01	U	PNA		0.01	U	PNA		PNA		PNA		0.01	U	PNA		PNA		PNA	
Iron as Fe	mg/L	0.3	140		65		75		44		34.7		18.1		14.3		0.0294	BF	36		0.036	B	5.8		0.231		14.2		0.047	B	5.89		0.188	
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	0.0975		0.0	B	0.0114		0.0018	U	0.105	J	0.0151		0.0434		0.0071	
Magnesium	mg/L	35 #	PNA		5.7		17		PNA		14.4		3.48		3.29	B	3.18	BF	9.74		5.3		2.34	B	1.73		4.02	B	1.6	B	2.79	B	1.39	B
Manganese as Mn	mg/L	0.3	4.0		0.3		6.1		1.3		2.7		0.442		0.257		0.0223	F	1.09		0.0793		0.137		0.0961		0.545		0.203		0.237		0.0811	
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	0.00028		0.0	U	0.0001	U	0.0001	U	0.00012	B	0.0001	U	0.0001	U	0.0001	U
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	0.0352	B	0.0	B	0.009	B	0.0024	B	0.0117	B	0.0010	U	0.0079	B	0.0013	B
Potassium	mg/L	NA	PNA		PNA		PNA		PNA		7.15		2.52	B	2.25	B	2.4	BF	5.2	E	3.668		1.62	B	1.39	B	3	B	1.7	B	2.32	B	1.2	B
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	0.0027	U	0.0	U	0.0025	U	0.0025	U	0.0042	U	0.0042	U	0.0032	U	0.0032	U
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	0.0006	U	0.0	U	0.00083	U	0.00083	U	0.0005	U	0.0005	U	0.00043	U	0.00043	U
Sodium as Na	mg/L	20	12		PNA		PNA		14		9.59		7.63		8.11		8.27	F	7.73		7.59		7.86		7.08		6.02		5.37		7.69		6.48	
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	0.0033	U	0.0	U	0.0032	U	0.0032	U	0.0056	U	0.0056	U	0.0036	U	0.0036	U
Vanadium	mg/L	NA	PNA		PNA		PNA		PNA		0.0848		0.0033	B	0.0022	B	0.00074	UF	0.0326	B	0.0	U	0.0037	B	0.0014	U	0.0155	B	0.0012	U	0.0078	B	0.0013	U
Zinc as Zn	mg/L	2 #	0.05		PNA		PNA		0.04		0.272		0.0156	B	0.0156	B	0.0228	F	0.156		0.0	B	0.0224		0.0084	B	0.0885		0.0040	B	0.0484		0.0098	B
Alkalinity tot CaCo3	mg/L	NA	340		110		360		270		25.5		36.7		34.4		PNA		61.8		PNA		20.2		PNA		69.6		PNA		26		PNA	
Chloride as Cl	mg/L	250.0	9.0		7.0		2	U	13		10.8		10.2		10.3		PNA		10.1		PNA		9.29		PNA		6.91		PNA		9.58		PNA	
