



**PERIODIC REVIEW REPORT
(January 1, 2016 - March 31, 2017)**

**TOWN OF RAMAPO LANDFILL SITE
250 TORNE VALLEY ROAD
HILLBURN, ROCKLAND COUNTY, NEW YORK**

NYSDEC SITE NUMBER #344004; USEPA CERCLIS ID NYD000511493

Prepared for:

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and

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April 28, 2017

"Serving our clients and the environment since 1993"

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CERTIFICATION

I, Mark P. Millspaugh, P.E., certify that I am a New York State registered professional engineer and that this Periodic Review Report (PRR) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in accordance with the DER-approved work plan and any DER-approved modifications.



Mark P. Millspaugh, P.E.



Date



EXECUTIVE SUMMARY

The Town of Ramapo Landfill (Landfill), located at 250 Torne Valley Road in the Village of Hillburn, Town of Ramapo, Rockland County, New York (refer to Figure 1), is a National Priorities List (NPL) site and is regulated by the United States Environmental Protection Agency (USEPA), CERCLIS ID NYD000511493. The Landfill property is also registered as a New York State Class 2 Inactive Hazardous Waste Disposal Site, Registry No. 344004.

The Landfill was placed on the Superfund National Priorities List (NPL) in September 1983. The USEPA issued a Record of Decision (ROD) dated March 31, 1992 (and modified in December 1997 (Explanation of Significant Difference (ESD)).

Between 1980 and 1988, the NYSDEC and the Town of Ramapo entered into four (4) Orders on Consent phasing out Landfill operations, constructing a surface water and groundwater diversion system and a leachate collection and transport system, and conducting a Remedial Investigation and Feasibility Study (RI/FS). The leachate collection system was completed along the downgradient edge of the Landfill in 1985. Leachate has been discharged to the Rockland County Sewer District (RCSD) No. 1 Publicly Owned Treatment Works (POTW) since 1996.

The selected remedies for the Landfill include Institutional Controls (IC) through a Declaration of Covenants and Restrictions that restricts disturbance of the Landfill cover and places restrictions on site use and offsite groundwater use restrictions, and onsite Engineering Controls (EC) provided by the Landfill cover and leachate collection systems, groundwater containment, fencing and access controls, air and water quality monitoring, regular inspections and maintenance activities. The Covenant of Restrictions and Environmental Easements were filed with the Rockland County Clerk on August 28, 2012 and October 10, 2012. Post-closure air and water quality monitoring, leachate removal, inspections and maintenance at the Landfill have been provided by the Town of Ramapo since 1999. A Site Management Plan (SMP) incorporates the Institutional/Engineering Control (IC/EC) Plan, the Inspection and Monitoring Plan, and the Operation and Maintenance Plan to provide for the continual post-closure monitoring and maintenance of the Landfill.

An annual Periodic Review Report (PRR) is required to document site management activities outlined in the SMP. This PRR covers the period January 1, 2016 to March 31, 2017.

The remedial program implemented at the Landfill has been successful in meeting the remedial objectives set forth in the RODs. Leachate generation and contaminant migration through groundwater has been reduced, contaminated surface runoff and direct human/animal contact with waste is eliminated, and Landfill gas migration/buildup is prevented.

Based on the results of activities performed in 2016 through March 2017, no changes to the approved SMP are recommended. The requirements for discontinuing site management have not been met. As such, continued compliance with the approved SMP is recommended.

1.0 INTRODUCTION

The Town of Ramapo Landfill (Landfill), located at 250 Torne Valley Road in the Village of Hillburn, Town of Ramapo, Rockland County, New York (refer to Figure 1), is a National Priorities List (NPL) site and is regulated by the United States Environmental Protection Agency (USEPA), CERCLIS ID NYD000511493. The Landfill property is also registered as a New York State Class 2 Inactive Hazardous Waste Disposal Site, Registry No. 344004.

The Landfill was placed on the Superfund National Priorities List (NPL) in September 1983. The USEPA issued a Record of Decision (ROD) dated March 31, 1992 (and modified in December 1997 (Explanation of Significant Difference (ESD)).

An annual Periodic Review Report (PRR) is required to document site management activities outlined in the Site Management Plan (SMP). This PRR covers the period January 1, 2016 to March 31, 2017 and includes the 2017 Post-Closure Monitoring (PCM) event, conducted between January 16 and 19, 2017. A Landfill inspection, air monitoring, leachate monitoring, groundwater monitoring, and an evaluation of institutional controls (IC) and engineering controls (EC) was completed in support of the 2017 PCM event.

1.1 Summary of Site History

The Landfill is approximately 80 acres of waste-fill within a 96-acre parcel owned by the Town of Ramapo. The Landfill is located at the western base of the Ramapo Mountains on Torne Valley Road and consists of two major lobes commonly known as the north and south lobes. Landfill slopes range from three (3) to thirty-three (33) percent. Property features are presented in Figure 2.

Prior to landfilling operations in the 1950s and 1960s, portions of the property were excavated for gravel. In 1971, the Town was permitted by the Rockland County Department of Health (RCDOH) to operate a sanitary landfill. Under various operators, municipal solid waste (MSW) was accepted until 1984 and construction and demolition (C&D) debris was accepted until 1989. Substances reportedly disposed at the Landfill include industrial and sewer sludge, municipal refuse, asbestos, construction and demolition (C&D) debris, yard debris, paint sludge (presumably from an automotive plant) and liquid waste (reportedly from a paper company).

The Landfill was placed on the Superfund National Priorities List (NPL) in September 1983. Between 1980 and 1988, the NYSDEC and the Town of Ramapo entered into four (4) Orders on Consent phasing out Landfill operations, constructing a surface water and groundwater diversion system and a leachate collection and transport system, and conducting a Remedial Investigation and Feasibility Study (RI/FS). The leachate collection system was constructed along the downgradient edge of the Landfill from 1984 to 1985. Initially, collected leachate was conveyed by pumps and lift stations to a wastewater treatment pond in the southwest corner of the Landfill property. After aeration and settling occurred, the water was discharged to the Ramapo River. Since 1996, leachate has been discharged to the Rockland County Sewer District (RCSD) No. 1 Publicly Owned Treatment Works (POTW).

In 1998, the Town of Ramapo subdivided the sections of the Landfill property that are used for the transfer facility, scale house, and leachate storage tank. The transfer facility and scale house properties were sold to the Rockland County Solid Waste Management Authority (RCSWMA) and the leachate storage tank property was sold to the RCSD.

The selected remedies for the Landfill include Institutional Controls (IC) through a Declaration of Covenants and Restrictions that restricts disturbance of the Landfill cover and places restrictions on site uses, and Engineering Controls (EC) provided by the Landfill cover and leachate collection systems, air and water quality monitoring, regular inspections and maintenance activities. The Covenant of Restrictions and Environmental Easements were filed with the Rockland County Clerk on August 28, 2012 and October 10, 2012. Post-closure water and air quality monitoring, leachate removal, inspections and maintenance at the Landfill have been provided by the Town of Ramapo since 1999. An existing Site Management Plan (SMP) incorporates the Institutional/Engineering Control (IC/EC) Plan, the Inspection and Monitoring Plan, and the Operation and Maintenance Plan to provide for the continual post-closure monitoring and maintenance of the Landfill.

1.2 Effectiveness of the Remedial Program and Compliance

The remedial program implemented at the Landfill has been successful in meeting the remedial objectives set forth in the Orders on Consent. Leachate generation and contaminant migration through groundwater has been reduced, contaminated surface runoff and direct human/animal contact with waste is eliminated, and Landfill gas migration/buildup is prevented.

1.3 Recommendations

Based on the results of activities performed in 2016 through March 2017, no changes to the approved SMP are recommended. The requirements for discontinuing site management have not been met. As such, continued compliance with the approved SMP, including additional required submittals and actions addressing the seeps, is recommended.

2.0 OVERVIEW

The following information was collected in support of the PCM of the Landfill:

- The Annual PCM inspection of the Landfill was performed by Sterling Environmental Engineering, P.C. (STERLING) during the 2017 sampling event. Site Location and Property Features Maps are provided as Figures 1 and 2. The 2017 Landfill inspection documents the physical integrity and stability of the Landfill cover system and assesses the condition and capability of existing surface water drainage and erosion control features at the Landfill. An Inspection Checklist and Institutional and Engineering Control Evaluation Form are provided in Appendix A. The NYSDEC Institutional and Engineering Controls Certification Form is provided in Appendix B while a photograph log was prepared to document observations during the Annual Site Inspection (Appendix C).
- The 2017 air quality monitoring event was conducted on January 16 to 19, 2017. Air monitoring locations are shown on Figure 3 and results are summarized on Table 1.
- Groundwater samples were collected from monitoring wells 1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, 8-OS, 8-I, 8-R, 9-OS, 9-I, 9-R, 10-OS, 10-I, 10-R, UP-OS, UP-I, UP-R, private water supply wells PW-1 and PW-2, and public water supply wells SVWC-93, SVWC-94, SVWC-95, and SVWC-96. Well locations are shown on Figure 3. The groundwater samples were analyzed for parameters listed in Table 2. A summary of field parameter measurements and analytical results for each well is summarized in Tables 3, 4, and 5; analytical reports are provided in Appendix D.

In addition, static water level readings were obtained at all of the sampled monitoring wells as well as monitoring wells 1-R, 2I, 2-R, 3-R, 4-I, 4-R, 5-OS, 5-I, 5-R, 6-I, 6-R, 7-I, and 7-R.

- Historical data for selected parameters (aluminum, beryllium, cadmium, copper, antimony, arsenic, chromium, iron, lead, magnesium, manganese, nickel, sodium, and thallium) are provided in tables 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19).
- Reported discharge volumes pumped from the groundwater/leachate extraction wells, located on the downgradient side of the Landfill, to the Rockland County Sewer District (RCSO) #1 Publicly Owned Treatment Works (POTW) were provided to STERLING by the Town of Ramapo. The information is provided in Table 20.
- Analytical results from 2009 through the 2017 sampling event for leachate/groundwater pumped to the POTW are provided in Appendix E and summarized in Table 21.

3.0 PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The Landfill has been subject to a SMP since March 1999. The SMP provides for regular site inspections, air, groundwater, and leachate monitoring, leachate collection and management, mowing, and Landfill gas management. Monitoring locations are shown on Figure 3.