Sulfate as SO4	mg/L	250.0	10		120		8		10		13.5		8.37		8.31		PNA		7.52		PNA		6.74		PNA		7.05	J	PNA		8.85		PNA	
Bromide	mg/L	2 #	PNA		PNA		PNA		PNA		0.5	U	0.5	U	0.5	U	PNA		0.5	U	PNA		0.5	U	PNA		0.5	U	PNA		0.5	U	PNA	
BOD5	mg/L	NA	18		12		9.4		6.4		3		14		2	U	PNA		3		PNA		2	U	PNA		2	U	PNA		2	U	PNA	
COD	mg/L	NA	200		PNA		PNA		40	U	150		31.7		10	U	PNA		276		PNA		30.3		PNA		107		PNA		99		PNA	
Color	units	NA	60		15		15		20		PNA		50		PNA		PNA		160		PNA		PNA		PNA		50		PNA		PNA		PNA	
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		PNA		0.02	U	PNA		0.02	U	PNA		PNA		0.02	U	PNA		PNA		PNA		0.02	U	PNA		PNA		PNA	
Hardness as CaCO3	mg/L	NA	240		110		240		250		48		60		68		PNA		180		PNA		27		PNA		75		PNA		50	D	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		0.21		PNA		0.36		PNA		0.15		PNA		0.16		PNA	
Nitrite as N	mg/L	NA	PNA		PNA		PNA		PNA		PNA		0.1	U	0.1	U	PNA		PNA		PNA		0.1	U	PNA		0.1	U	PNA		0.1	U	PNA	
Nitrate as N	mg/L	10	0.5	U	PNA		PNA		4.9		0.25		0.52		0.3		PNA		0.57		PNA		0.26		PNA		0.22		PNA		0.1	U	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		0.005	U	PNA		5	U	PNA		0.005	U	PNA		0.005	U	PNA	
Tot Dissolved Solids	mg/L	NA	340		PNA		PNA		400		85		83		75		PNA		120		PNA		83		PNA		104		PNA		60		PNA	
Tot. Kjeldahl Nitrogen	mg/L	NA	17		PNA		PNA		4.4		2.3		0.79		0.8		PNA		72		PNA		0.75		PNA		1.88	J	PNA		1.37		PNA	
Tot Organic Carbon	mg/L	NA	18		16		16		7.0		11.0		2.1		2.0		PNA		4.4		PNA		1	U	PNA		9.6		PNA		1.6		PNA	
Turbidity	NTU	NA	2.7		580		460		250		300		112		120		PNA		954		PNA		1,000		PNA		>1,000		PNA		>1,000		PNA	
Temperature	deg.C	NA	15		15		15		14		14.5		14.22		13		PNA		12.89		PNA		13.88		PNA		13.06		PNA		7.13		PNA	
pH	units	6.5-8.5	6.8		6.0		7.8		6.5		8.49		5.81		6.13		PNA		6.3		PNA		5.76		PNA		7.13		PNA		12.72		PNA	
Spec. Cond	umho/cm	NA	610		230		700		590		PNA		PNA		103		PNA		356		PNA		371		PNA		204		PNA		89		PNA	

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-11B																													
			April 2011		Oct. 2011																											
					Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Aluminum as Al	mg/L	NA	1.7		5.24		0.0686	B	2.22		0.0457	B																				
Antimony as Sb	mg/L	0.003 #	0.0031	B	0.0022	U	0.0023	B	0.0016	B	0.0052	B																				
Arsenic as As	mg/L	0.025	0.0019	U	0.0121		0.0018	U	0.0044	U	0.0044	U																				
Barium	mg/L	1	0.0516	BE	0.164	B	0.0274	B	0.0297	B	0.0084	B																				
Beryllium as Be	mg/L	0.003	0.0003	B	0.00013	U	0.00013	U	0.00012	U	0.00012	U																				
Boron as B	mg/L	1.0	0.074	BE	0.0351	BJ	0.0733	B	0.0083	B	0.0113	B																				
Cadmium as Cd	mg/L	0.005	0.00027	U	0.0016	B	0.00017	U	0.00018	U	0.00018	U																				
Calcium as Ca	mg/L	NA	113		46.1		42.3		5.48		4.69	U																				
Chromium as Cr	mg/L	0.05	0.02		0.0895		0.035		0.0186		0.0017	B																				
Cobalt	mg/L	NA	0.006	B	0.00044	U	0.00044	U	0.0011	B	0.00052	U																				
Copper as Cu	mg/L	0.2	0.0074	B	0.016	B	0.0007	B	0.008	B	0.0027	B																				
Cyanide as CN	mg/L	0.20	0.01	U	PNA		PNA		0.01	U	PNA																					
Iron as Fe	mg/L	0.3	2.26		50.4		0.433		5.01		0.107																					
Lead as Pb	mg/L	0.025	0.0106		0.0343		0.0083		0.0275		0.0077																					
Magnesium	mg/L	35 #	12.6		11.8		10.9		2.46	B	1.64	B																				
Manganese as Mn	mg/L	0.3	0.0936		4.82	EJ	0.0408		0.0953		0.0288																					
Mercury as Hg	mg/L	0.0007	0.01	U	0.0001	U	0.0001	U	0.00014	B	0.0001	U																				
Nickel as Ni	mg/L	0.1	0.0072	B	0.0598		0.0051	B	0.0055	B	0.0007	B																				
Potassium	mg/L	NA	8.19		7.43		7.61	J	1.62	B	1.41	B																				
Selenium as Se	mg/L	0.01	0.0026	U	0.0028	U	0.0028	U	0.0028	U	0.0035	B																				
Silver as Ag	mg/L	0.05	0.0006	B	0.00042	U	0.00042	U	0.00032	U	0.00032	U																				
Sodium as Na	mg/L	20	7.59		10.2		10.9		8.33		7.82																					
Thallium as Tl	mg/L	0.0005 #	0.0034	B	0.0034	U	0.0034	U	0.0032	U	0.0032	U																				
Vanadium	mg/L	NA	0.0058	B	0.0195	B	0.00021	U	0.0052	B	0.0004	B																				
Zinc as Zn	mg/L	2 #	0.03		0.0699		0.0103	B	0.0257		0.0029	B																				
Alkalinity tot CaCo3	mg/L	NA	301	D	163	D	PNA		12.8		PNA																					
Chloride as Cl	mg/L	250.0	6.44		8.72		PNA		10.4		PNA																					
Sulfate as SO4	mg/L	250.0	7.25		5	U	PNA		7.7		PNA																					
Bromide	mg/L	2 #	0.5	U	0.5	U	PNA		0.5	U	PNA																					
BOD5	mg/L	NA	2	U	2	U	PNA		2	U	PNA																					
COD	mg/L	NA	15.7		101		PNA		10	U	PNA																					
Color	units	NA	20		PNA		PNA		35		PNA																					
Chromium hex as Cr	mg/L	0.05	0.02	U	PNA		PNA		0.02	U	PNA																					
Hardness as CaCO3	mg/L	NA	310	D	228	D	PNA		30		PNA																					
Ammonia as N	mg/L	2.0	0.1	U	0.19		PNA		0.1	U	PNA																					
Nitrite as N	mg/L	NA	0.1	U	0.1	U	PNA		0.1	U	PNA																					
Nitrate as N	mg/L	10	1.04		1.25		PNA		0.17		PNA																					
Phenols as Phenol	mg/L	0.001	0.005	U	0.005	U	PNA		0.005	U	PNA																					
Tot Dissolved Solids	mg/L	NA	360		175		PNA		56		PNA																					
Tot. Kjeldahl Nitrogen	mg/L	NA	0.31		3.15		PNA		0.44		PNA																					
Tot Organic Carbon	mg/L	NA	4.3		44.1		PNA		1	U	PNA																					
Turbidity	NTU	NA	60		347		PNA		60.2		PNA																					
Temperature	deg.C	NA	13.73		13.18		PNA		13.84		PNA																					
pH	units	6.5-8.5	4.91		6.47		PNA		8.02		PNA																					
Spec. Cond	umho/cm	NA	565		90		PNA		95		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.