3.1 Air Quality

Air quality monitoring consisted of measuring concentrations of explosive gas (measured in percent of lower explosive limit (LEL)), Hydrogen Sulfide (H_2S), and Volatile Organic Compounds (VOCs) in the headspace of each monitoring well, leachate manhole A-5, lift stations A-10 and W-20, and ambient breathing space at the Baler Building and along the Landfill perimeter at designated locations shown on Figure 3. Air quality monitoring results are summarized in Table 1. Explosive gas and H_2S measurements were obtained with a QRAE multi-gas monitor while VOC measurements were obtained with a miniRAE 3000 photoionization detector (PID).

VOC readings were observed in the interior of the Baler Building, located east of the upper Landfill gate. These VOC readings are less than 3 parts per million (ppm) and represent a background condition given the numerous trucks present within the building at the time the screening occurred. All other VOC, H_2S , and explosive gas readings are nondetect at or near the Landfill. No potential migration of landfill gases is observed. The January 2017 air quality monitoring survey for explosive gas, H_2S , and VOCs indicated the Landfill is in full compliance with the requirements set forth in 6 NYCRR 360-2.15(k)(4) and 2.17(f).

3.2 Groundwater Quality

3.2.1 Groundwater Analytical Results

All samples were analyzed by Alpha Analytical, located in Westborough, Massachusetts, following established methodologies and protocols. A copy of the analytical reports, prepared in accordance with NYSDEC Analytical Services Protocol (ASP) Category A reporting requirements, are provided in Appendix D.

Static water level and water quality field parameters (temperature, specific conductivity, pH, and oxidation-reduction potential (ORP)) readings were measured in the field and are presented on Table 3.

The summary of the 2017 PCM groundwater analytical results are provided on Tables 4 and 5. A duplicate sample was collected from intermediate monitoring well 8-I and is labeled “Duplicate”.

Analytical results for monitoring well samples are compared to the NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS 1.1.1), Ambient Water Quality Standards and Guidance Values (June 1998). No site related VOCs were detected at any of the shallow overburden monitoring wells (UP-OS, 1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, 8-OS, 9-OS, and 10-OS), intermediate overburden monitoring wells (UP-I, 3-OS/I, 8-I, 9-I, and 10-I) or bedrock monitoring wells (UP-R, 8-R, 9-R, and 10-R).

TOGS 1.1.1 exceedances were observed at six (6) shallow overburden monitoring wells (1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, and 8-OS), one (1) intermediate overburden monitoring well (8-I), one (1) upgradient bedrock monitoring well (UP-R), and two (2) of the downgradient bedrock monitoring wells (8-R and 9-R). A detailed summary of reported parameter exceedances is provided below.

Reported concentrations for the following parameters exceed the applicable water quality standard:

Parameter Exceeding Water Quality Standard (TOGS 1.1.1)	Onsite Monitoring Well Location (Analytical Result)
Chromium (0.05 mg/L)	1-OS (1.26 mg/L), 2-OS (0.23 mg/L), 3-OS/I (0.59 mg/L), 4-OS (0.21 mg/L), 7-OS (0.13 mg/L), and 8-OS (0.30 mg/L)
Iron (0.3 mg/L*)	UP-R (0.46 mg/L), 1-OS (10.4 mg/L), 2-OS (3.67 mg/L), 3-OS/I (8.56 mg/L), 4-OS (1.16 mg/L), 7-OS (0.81 mg/L), 8-OS (2.14 mg/L), 8-I (9.52 mg/L), 8-R (0.37 mg/L), and 9-R (0.97 mg/L)
Magnesium (35 mg/L)	8-R (47.4 mg/L)
Manganese (0.3 mg/L*)	1-OS (2.48 mg/L), 2-OS (0.09 mg/L*), 3-OS/I (0.52 mg/L), 4-OS (0.02 mg/L*), 7-OS (0.02 mg/L*), 8-OS (0.07 mg/L*), 8-I (1.56 mg/L), 8-R (0.26 mg/L*), and 9-R (1.66 mg/L)
Nickel (0.1 mg/L)	1-OS (0.62 mg/L), 2-OS (0.25 mg/L), and 3-OS/I (0.31 mg/L)
Sodium (20 mg/L)	1-OS (103 mg/L), 3-OS/I (25.9 mg/L), 4-OS (84.7 mg/L), 8-I (29.2 mg/L), 8-R (39.7 mg/L), and 9-R (50.4 mg/L)

* The sum of iron and manganese should not exceed 0.5 mg/L.

3.2.2 Concentration Versus Time Trends

Historical data tables of reported concentrations for specific inorganic parameters (aluminum, antimony, arsenic, beryllium, cadmium, copper, chromium, iron, lead, magnesium, manganese, nickel, sodium, and thallium) where water quality standards or guidance values are or have been exceeded are provided in Tables 6 through 19 and include time versus concentration plots to enable data trend analysis. Historical data for antimony (Table 10), arsenic (Table 11), beryllium (Table 7), cadmium (Table 8), copper (Table 9), lead (Table 14), and thallium (Table 19) are provided. Reported concentrations for these parameters were less than the applicable drinking water or TOGs water quality standard for all groundwater samples collected during the 2017 PCM event.

General trends indicate manganese and sodium are increasing with time while chromium, magnesium, nickel, and sodium are stable for applicable onsite monitoring wells. Concentrations of aluminum and iron are decreasing with time. No site related VOCs were detected at or above the respective laboratory method detection limits (Table 4). Analytical results for the drinking water supply well samples for the 2017 PCM sampling event indicate that there are no reported USEPA MCL and NYSDOH Part 5 exceedances at the public water supply wells.

The concentration trends over time for parameters with TOGS exceedances reported for this event are presented in plots shown in Tables 6, 12, 13, 15, 16, 17, and 18 and are summarized below:

Chromium (Table 12)

The following monitoring wells exceeded the TOGS 1.1.1 standard for chromium (0.05 mg/L): 1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, and 8-OS.

The following monitoring wells show an increasing trend over time: 1-OS, 2-OS, and 8-OS. The following monitoring wells show a slightly decreasing trend over time: 7-OS and 9-OS. The following monitoring wells show a relative stable trend over time: 4-OS, 9-R, 10-OS, 10-I, and 10-R. The review of historical chromium concentrations at wells 3-OS/I and 9-I revealed no discernible trend over time.

Iron (Table 13)

The following monitoring wells exceeded the TOGS 1.1.1 standard for iron: UP-R, 1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, 8-OS, 8-I, 8-R, and 9-R.

The iron concentration at UP-R (0.46 mg/L) slightly exceeds the TOGS 1.1.1 standard of 0.3 mg/L. The iron result at UP-R is significantly lower than historical results reported for the other upgradient bedrock monitoring well (5-R), which exhibited an average iron concentration of 5.52 mg/L and a maximum concentration of 28.1 mg/L.

The following monitoring well shows an increasing trend over time: 1-OS. The following monitoring wells show a decreasing trend over time: 2-OS, 3OS/I, 4-OS, 8-I, 9-I, and 10-I. The following monitoring wells show a relative stable trend over time: 7-OS, 8-R, 9-R, and 10-OS. The following wells show no discernible trend over time: 8-OS and 9-OS.

This is the first TOGS 1.1.1 exceedance for iron at monitoring well UP-R.

Magnesium (Table 15)

The following monitoring well exceeded the TOGS 1.1.1 standard for magnesium: 8-R. The magnesium concentration in well 8-R is slightly increasing over time.

Manganese (Table 16)

The following monitoring wells exceeded the TOGS 1.1.1 standard for manganese: 1-OS, 2-OS, 3-OS/I, 4-OS, 7-OS, 8-OS, 8-I, 8-R, and 9-R. Monitoring wells 4-OS, 7-OS, 8-OS, and 8-R did not exceed the individual groundwater standard for manganese; however, do exceed the combined groundwater standard for the sum of iron and manganese of 0.5 mg/L.

Although the 2017 manganese results were lower than 2015 results, the following monitoring wells show a slight increasing trend over time: 1-OS and 9-R. The following monitoring wells show a decreasing trend over time: 2-OS, 3-OS/I, 4-OS, 7-OS, and 8-OS. The following wells show a stable trend over time: 8-I, 8-R, 10-OS, 10-I, and 10-R.

Nickel (Table 17)

The following monitoring wells exceeded the TOGS 1.1.1 standard for nickel: 1-OS, 2-OS and 3-OS/I. Monitoring wells 1-OS and 2-OS show an increasing trend over time while the nickel concentration at monitoring well 3-OS/I shows no discernable trend over time.

Sodium (Table 18)

The following monitoring wells exceeded the TOGS 1.1.1 standard for sodium: 1-OS, 3-OS/I, 4-OS, 8-I, 8-R, and 9-R. The following monitoring wells show an increasing trend over time: 1-OS, 4-OS, 8-OS, 8-I, and 9-R. Monitoring well 8-R shows a decreasing trend over time for sodium while monitoring wells 2-OS, 3-OS/I, 7-OS, and 10-OS are stable trend over time for sodium. No discernable trend over time is observed in sodium concentrations at monitoring wells 9-OS, 9-I, 10-I, and 10-R.

There are no NYSDOH drinking water quality standard or designated limits for sodium. Water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets. The onsite and offsite monitoring wells are not used as a drinking water supply source.

Sodium is included on the USEPA's Drinking Water Contaminant Candidate List (CCL). The CCL is a list of contaminants which, at the time of publication, are not subject to any proposed or promulgated National Primary Drinking Water Regulation (NPDWR), are known or anticipated to occur in public water systems, and may require regulations under the Safe Drinking Water Act (SDWA).

3.2.3 Offsite Private Drinking Water Supplies / Offsite Public Water Supplies

Groundwater from PW-1 and PW-2 is utilized as a private drinking water supply while groundwater from SVWC-93, SVWC-94, SVWC-95, and SVWC-96 are utilized as a public water supply. The sodium results at PW-1 and PW-2 are below the Applicable or Relevant and Appropriate Requirements (ARAR) standard of 20 mg/L while sodium results for public water supply wells SVWC-93, SVWC-94, SVWC-95, and SVWC-96 have historically exceeded the ARAR for sodium and are increasing over time.