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
April 2012

ANALYTICAL	UNITS	GW	MW-12A																							
			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	
PARAMETERS		STND*									Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered		Unfiltered	Filtered		Unfiltered	Filtered
Aluminum as Al	mg/L	NA	0.11	0.09	0.31	0.17	0.21	PNA	0.1 B	PNA	0.0245 B	0.0 U	PNA	PNA	0.389	0.0196 U	PNA	0.225	0.107 B	PNA	0.0548 B	0.0391 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	0.0 U	PNA	PNA	0.0028 U	0.0028 U	PNA	0.0021 U	0.0022 B	PNA	0.0011 U	0.0013 B
Arsenic as As	mg/L	0.025	0.031	0.005 U	0.021	0.008	0.013	PNA	0.0 B	PNA	0.0026 U	0.0 U	PNA	PNA	0.0216	0.0028 U	PNA	0.0141	0.0019 U	PNA	0.0044 U	0.0044 U
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	PNA	0.0 B	PNA	0.0427 B	0.0 B	PNA	PNA	0.0615 B	0.0368 B	PNA	0.0747 BE	0.0640 B	PNA	0.0535 B	0.0475 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	0.0 U	PNA	PNA	0.00017 U	0.0002 U	PNA	0.00013 U	0.00017 B	PNA	0.00012 U	0.00012 U
Boron as B	mg/L	1.0	0.18	PNA	0.06	PNA	0.1	PNA	0.0 B	PNA	0.0462 B	0.0 B	PNA	PNA	0.0307 B	0.0336 B	PNA	0.0721 BE	0.0794 B	PNA	0.0695 B	0.0692 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	0.00027 B	0.0 U	0.00034 U	0.00034 U	0.00024 U	0.0002 U	0.00025 U	0.00027 U	0.00035 B	0.00017 U	0.00018 U	0.00018 U
Calcium as Ca	mg/L	NA	29	14	22	32	42	15.9	10.9	19.1	25.8	27.10	22.9	22.8	17.5	16.40	16.1	25	25.2	15.8	26.3	24.3
Chromium as Cr	mg/L	0.05	0.005 U	PNA	0.011	PNA	0.011	PNA	0.0 B	PNA	0.0011 B	0.0 B	PNA	PNA	0.0135	0.0006 B	PNA	0.0127	0.0138 B	PNA	0.0038 B	0.0014 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0 B	PNA	0.0012 B	0.0 B	PNA	PNA	0.0083 B	0.0042 B	PNA	0.0072 B	0.0052 B	PNA	0.0062 B	0.0051 B
Copper as Cu	mg/L	0.2	0.01	PNA	0.01 U	PNA	0.01	PNA	0.0 B	PNA	0.0016 B	0.0 B	PNA	PNA	0.0083 B	0.0049 B	PNA	0.005 B	0.262	PNA	0.0016 B	0.0009 B
Cyanide as CN	mg/L	0.20	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.0 U	PNA	0.1 U	PNA	PNA	PNA	0.01 U	PNA	PNA	0.01 U	PNA	PNA	0.01 U	PNA
Iron as Fe	mg/L	0.3	19	16	29	8.5	19	2.96	13.8	0.604	2.74	0.220	5.08	0.0902 B	28.4	0.041 B	0.537	16.8	4.730	2.61	2.08	0.134
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	0.0 U	0.0018 U	0.0018 U	0.013	0.0194	0.012	0.0025 B	0.0121 B	0.0079	0.0046	0.0056
Magnesium	mg/L	35 #	PNA	3.9	PNA	9.3	PNA	4.93B	3.5 B	6.98	9.82	10.3	7.64	7.56	4.94 B	4.7 B	4.4 B	7.51	7.61	3.93 B	7.27	6.8
Manganese as Mn	mg/L	0.3	0.7	0.34	1.2	1.1	1.7	0.194	0.125	0.217	0.15	0.16	0.179	0.179	2.56	2.30	1.6	3.9	3.630	1.98 E	4.3	3.86
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	0.0 U	PNA	PNA	0.0001 U	0.0001 U	PNA	0.0001 U	0.0001 U	PNA	0.0001 U	0.00017 B
Nickel as Ni	mg/L	0.1	0.01 U	PNA	0.01	PNA	0.02	PNA	0.0 B	PNA	0.0036 B	0.0 B	PNA	PNA	0.0089 B	0.0025 B	PNA	0.0153 B	0.0369 B	PNA	0.0084 B	0.0071 B
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	4.64 B	2.55 B	3.31 B	4.87 BE	5.1	3.26 B	3.34 B	3.31 B	2.8 B	6.36	9.9	10.2	5.78	8.16	7.58
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	0.0 U	PNA	PNA	0.0042 U	0.0042 U	PNA	0.0026 U	0.0026 U	PNA	0.0028 U	0.0028 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	0.0 U	PNA	PNA	0.0005 U	0.0005 U	PNA	0.00073 B	0.00052 U	PNA	0.0005 B	0.00037 B
Sodium as Na	mg/L	20	14	PNA	12	PNA	17	8.46	8.94	11.7	12	12.60	11.3	10.9	10.3	9.08	11	13.1	15.00	10.1	12.8	11.8
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	0.0 U	PNA	PNA	0.0056 U	0.0056 U	PNA	0.0027 U	0.0027 U	PNA	0.0032 U	0.0032 U
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0 B	PNA	0.0025 B	0.0 U	PNA	PNA	0.0136 B	0.0012 U	PNA	0.0121 B	0.0045 B	PNA	0.0016 B	0.00023 U
Zinc as Zn	mg/L	2 #	0.03	PNA	0.02	PNA	0.02	PNA	0.0 B	PNA	0.0163 B	0.0 B	PNA	PNA	0.0201	0.0030 B	PNA	0.0094 B	0.404	PNA	0.0016 B	0.0071 B
Alkalinity tot CaCo3	mg/L	NA	88	44	68	110	130	36	27	57.8	78	PNA	69.9	PNA	54.2	PNA	50 D	94 D	PNA	52.8 D	97 D	PNA
Chloride as Cl	mg/L	250.0	13	12	11	16	20	12.1	11	14.3	14.2	PNA	11.4	PNA	10.2	PNA	12.8	11.2	PNA	10.9	36.6	PNA
Sulfate as SO4	mg/L	250.0	55	27	24	35	34	20	17.3	26	28.8	PNA	21.7	PNA	21.6	PNA	20.3	22.8	PNA	14	19	PNA
Bromide	mg/L	2 #	PNA	PNA	PNA	PNA	PNA	0.5 U	0.5 U	0.5 U	0.5 U	PNA	0.5 U	PNA	0.5 U	PNA	0.5 U	0.5 U	PNA	0.5 U	0.5 U	PNA
BOD5	mg/L	NA	2.6	2.5	2 U	2.3	4.8	2	13	2 U	2 U	PNA	2 U	PNA	2 U	PNA	2 U	3	PNA	2 U	2 U	PNA
COD	mg/L	NA	60	PNA	40 U	PNA	40 U	10 U	10 U	10 U	10 U	PNA	10 U	PNA	10 U	PNA	10 U	10 U	PNA	10 U	10 U	PNA
Color	units	NA	5 U	5 U	10	5 U	10	PNA	70	PNA	30	PNA	PNA	PNA	40	PNA	PNA	40	PNA	PNA	20	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	0.02 U	PNA	PNA	PNA	<0.02 U	PNA	PNA	0.02 U	PNA	PNA	0.02 U	PNA
Hardness as CaCO3	mg/L	NA	110	51	85	120	150	61	60	52	190	PNA	90	PNA	75	PNA	62	105 D	PNA	86 D	104 D	PNA
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	1.09	PNA	0.1 U	PNA	0.36	PNA	1.0	2.68	PNA	0.85	1.82	PNA
Nitrite as N	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.1 U	0.1 U	PNA	PNA	0.1 U	PNA	0.1 U	PNA	0.1 U	0.1 U	PNA	0.1 U	0.1 U	PNA
Nitrate as N	mg/L	10	1.5	PNA	1.6	PNA	1.6	0.86	0.6	0.66	0.78	PNA	1.41	PNA	0.24	PNA	0.96	0.74	PNA	0.51	0.74	PNA
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	0.005 U	PNA	0.005 U	PNA	0.005 U	PNA	0.005 U	0.005 U	PNA	0.005 U	0.005 U	PNA
Tot Dissolved Solids	mg/L	NA	170	PNA	150	PNA	300	112	92	126	170	PNA	133	PNA	122	PNA	109	160	PNA	95	144	PNA
Tot. Kjeldahl Nitrogen	mg/L	NA	0.6	PNA	0.4	PNA	5.6	1.66	0.19	0.31	0.97	PNA	0.7	PNA	0.65	PNA	1.69	3.63	PNA	1.24	3.38	PNA
Tot Organic Carbon	mg/L	NA	2.1	1.5	2.5	3.4	2.7	1.4	1.5	1.1	1.9	PNA	1 U	PNA	1.5	PNA	1 U	2.3	PNA	15.4	1 U	PNA
Turbidity	NTU	NA	5.2	62	140	35	22	12.8	44.2	13.5	115	PNA	71.5	PNA	338	PNA	4.9	PNA	PNA	54.3	60.5	PNA
Temperature	deg.C	NA	15	14	14	14	13	12.7	13.46	12.94	12.29	PNA	11.97	PNA	12.67	PNA	12.3	PNA	PNA	13.86	13.05	PNA
pH	units	6.5-8.5	6.6	6.6	6.3	7.6	6.6	6.82	6.82	6.17	6.28	PNA	5.5	PNA	6.03	PNA	6.40	PNA	PNA	5.78	6.12	PNA
Spec. Cond	umho/cm	NA	240	150	200	270	390	PNA	PNA	167	225	PNA	275	PNA	208	PNA	145	PNA	PNA	199	325	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.