Analytical results for the private and municipal drinking water supply wells (PW-1, PW-2, SVWC-93, SVWC-94, SVWC-95, and SVWC-96) are compared to the New York State Department of Health (NYSDOH) 10 NYCRR Part 5 Maximum Contaminant Levels (MCLs) and the USEPA MCLs for Primary Drinking Water Regulations. No exceedances of NYSDOH or USEPA MCLs were noted at the private water supply wells or public water supply wells (Table 5 and Appendix D).

3.3 Leachate Quality

The 2017 analytical results for leachate/groundwater are summarized in Table 21 and are generally consistent with previous results. Leachate water quality is generally characterized by detectable to elevated concentrations of leachate indicators such as alkalinity, ammonia, COD, chloride, hardness, nitrate, sulfate, TDS, TKN, and TOC and inorganic parameters, including aluminum, antimony, barium,

boron, calcium, cobalt, iron, lead, magnesium, manganese, nickel, potassium, sodium, and zinc. Inorganic parameters that were not detected include: arsenic, chromium, copper, mercury, selenium, silver, and thallium.

4.0 INSTITUTIONAL/ENGINEERING CONTROL PLAN COMPLIANCE

The multiple institutional and engineering controls for the Landfill implemented by the RODs and documented in the SMP continue to be in place and performing as designed. These controls were reviewed and evaluated through this PRR.

4.1 Institutional Controls

Institutional Controls (IC) include non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to the potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of the remedial program or with the effectiveness and/or integrity of operation, maintenance or monitoring activities at or pertaining to the Landfill property.

An Institutional Control (IC) is any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to the potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of the remedial program or with the effectiveness and/or integrity of operation, maintenance or monitoring activities at or pertaining to the Landfill property. Types of ICs include, but are not limited to: environmental easements, deed restrictions, discharge permits, site security (other than fencing), local permits, Orders on Consent/decrees, zoning restrictions, hazardous waste site registry, deed notice, groundwater use restrictions, condemnation of property, and public health advisories.

The Covenant of Restrictions and Environmental Easements were filed with the Rockland County Clerk on August 28, 2012 and October 10, 2012. The Environmental Easements stay with the property in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of the property at a level that is determined to be safe for a specific use, while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the potential restriction of future uses of the land that are consistent with the ROD.

The following restrictions apply to the Landfill property (Parcel 39.19-1-3):

- There shall be no construction, use or occupancy that results in a disturbance or excavation that threatens the integrity of the engineering controls (ECs) described in Section 4.2, or which results in unacceptable human exposure to contaminated soils.
- The Owner shall not disturb, remove or otherwise interfere with the installation, use, operation and maintenance of ECs described in Section 4.2 unless a written waiver is obtained from the USEPA and NYSDEC for each occasion.
- The Owner shall prohibit land use from ever being used for purposes other than commercial/industrial use without the express written waiver by the USEPA and NYSDEC.
- The owner shall prohibit the use of underlying groundwater, without rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from

the USEPA and NYSDEC. This restriction also applies to Parcel 39.19-1-3.1, owned by Rockland County Sewer District #1, and Parcels 39.19-1-4 and 39.19-1-5, owned by Rockland County Waste Management Authority (Appendix B).

- The Owner shall provide an annual certification (see Section 2.3) prepared by a Professional Engineer or environmental professional acceptable to the USEPA and NYSDEC. The certification will document in-place ICs and ECs are unchanged from the previous certification, comply with the current SMP and have not been impaired.
- The Owner shall continue to implement and maintain the ICs and ECs identified in the SMP unless permission to discontinue such controls is granted from the USEPA and NYSDEC. This requirement also applies to Parcel 39.19-1-3.1, owned by Rockland County Sewer District #1, and Parcels 39.19-1-4 and 39.19-1-5, owned by Rockland County Waste Management Authority (Appendix B).
- All ICs and ECs shall be binding for present and all future owners. Any conveyance of the Landfill property or portions of the Landfill property are subject to the ICs and ECs.

4.2 Engineering Controls

Engineering Controls (EC) include physical barriers or methods employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of the remedial program, or eliminate potential exposure pathways to contamination. The following sections describe the ECs and their goals as part of the remedy for the Landfill from the ROD.

The ECs for the Ramapo Landfill to control the source of contamination and the generation of contaminated leachate include:

- A Landfill cover that includes layers of fill material, gas venting system, and an impermeable membrane.
- Groundwater extraction wells to supplement the existing leachate collection system.
- Leachate collection system for offsite treatment.
- Drainage swales to collect and divert surface water runoff downgradient of sections of the impermeable membrane installed on the Landfill slopes (Figure 4).
- Site security fencing to reduce trespassers on the Landfill property.

4.2.1 Landfill Cover System

Major components of the final cover system are a geomembrane barrier, secondary cushion geotextile, barrier protection soil layer, and a topsoil layer with vegetation.

The geomembrane barrier overlies the secondary cushion geotextile layer, which overlies the prepared existing subgrade, thereby covering the existing refuse mass and residual contaminated soil. The geomembrane barrier is overlain by another secondary cushion geotextile and a layer of 12 inches of low

permeability barrier protection soil. The barrier protection soil layer is overlain by a 6-inch topsoil layer and seeded to minimize soil loss. The Landfill slopes are graded to provide proper drainage with a slope range of 3-33%.

Installation of the standard Part 360 Landfill cover system minimizes infiltration of precipitation to wastes and the resultant generation of leachate, and prevents the release of previously disposed wastes. The cover system is regularly inspected by the Town of Ramapo to evaluate its performance and assess the physical condition of the following Landfill components: settlement and erosion of Landfill cover, vegetative growth, slope stability, damage due to presence of vector populations over or near Landfill cover (i.e., burrow holes), monitoring well and Landfill gas vent integrity, presence or absence of leachate outbreaks, surface water drainage structures, site fencing, gates and access roads, and evidence of trespassing. A completed Inspection Checklist and Institutional and Engineering Control Evaluation Form from the annual site inspection are provided in Appendix A. No damage to the Landfill cover system was observed. The Landfill appears secure, stable, and the Landfill cover was observed to be well maintained and remains in good condition. The Landfill was intact with no evidence of stressed vegetation or damage due to settlement or active vectors. No evidence was observed of significant settlement or evidence of erosion of the Landfill cover. Beyond the regular ongoing post-closure care, no actions or special maintenance is required for the Part 360 Landfill cover system at this time. There were no observed leachate discharges or iron-stained soils during the Annual Landfill Inspection. The stormwater drainage system appeared to be functioning as designed.

4.2.2 Leachate Collection System

All leachate collected from the slopes, drainage ditches and groundwater extraction wells flows by gravity to the leachate control building on the east side of Torne Valley Road, through a forcemain to the RCSD No. 1 POTW. The leachate collection/transfer system is designed and constructed to fully operate in an automatic mode. Extraction well and lift station locations are provided in Figure 7.

Individual pump controls are as follows:

1. Extraction Wells - Water Level Sensors
2. Lift Station and Pump Pit Pumps - Floaters with mercury switches sensing actual water levels (Inactive).

4.2.3 Groundwater Extraction Wells

The groundwater extraction wells are pumped to contain the contaminant plume that migrates from the Landfill. The groundwater extraction wells are located on the western side of the Landfill along Torne Valley Road between monitoring well clusters MW-3 and MW-8. The layout of the extraction well system is approximately 700 feet in length. Three (3) extraction wells, W-5, W-6 and W-7, are approximately 20 feet deep and screened in dense sand and partially into the upper two (2) feet of bedrock. The remaining extraction wells, W-1 through W-4, are deeper, ranging from 38 to 51 feet in depth and are screened in dense sand and partially into upper ten feet of bedrock (see Figure 7 for locations).

The Town hired a consultant, Roberge Electric (Roberge), to install a flow meter on Extraction Well W-3 to serve as a prototype. Installation was completed at the end of May 2016. After evaluation, the flow meter performance was determined to be satisfactory and the Town contracted with Roberge to equip the remaining extraction wells with similar flow meters. Roberge completed installation of six (6) other flow

meters at lift station A-7 and extraction wells W-1, W-2, W-4, W-7, and W-20 in mid-November 2016. Installation of flow meters at extraction wells W-5 and W-6 are scheduled to be completed in 2017. Once complete, each groundwater extraction point will be monitored and the records will include separate flow meter readings.

The leachate collection system is located along the perimeter of the waste mass. The perimeter leachate collection system continues to function as designed. Annual leachate/groundwater volumes pumped from the Landfill to the RCSD #1 POTW between 1995 and December 30, 2016 are summarized in Table 20. The total leachate/groundwater removed from the Landfill in 2016 (11,314,000 gallons) was directed through a forcemain to the RCSD No. 1 POTW for treatment. The total leachate/groundwater removed from the Landfill in 2015 was 14,591,000 gallons and the volume of leachate/groundwater pumped from the Landfill extraction wells from 2007 through 2016 has averaged slightly greater than 12.67 million gallons per year. The last three (3) years have had annual volume removals below the ten (10) year average while the 2016 extraction well discharge volume was the fourth lowest recorded since 1995.

4.2.4 Drainage Swales

Drainage swales at the Landfill collect and divert surface water runoff (Figure 4). Two (2) swales are located on the north lobe and two (2) swales are located on the south lobe of the Landfill. These swales divert runoff into wetlands, a retention pond, and Torne Brook.

4.2.5 Groundwater Monitoring Wells

Existing groundwater monitoring wells are located along the upgradient, crossgradient, and downgradient perimeter of the Landfill waste mass. The wells are used to monitor groundwater quality around the Landfill property. Monitoring wells are routinely checked for sediment buildup in the well using depth to bottom measurements and the integrity of the outer casing, lid and lock. These monitoring wells are sampled every fifth quarter for 6 NYCRR Part 360 Baseline Parameters for indication of contamination by the Landfill waste mass.

Overall, the monitoring well network is functioning as designed and the Town of Ramapo will continue the approved annual monitoring program.

4.2.6 Surface Water Runoff Features

Surface water runoff features are located on and around the Landfill property (Figure 4). Terraces and riprap downchutes on the Landfill waste mass direct stormwater runoff to the Landfill perimeter drainage ditches successfully preventing the occurrence of standing water on the Landfill. The surface water runoff is directed into perimeter drainage ditches into drainage basins to reduce particulates and sediment before it ultimately enters into the Torne Brook. These surface water runoff features are checked routinely by the Town of Ramapo for sediment buildup, overgrowth of vegetation, overflow of drainage ditches or basins, improper drainage of terraces and downchutes, and sloughing of the Landfill cover. Based on the observed conditions during the Annual Landfill Site Inspection, no corrective measures are needed for the surface water management features.