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
April 2012

ANALYTICAL PARAMETERS	UNITS	GW STND*	MW-12B																			
			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 Unfiltered	April 2012 Filtered
Aluminum as Al	mg/L	NA	0.26	0.45	0.07	0.1	0.14	PNA	0.6	PNA	0.0955 B	0.14 B	0.34	PNA	0.0656 B	PNA	1.61	0.0362 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	0.0021 U	0.0028 U	PNA	0.0041 B	PNA	0.0015 B	0.0011 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	0.0023 U	0.0028 U	PNA	0.0019 U	PNA	0.0044 U	0.0044 U
Barium	mg/L	1	PNA	PNA	PNA	PNA	PNA	PNA	0.0 B	PNA	0.0333 B	0.114 B	0.0286 B	PNA	0.0141 BE	PNA	0.16 B	0.137 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	0.00026 U	0.00017 U	PNA	0.00013 U	PNA	0.00012 U	0.00012 U
Boron as B	mg/L	1.0	0.07	PNA	0.02	PNA	0.01	PNA	0.1 B	PNA	0.0591 B	0.106	0.0188 B	PNA	0.0111 BE	PNA	0.103	0.101
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	0.00018 U
Calcium as Ca	mg/L	NA	15	10	8.9	8.9	11	8.18	24.8	18.1	23.8	32.5	8.67	6.32	8.22	15.8	41.6	39.2
Chromium as Cr	mg/L	0.05	0.047	PNA	0.011	PNA	0.022	PNA	0.0201	PNA	0.0027 B	0.0029 B	0.0086 B	PNA	0.0014 B	PNA	0.0397	0.0013 B
Cobalt	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0 U	PNA	0.0012 U	0.0012 U	0.0012 U	PNA	0.00049 U	PNA	0.0033 B	0.0007 B
Copper as Cu	mg/L	0.2	0.04	PNA	0.01	PNA	0.03	PNA	0.0 B	PNA	0.0015 B	0.0032 B	0.0069 B	PNA	0.00055 U	PNA	0.0109 B	0.002 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
Iron as Fe	mg/L	0.3	4.8	4.1	1	1.1	2.3	0.235	2.52	0.138	0.4	0.565	1	0.216	0.182	0.0516 U	4.91	0.027 B
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	0.0018 U	0.0239	0.0094	0.0015 U	0.0078	0.0144	0.0078
Magnesium	mg/L	35 #	PNA	2.8	PNA	2.8	PNA	4.32 B	11.1	7.09	13.2	11.1	2.46 B	1.76 B	2.56 B	5.49	12.3	11.6
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	0.0348	0.199	0.0346	0.0102 B	0.0057 BE	0.92	0.818
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	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	0.0096 B	0.0089 B	PNA	0.0014 B	PNA	0.0386 B	0.0181 B
Potasium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	0.832 B	3.48 B	2.02 B	2.25 BE	10.5	4.83 B	3.94 B	2.28 B	0.77 B	10.7	10.1
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	0.0025 U	0.0042 U	PNA	0.0026 U	PNA	0.0028 U	0.0031 BJ
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	0.00083 U	0.0005 U	PNA	0.00052 U	PNA	0.00032 U	0.00032 U