4.3 IC/EC Certification

As required by DER-10, Section 6.3(a), the completed and signed NYSDEC IE/EC Certification Form is provided as Appendix B. All ICs/ECs are in place and functioning as designed.

5.0 MONITORING PLAN COMPLIANCE

The Landfill was granted a post-closure monitoring variance by the NYSDEC on October 27, 2003, reducing the monitoring frequency to once every year with the monitoring event being rotated to the next quarter for each year. Monitoring includes collection of groundwater and leachate samples for analysis of 6 NYCRR Part 360 Baseline parameters, as well as water level measurements from select monitoring wells, and air quality monitoring. Monitoring wells and sample locations are shown on Figure 3. The following sections describe the monitoring requirements for air, groundwater, and leachate quality.

5.1 Air Quality Monitoring

Air quality monitoring includes field measurements of explosive gas, H₂S, and VOC concentrations in the headspaces of each monitoring well, leachate manhole A-5, lift stations A-10 and W-20, and ambient breathing space at the Baler Building and along the Landfill perimeter at designated locations (Figure 3) during each monitoring event. VOC analyses are also performed on collected groundwater and leachate samples. Results of the air quality monitoring are described in Section 3.1.

The air quality monitoring program meets the remedial objectives to evaluate the effectiveness of the selected remedy in that it provides a direct means to determine if Landfill gases are prevented from migration and buildup. The Town of Ramapo will continue air quality monitoring according to the approved SMP.

5.2 Groundwater Monitoring

Depth to water measurements were obtained at or near the Landfill perimeter to determine groundwater elevations in the shallow overburden and bedrock aquifer systems. Groundwater flow direction in the overburden aquifer is to the northwest and/or west towards Torne Brook (see Figure 5). Groundwater flow direction in the bedrock aquifer is similar (see Figure 6). Groundwater gradients are similar in both aquifer systems and downward vertical gradients are noted throughout the Landfill perimeter, except at monitoring well clusters 8 and 10, which were observed to be slight (MW-8) to moderately (MW-10) upward. These vertical gradients are consistent with historical trends.

A new monitoring well cluster was added to the monitoring network in November 2016. UP-OS, UP-I, and UP-R replaces the MW-5 cluster as the upgradient groundwater quality monitoring location for the Landfill. The screened interval, screened elevation, and total depth for the newly installed monitoring wells are listed as follows:

Well ID	Ground Surface Elevation (feet amsl)	Measuring Point Elevation (feet amsl)	Screened Interval (feet below grade)	Screened Elevation (feet amsl)	Total Depth (feet below grade)
UP-OS	532.66	538.89	10.0 - 20.0	522.66 - 512.66	20.5
UP-I	535.01	537.13	30.0 - 35.0	505.01 - 500.01	35.5
UP-R	536.48	535.59	106.9 - 111.9	429.58 - 424.58	112.1

The newly installed UP monitoring well cluster is upgradient to the Landfill and also exhibited upward vertical gradient conditions. In fact, monitoring well UP-R is considered as artesian and flowing above the installed measuring point.

Overall, the groundwater monitoring program meets the remedial objectives by providing suitable means to determine the effectiveness of the selected remedy. The Town of Ramapo will continue groundwater monitoring according to the approved SMP.

5.3 Leachate Monitoring

Through June 2011, leachate and groundwater from the Landfill extraction well network were pumped to the RCSD #1 POTW located at 4 Route 340, Orangeburg, New York. Starting in June 2011, leachate/groundwater collected by the Landfill extraction wells has been pumped to the RCSD #1 Western Ramapo Treatment Plant in Hillburn, New York. Analytical testing of the Landfill leachate/groundwater occurs on a biannual basis from a manhole located upstream of the discharge to the leachate wet well.

Analytical results from August 2009 through September 21, 2016 are summarized in Table 21. Reported parameter concentrations are compared with Maximum Contaminant Limits (MCL) set by RCSD #1. There are no discharge limit exceedances for any of the listed parameters between August 2009 and September 21, 2016.

Leachate/groundwater extracted from the Landfill and discharged to the RCSD #1 meets the industrial permit requirements for samples collected from August 2009 through September 21, 2016. Sampling of the discharge from the Landfill continues to be collected from the same location described above on a biannual basis (Figure 7).

6.0 OPERATION AND MAINTENANCE PLAN COMPLIANCE

The Operation and Maintenance (O&M) Plan for the Landfill, outlined in the SMP, consists of the following components:

- Repair, if necessary, of the Landfill cover system in accordance with approved specification materials and methods;
- Annual mowing of the vegetated cover system;
- Investigation of landfill cover system for evidence of sloughing, cracks, settlement, erosion and deposition, stressed vegetation, and undesirable vegetation;
- Vector control;
- Assess integrity of gas venting system;
- Investigate gas odors;
- Snow plowing and upkeep of the perimeter access road;
- Collection, removal and disposal of leachate;
- Preventative maintenance of leachate pumps;
- Repair or replacement, if necessary, of monitoring wells; and,
- Annual or more frequent clearing of drainage swales, ditches and downchutes.

Between January 1, 2016 and March 31, 2017, the following O&M activities were performed:

- Routine and annual inspections of the Landfill cap and cover materials, surface water drainage features, monitoring wells, leachate collection system, and the Landfill property;
- Mowing of the Landfill cover system;
- Regular leachate removal from onsite extraction wells for treatment at RCSD #1 (Table 20); and,
- Air, groundwater, and leachate quality monitoring performed on January 16 to 19, 2017.

Operation and maintenance of the property continues to protect human health and the overall integrity of the Landfill. There were no deficiencies in complying with the O&M Plan between the January 1, 2016 and March 31, 2017 reporting period. The components of the remedy subject to O&M requirements (Landfill cover, gas venting and leachate collection systems, and surface water runoff features) are functioning as designed. The integrity of the monitoring network remains intact although one of the downgradient shallow overburden monitoring wells (7-OS) is damaged. Regular inspections performed by Town of Ramapo personnel continue to show compliance with the remedy determined for the Landfill.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The Landfill continues to comply with the required activities set forth in the SMP for the subject reporting period. The ICs and ECs implemented at the Site continue to function as designed. The environmental monitoring plan for the Landfill is ongoing and remains in accordance with the approved variance granted by the NYSDEC in 2003. The Town of Ramapo will continue to perform regular inspections to maintain the integrity of the Landfill and surrounding property and protect human health and the environment.

The following conclusions are made based on observations and analytical results collected during the reporting period (January 1, 2016 through March 31, 2017):

- The Landfill appears secure, stable, and the Landfill cover is intact with no evidence of stressed vegetation, leachate discharges or damage due to settlement or active vectors.
- Thin patches of grassy cover are along the southwestern most sideslope of the Landfill.
- Three (3) damaged vents were observed on the Landfill (see Figure 4 for locations).
- Although the stormwater drainage system appeared to be functioning as designed vegetative growth is locally present along some sections of the Landfill's offsite drainage structures.
- There were no explosive gas or VOC detections at any of the monitoring wells, Landfill perimeter locations, and manholes. There were minor detections of VOCs within the Baler Building; however, these appear related to vehicle exhaust and do not indicate a release of landfill gas. These detections do not indicate migration of Landfill gases. The January 2017 air quality monitoring survey for explosive gas, H₂S, and VOCs indicated the Landfill is in full compliance with the requirements set forth in 6 NYCRR 360-2.15(k)(4) and 2.17(f).
- The cover for existing monitoring wells MW 3-R, 4-I, and 5-R do not close properly.
- Monitoring well MW-7-OS is damaged, apparently due to a semi truck turning around in the vicinity. The Town has placed several concrete deadman blocks between the well 7 cluster and

the turnaround area to serve as a protective barrier and maintain the integrity of monitoring wells in the future.

- The January 2017 air quality monitoring survey for explosive gas, H₂S, and VOCs indicated the Landfill is in full compliance with the requirements set forth in 6 NYCRR 360-2.15(k)(4) and 2.17(f).
- A new monitoring well cluster was added to the monitoring network in November 2016. UP-OS, UP-I, and UP-R replaces the MW-5 cluster as the upgradient monitoring location for the Landfill. The screened interval, screened elevation, and total depth for the newly installed monitoring wells are listed as follows:

Well ID	Screened Interval (feet below grade)	Screened Elevation (feet amsl)	Total Depth (feet below grade)
UP-OS	10.0 - 20.0	522.66 - 512.66	20.5
UP-I	30.0 - 35.0	505.01 - 500.01	35.5
UP-R	106.9 - 111.9	429.58 - 424.58	112.1

The newly installed UP monitoring well cluster is upgradient to the Landfill and also exhibited upward vertical gradient conditions. In fact, monitoring well UP-R is considered as artesian and flowing above the installed measuring point.

- Groundwater flow direction in the overburden and bedrock aquifer systems is to the northwest and/or west towards Torne Brook and the Ramapo River. Groundwater gradients are similar in both aquifer systems and downward vertical gradients are noted throughout the Landfill perimeter, except at monitoring well clusters UP, 8, and 10, which were observed to be slightly to moderately upward.
- No site-related VOCs were detected at or above the respective laboratory method detection limits.
- No exceedances of USEPA MCLs were noted at the private water supply wells or public water supply wells. The ARAR exceedance for sodium was reported at all public water supply wells, which is consistent with historical results.
- Applicable TOGS 1.1.1 standards were exceeded for chromium, iron, magnesium, manganese, nickel, and sodium at one or more monitoring wells.
- Historical trends are relatively consistent with the 2017 PCM analytical results. This was the first sampling event to include the newly installed upgradient monitoring well cluster (UP-OS, UP-I and UP-R). The iron concentration at UP-R (0.46 mg/L) slightly exceeds the TOGS 1.1.1 standard of 0.3 mg/L. The iron result at UP-R is significantly lower than historical results reported for the other upgradient bedrock monitoring well (5-R), which exhibited an average iron concentration of 5.52 mg/L and a maximum concentration of 28.1 mg/L.
- The volume of leachate/groundwater pumped from Landfill extraction wells to the RCSD #1 POTW has averaged slightly less than 12.7 million gallons per year from 2007 through 2016.