Sodium as Na	mg/L	20	10	PNA	7.9	PNA	9.5	6.68	12.8	10	14.2	16.5	8.47	8.22	8.96	11.8	19.2	19.9
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	0.0032 U	0.0056 U	PNA	0.0028 B	PNA	0.0032 U	0.0032 U
Vanadium	mg/L	NA	PNA	PNA	PNA	PNA	PNA	PNA	0.0 B	PNA	0.0014 B	0.0014 U	0.0029 B	PNA	0.0014 B	PNA	0.0096 B	0.0008 B
Zinc as Zn	mg/L	2 #	0.04	PNA	0.01	PNA	0.03	PNA	0.0 B	PNA	0.0173 B	0.0095 B	0.0142 B	PNA	0.0128 B	PNA	0.0109 B	0.0035 B
Alkalinity tot CaCo3	mg/L	NA	40	42	30	34	32	25.6	91.8	55	69.6	110	25.7	19 D	208	41.7	147 D	PNA
Chloride as Cl	mg/L	250.0	13	8	11	8	11	10.2	14.3	12.2	17.5	17.3	10.6	9.85	8.01	13.7	24.1	PNA
Sulfate as SO4	mg/L	250.0	32	14	11	16	15	11 U	22	17.5	43.7	46.7	10.6	8.47	8.56	19.9	47.2	PNA
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	PNA
BOD5	mg/L	NA	4.0	7.5	2 U	9.6	4.3	2 U	13	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	PNA
COD	mg/L	NA	40	PNA	40 U	PNA	40 U	10 U	16.9	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	PNA
Color	units	NA	5 U	5 U	10	5 U	10	PNA	20	PNA	5	PNA	10	PNA	5 U	PNA	20	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	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA	0.02 U	PNA
Hardness as CaC03	mg/L	NA	58	37	34	34	41	39	100	84	160	130	33	26 D	28 D	68 D	158 D	PNA
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	0.1 U	0.35	0.1 U	0.1 U	0.1 U	2.52	PNA
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	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	0.43	0.71	0.42	0.63	0.71	0.1 U	PNA
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	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	PNA
Tot Dissolved Solids	mg/L	NA	120	PNA	93	PNA	160	95	168	104	173	217	72	56	69	97	246	PNA
Tot. Kjeldahl Nitrogen	mg/L	NA	1.0	PNA	0.4	PNA	1.6	0.1 U	1.06	0.22	0.29	4.94	0.35	0.26	0.5 UD	0.19	4.6	PNA
Tot Organic Carbon	mg/L	NA	5.5	3.6	2.1	11	3.1	1 U	2	1 U	1.7	2.3	1 U	1 U	1 U	11.4	2.4	PNA
Turbidity	NTU	NA	2.4	30	7.0	13.0	15	6.62	38.7	13.5	17.4	23.6	6.4	18.1	PNA	12.7	100	PNA
Temperature	deg.C	NA	15	13	13	14	13	12.3	12.9	12.94	11.79	11.7	12.27	11.96	PNA	13.76	14.05	PNA
pH	units	6.5-8.5	6.3	6.6	6.1	7.3	6.8	6.96	5.64	6.17	6.2	5.55	6	6.16	PNA	5.95	6.12	PNA
Spec. Cond	umho/cm	NA	330	120	150	120	190	PNA	PNA	167	224	999	130	82	PNA	195	455	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.