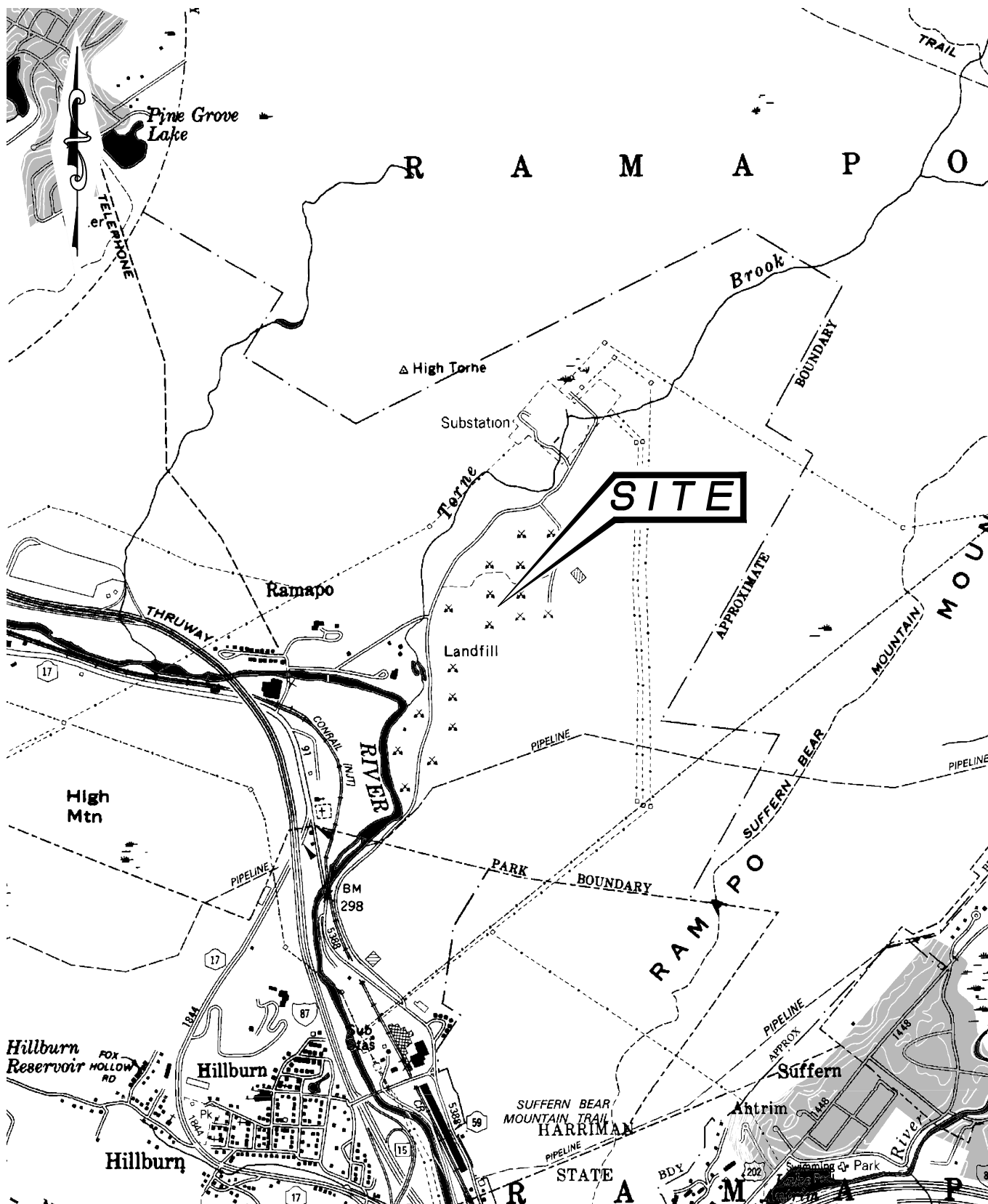
- There were no reported discharge limits exceedances for the leachate/groundwater extracted from the Landfill and pumped to the RCSD #1 POTW.

The following recommendations are made based on analytical results and observations during the reporting period:

- Excessive vegetative growth from the above stated areas should be periodically removed, as necessary, from stormwater drainage structures.
- Damaged vents should be refastened to extend above the Landfill cover, as originally designed.
- The inner monitoring well casing should be trimmed using an internal PVC cutter to re-establish the integrity and security of each monitoring point. The revised measuring point elevation will require resurveying of the vertical elevation to the nearest 0.01 foot. The surveying task requires the services of a NYS licensed Professional Land Surveyor (PLS).
- The protective casing and damaged portion of the riser pipe for shallow overburden monitoring well 7-OS should be replaced to re-establish well integrity and security. Once repaired, the revised top of casing elevation and measuring point elevation will require resurveying of the vertical elevation to the nearest 0.01 foot. The surveying task will require the services of a NYS licensed PLS.
- As a result of historical trends, it is recommended to continue monitoring in accordance with Site Management Plan requirements.

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FIGURES



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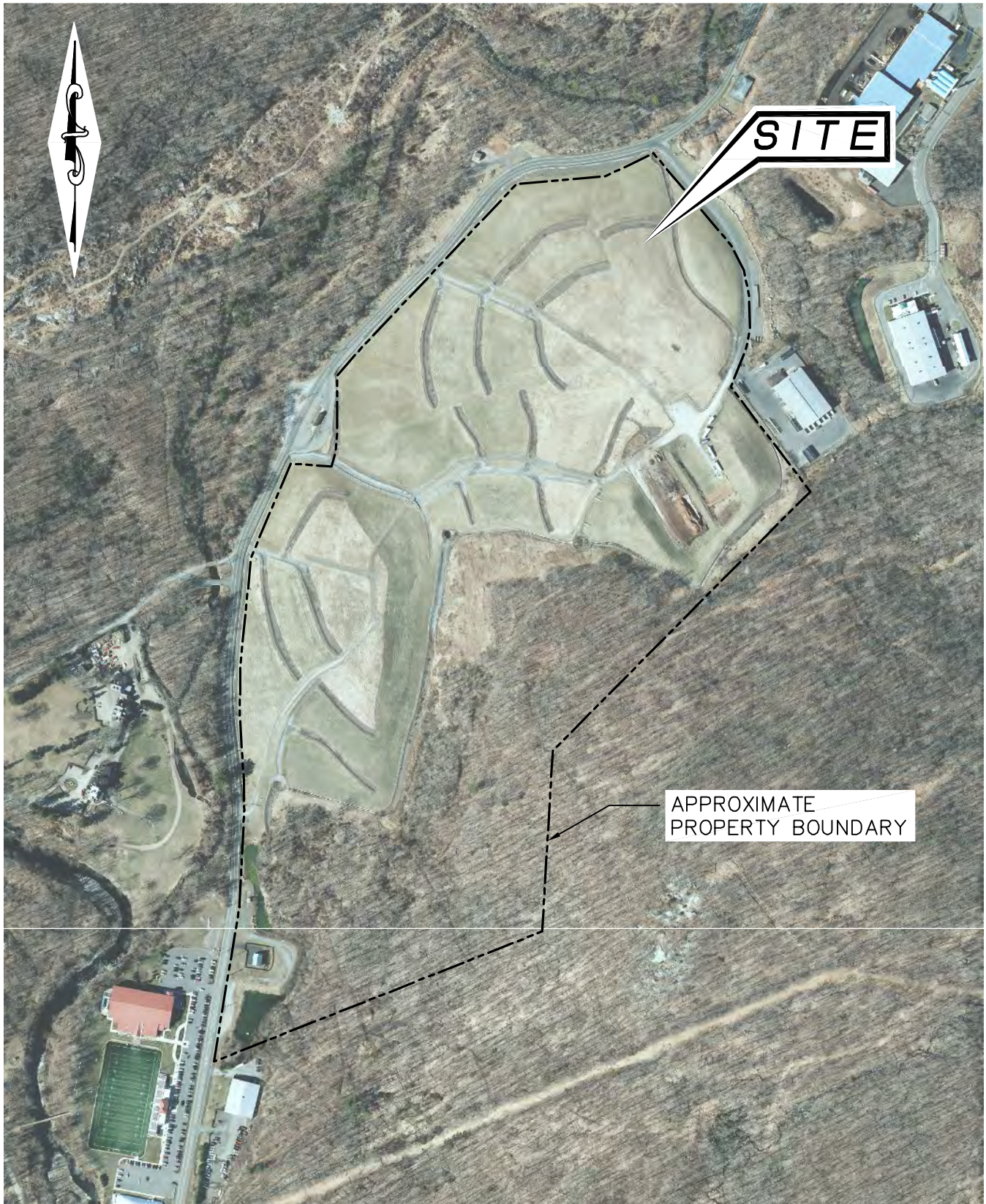
24 Wade Road • Latham, New York 12110

SITE LOCATION MAP TOWN OF RAMAPO LANDFILL

TOWN OF RAMAPO

ROCKLAND CO., N.Y.

PROJ. No.: 20010	DATE: 6-14-11	SCALE: 1" = 2000'	DWG. NO. 20010001	FIGURE 1
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MAP REFERENCE: NEW YORK STATEWIDE DIGITAL ORTHOIMAGERY PROGRAM, PHOTOGRAPHY CIRCA 2013.

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24 Wade Road ♦ Latham, New York 12110

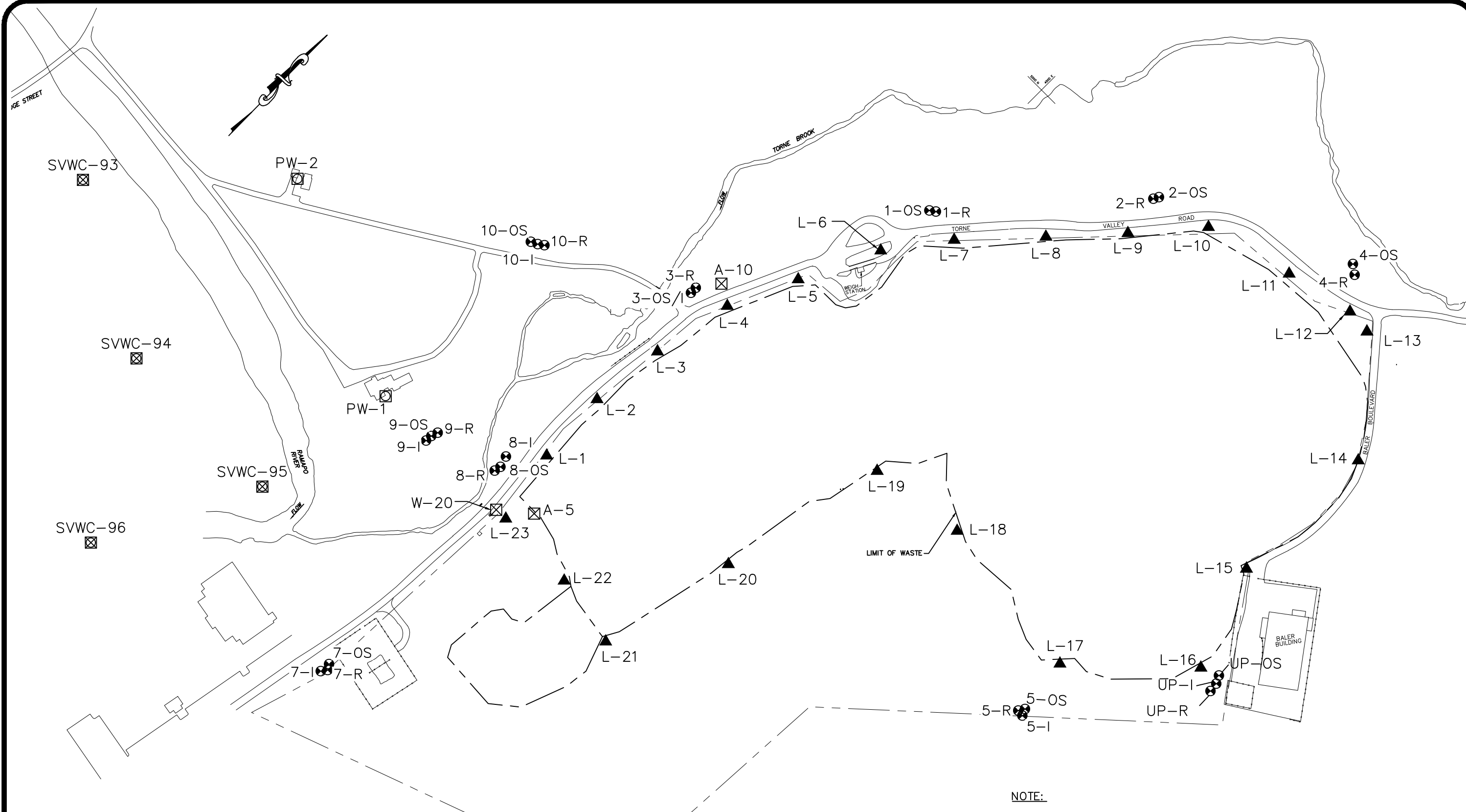
PROPERTY FEATURES
TOWN OF RAMAPO
LANDFILL

TOWN OF RAMAPO

ROCKLAND CO., N.Y.

PROJ. No.: 20010	DATE: 6/24/14	SCALE: 1" = 500'	DWG. NO. 20010036	FIGURE 2
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LEGEND:

- | | |
|-----------|---|
| 5-OS/UP-I | MONITORING WELL |
| PW-1 | EXISTING PRIVATE WATER SUPPLY WELL |
| SVWC-93 | EXISTING SUPPLY WELL (UNITED WATER/SUEZ-NA) |
| L-1 | LANDFILL PERIMETER AIR MONITORING POINT |
| A-10 | ON-SITE RECEPTOR STRUCTURE |

NOTE:

1. BASE MAP FROM DWG. NO. 32, MODIFICATIONS TO LEACHATE COLLECTION SYSTEM PLAN, BY URS CONSULTANTS, INC., BUFFALO, NY, JUNE 1994.

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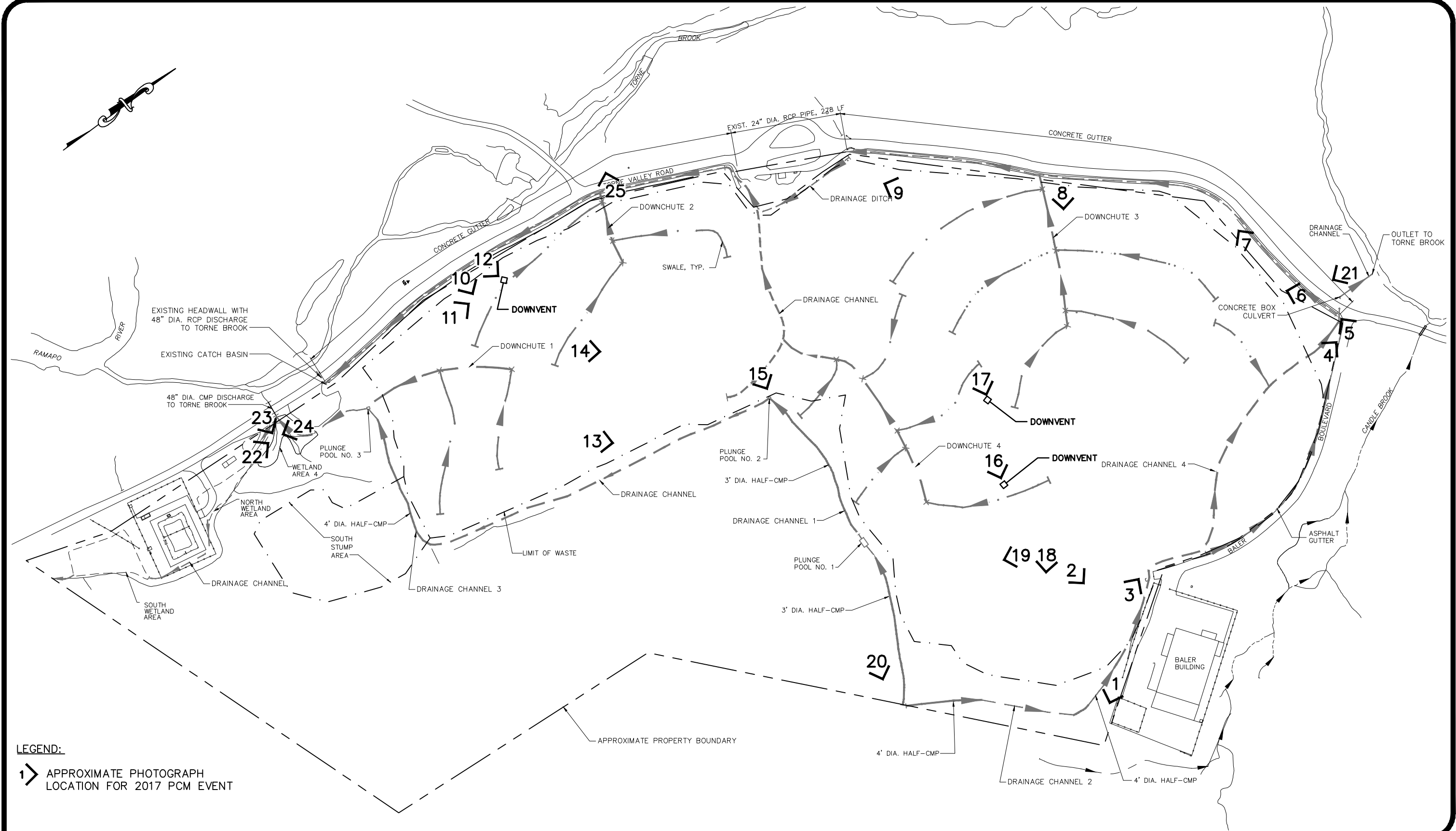
GROUNDWATER MONITORING WELLS AND
AIR QUALITY MONITORING LOCATIONS
TOWN OF RAMAPO LANDFILL

TOWN OF RAMAPO

ROCKLAND CO., N.Y.

PROJ. No.: 20010 | DATE: 10/14/16 | SCALE: N.T.S. | DWG. NO. 20010037 | FIGURE 3

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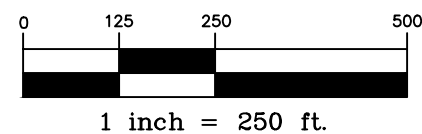


LEGEND:

- 1) APPROXIMATE PHOTOGRAPH LOCATION FOR 2017 PCM EVENT

NOTES:

1. BASE MAP FROM DWG. NO. 31, SURFACE DRAINAGE PLAN, BY URS CONSULTANTS, INC., BUFFALO, NY, JUNE 1994.
2. INFORMATION SHOWN FOR EXISTING PIPE SIZES ARE AS PROVIDED B A.R. SPARACO, JR., P.L.S., POMONA, NEW YORK