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 2012

Parameters	Units	GW Standard*	MW-1A		MW-1B		MW-1C		MW-3A		MW-3B		MW-3C		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	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	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	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	0.005	U
Acrylonitrile	mg/L	0.005	0.005	U	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	0.005	U
1,1-Dichloroethene	mg/L	0.005	0.005	U	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
Iodomethane	mg/L	NA	0.005	U	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	U	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	U	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	0.006	B	0.005	U	0.005	U
Carbon disulfide	mg/L	NA	0.005	U	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	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
trans-1,2-Dichloroethene	mg/L	0.005	0.005	U	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
1,1-Dichloroethane	mg/L	0.005	0.005	U	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
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	0.005	U
2-Butanone	mg/L	0.005	0.005	U	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	0.003	BJ	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	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	0.005	U	0.005	U	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	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	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	0.001	U
1,2-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	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	0.005	U
1,2-Dichloropropane	mg/L	0.001	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
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	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	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	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	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	0.005	U
trans-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	0.0004	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	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	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	0.005	U
Dibromochloromethane	mg/L	0.005	0.005	U	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
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	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	0.005	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	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	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	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	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	0.005	U
Bromoform	mg/L	NA	0.005	U	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
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	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	0.003	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	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	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, Owever, 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

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 2012

Analytical Parameter	Leachate Collection (Primary)														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	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
Arsenic as As	NA	NA	NA	NA	NA	0.0398	0.0407	0.0021	0.0028B	0.156	<0.0028	<0.0027	0.0023 B	0.0048 B	< 0.0044	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
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	<0.005	<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
Calcium as Ca	82	59	160	110	99	115	99.8	73.1	69.8	291	57.4	80.9	68	70.3	72	83	61	96	82	75	583	117	111	71.5	142	63	104	67.8	85.5	74.6
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	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
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	0.0065	< 0.0033	0.0089	<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
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	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
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	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
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	58	17	39	19	36	214	20.5	32.3	10.7E	43.6	16.2	35.3	35.6	35.8	22.4
Sodium as Na	180	10	170	250	170	506	146	141	123	328	99.4	186	137	99.4	148	94	6.1	49	11	52	455	39	61.3	17.5	84.5	27.4	55.7	62.1	66.8	21.2
Alkalinity total CaCO3	1100	140	980	1300	980	2710	884	778	653	1640	556	820	771	605	808 D	570	130	300	210	480	2000	438	389	202	489	256	340	350 D	386 D	204 D
BOD5	NA	NA	NA	NA	NA	68	96	17	53	117	9	47	20	15	< 2	NA	NA	NA	NA	NA	NA	NA	257	42	555	<10	10	16	16	< 2
COD	180	220	210	240	150	829	455	178	69.2	549	62.6	163	125	94.4	141	120	380	<40	50	70	2600	257	138	154	743	<10	56.1	69.3	75.7	35.7
Chloride as Cl	210	16	160	250	210	495	310	158	152	399	107	227	156 D	122 D	193 D	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
Hardness as CaCO3	300	180	600	390	330	580	330	350	500	870	225	300	280 D	272 D	272 D	260	160	280	240	230	1000	330	320	620	440	210	310	230 D	272 D	260 D
Ammonia as N	140	1.8	110	160	110	263	9.92	107	1.66	179	81.4	99.8	46.7 D	41.4 D	75.3 D	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
Nitrite as N	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	<.1	<0.10	0.3	0.12	< 0.10	< 0.10	NA	NA	NA	NA	NA	NA	NA	0.29	NA	0.23	<0.10	<0.10	0.21	0.25	0.19
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	<0.5	4.5	10	3.6	<0.5	1.04	2.71	2.47	0.29	8.62	<0.10	6.98	1.84 D	4.08 D	5.73 D
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	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
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	NA	NA	NA	NA	NA	18,200	10,300	5	0.0058	0.0079	<0.005	<0.005	< 0.005	0.0143	< 0.005
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	<25	52	80	45	20	282	64.4	65.6	45.3	105	15.4	48.8	22.3	13.4	15.9
Total Dissolved Solids	930	340	1300	1300	970	2180	772	690	710	1520	570	925	875	592 D	782 D	610	280	730	390	480	2350	468	465	332	762	302	559	508	488 D	357
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	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
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	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
Turbidity NTU	6.5	5.8	440	570	610	NA	NA	NA	NA	1,000	250	815	900	> 1,000	244	5.9	5.5	15	2.4	120	NA	NA	NA	NA	976	20.9	77.3	78	55	20.8

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.

TOWN OF SOUTHAMPTON
NORTH SEA LANDFILL

TABLE 4

GROUNDWATER ELEVATIONS
April 2012

Monitoring	* Casing	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	
Well Number	Elevation	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
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
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
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	–
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
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
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
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
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
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
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	–
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	–
MW-5C	74.33	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	–
MW-6AR	NS	NM	–	NM	–	NM	–	91.28	12.18	NM	–	90.23	–	91.13	–	91.67	–	90.82	–	90.47	–	88.80	–	90.12	–	90.99	–	91.67	–	91.58	–
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
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
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
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
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
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
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
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
MW-12A	NS	78.31	–	78.61	–	78.36	–	77.48	–	77.46	–	78.87	–	79.41	–	79.90	–	79.22	–	79.05	–	76.42	–	78.76	–	79.42	–	79.91	–	79.96	–
MW-12B	NS	79.19	–	79.47	–	79.23	–	78.37	–	78.35	–	79.46	–	80.04	–	80.50	–	79.82	–	79.64	–	77.01	–	79.34	–	80.02	–	80.50	–	85.80	–

NOTES:

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