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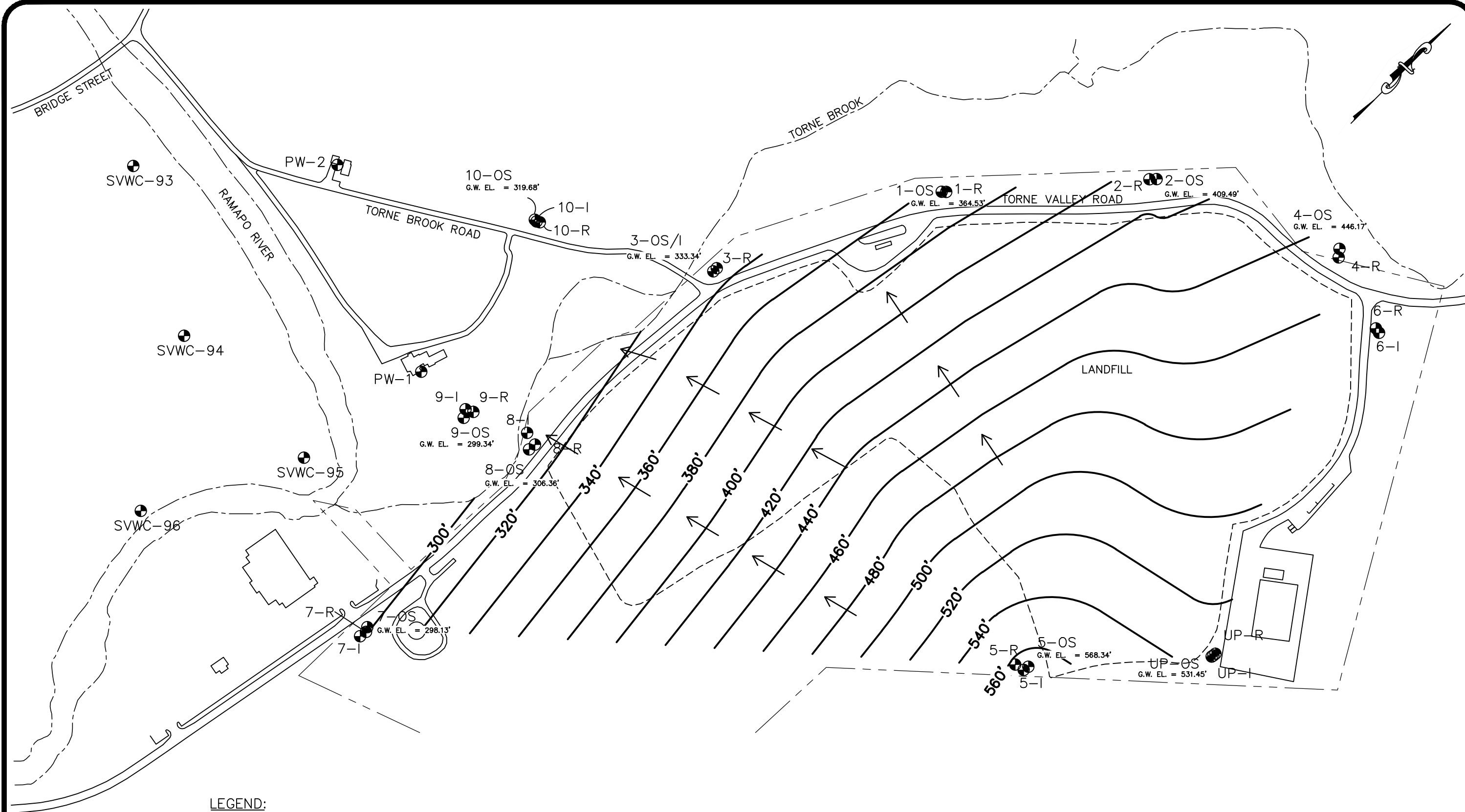
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SURFACE WATER DRAINAGE AND EROSION
CONTROL FEATURES, WITH PHOTOGRAPH LOCATIONS
TOWN OF RAMAPO LANDFILL

TOWN OF RAMAPO

ROCKLAND CO., N.Y.

PROJ. No.: 20010 | DATE: 2/6/2017 | SCALE: 1" = 250' | DWG. NO. 20010046 | FIGURE 4



LEGEND:

● 1-OS
G.W. EL. = 364.53'

MONITORING WELL
GROUNDWATER ELEVATION FOR JANUARY 2017 MONITORING EVENT

----- APPROXIMATE LANDFILL COVER SYSTEM BOUNDARY

----- APPROXIMATE LANDFILL PROPERTY BOUNDARY

460' ——— GROUNDWATER ELEVATION CONTOUR

← GROUNDWATER FLOW DIRECTION

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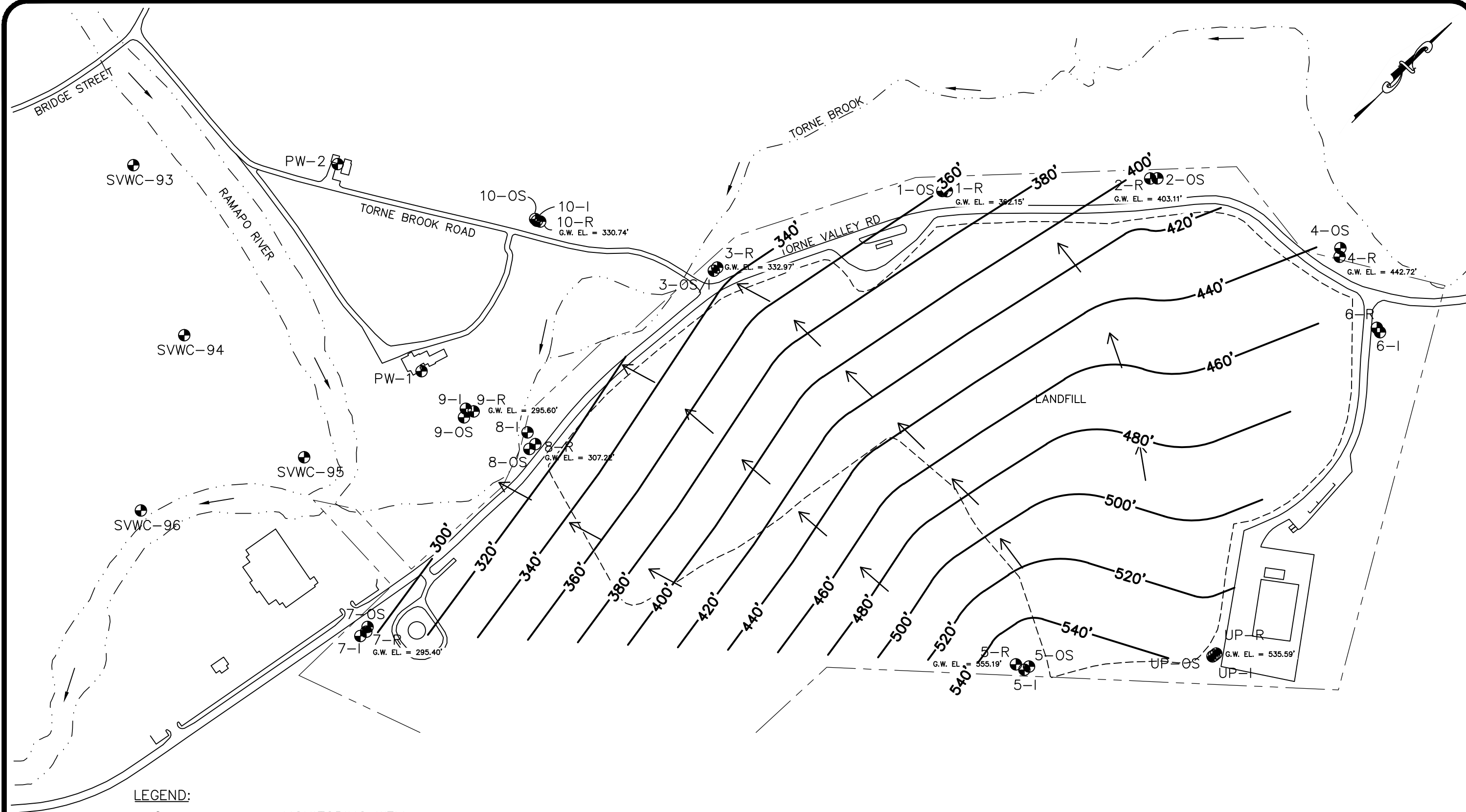
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SHALLOW OVERBURDEN AQUIFER GROUNDWATER
ELEVATION CONTOURS – JANUARY 2017
TOWN OF RAMAPO
LANDFILL

TOWN OF RAMAPO

ROCKLAND CO., N.Y.

PROJ. No.: 20010 | DATE: 1/31/2017 | SCALE: 1" = 300' | DWG. NO. 20010044 | FIGURE 5



- LEGEND:**
- 1-R**
 G.W. EL. = 360.79'
 - MONITORING WELL
 GROUNDWATER ELEVATION FOR JANUARY 2017 MONITORING EVENT
 -
 - APPROXIMATE LANDFILL COVER SYSTEM BOUNDARY
 - - - - -
 - APPROXIMATE LANDFILL PROPERTY BOUNDARY
 - 360'** —————
 - GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - ←
 - GROUNDWATER FLOW DIRECTION

STERLING

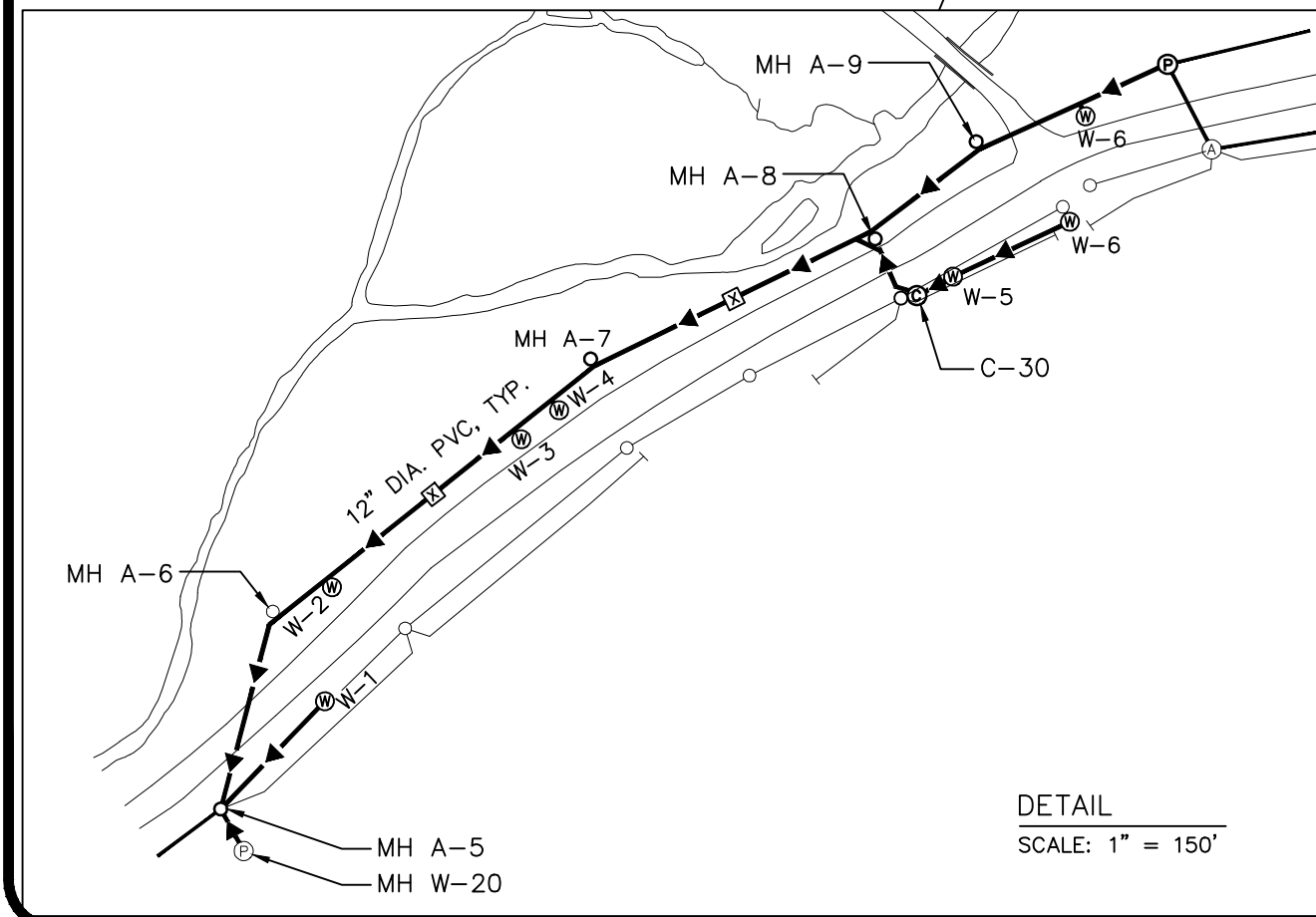
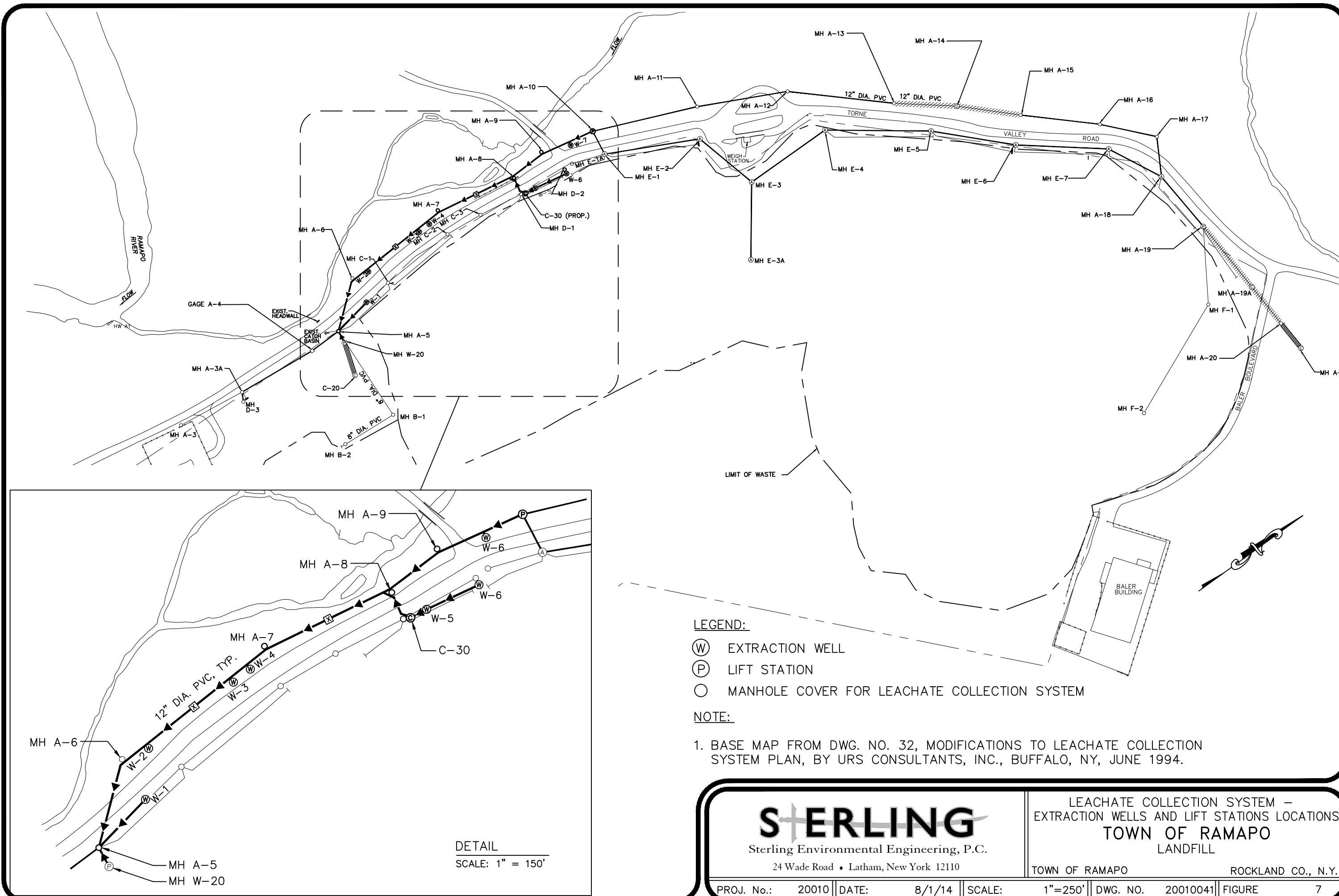
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BEDROCK AQUIFER GROUNDWATER ELEVATION
 CONTOURS – JANUARY 2017
TOWN OF RAMAPO LANDFILL

TOWN OF RAMAPO ROCKLAND CO., N.Y.

PROJ. No.: 20010 | DATE: 2/21/2017 | SCALE: 1" = 300' | DWG. NO. 20010045 | FIGURE 6

S:\Drawings\20010 - Town of Ramapo\20010041_ ExtractionWellLoc.dwg 2/21/2017 2:55 PM



STERLING Sterling Environmental Engineering, P.C. 24 Wade Road • Latham, New York 12110		LEACHATE COLLECTION SYSTEM – EXTRACTION WELLS AND LIFT STATIONS LOCATIONS TOWN OF RAMAPO LANDFILL		
		TOWN OF RAMAPO	ROCKLAND CO., N.Y.	
PROJ. No.: 20010	DATE: 8/1/14	SCALE: 1"=250'	DWG. NO. 20010041	FIGURE 7

TABLES

TABLE 1

Summary of Air Monitoring Results
January 16, 17, 18, and 19, 2017
Town of Ramapo Landfill

Monitoring Location ⁽¹⁾	LEL Reading (% LEL)	H₂S Reading (ppm)	PID Reading (ppm)
Monitoring Wells:			
1-OS	0	0	0
1-R	0	0	0
2-OS	0	0	0
2-R	0	0	0
3-OS/I	0	0	0
3-R	0	0	0
4-OS	0	0	0
4-I	0	0	0
4-R	0	0	0
5-OS	0	0	0
5-R	0	0	0
6-I	0	0	0
6-R	0	0	0
7-OS	0	0	0
7-I	0	0	0
7-R	0	0	0
8-OS	0	0	0
8-I	0	0	0
8-R	0	0	0
9-OS	0	0	0
9-I	0	0	0
9-R	0	0	0
10-OS	0	0	0
10-I	0	0	0
10-R	0	0	0
UP-OS	0	0	0
UP-I	0	0	0
UP-R	0	0	0
Baler Building (North Corner)	0	0	0.4
Baler Building (East Corner)	0	0	0.3
Baler Building (South Corner)	0	0	0.3
Baler Building (West Corner)	0	0	0.1
Manhole A-5	0	0	0
Lift Station A-10	0	0	0
Lift Station W-20	0	0	0
Landfill Perimeter (Breathing Zone)	0	0	0

NOTES:

LEL = Lower Explosive Limit (for Explosive Gas)

H₂S = Hydrogen Sulfide

PID = Photoionization Detector (measures VOCs)

ppm = parts per million

⁽¹⁾ See Figure 3 for Air Monitoring Locations

TABLE 2

**Summary of Analytical Parameters and Method References
Town of Ramapo Landfill**

<u>Parameter</u>	<u>Document/Method No.</u>	<u>Reference</u>
Specific Conductance	120.1	1
Temperature	170.1	1
Static Water Level	---	---
Floaters or Sinkers	---	---
pH	150.1	1
Eh	D1498	2
Field Observations	---	---
TKN	351.3	1
COD	5220D	1
Alkalinity	2320B	1
Hardness as CaCO ₃	130.1	1
Site Related Volatiles:		
1, 1-Dichloroethane	624	1
Vinyl Chloride	624	1
Benzene	625	1
Chlorobenzene	625	1
TAL Metals	NYSDEC ASP	1

References:

1. New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) 9/89, 12/91 Revisions
2. American Society for Testing & Materials, ASTM, 1989

--- Parameters will be measured by Field Personnel or Reference is not available

Notes:

- (1) Revised in Accordance with the NYSDEC's October 27, 2003 post-closure monitoring variance approval
- (2) Laboratory reporting limits (RL) must be equal to or less than the applicable water quality standard. Specifically, the RL for Antimony must be 3.0 ug/L or less and for Thallium must be 0.5 ug/L or less.

TABLE 3

**SUMMARY OF FIELD PARAMETER MEASUREMENTS (1/16/17 to 1/19/17)
TOWN OF RAMAPO LANDFILL**

Parameter		Static Water Level ¹	Specific Conductivity	Temperature	pH	ORP	Turbidity
Units		feet	mS/cm ^{c or 3}	degrees C	pH Units	mV	NTU
Title 6 Part 703.5 Groundwater Standard		--	--	--	6.5<pH< 8.5	--	5.0
Well Sample ID	Date						
1-OS	1/18/2017	14.68	0.934	6.21	8.0	205.7	182.30
1-R	1/18/2017	17.44	---	---	---	---	---
2-OS	1/18/2017	13.25	0.841	8.24	7.5	175.5	50.65
2-I	1/18/2017	15.70	---	---	---	---	---
2-R	1/18/2017	18.90	---	---	---	---	---
3-OS/I	1/19/2017	12.43	1.104	4.50	6.0	246.5	130.10
3-R	1/19/2017	12.54	---	---	---	---	---
4-OS	1/18/2017	6.25	0.999	6.61	7.1	201.4	28.61
4-I	1/18/2017	7.96	---	---	---	---	---
4-R	1/18/2017	10.12	---	---	---	---	---
5-OS	1/16/2017	16.53	---	---	---	---	---
5-I	1/16/2017	18.24	---	---	---	---	---
5-R	1/16/2017	29.56	---	---	---	---	---
6-I	1/18/2017	16.42	---	---	---	---	---
6-R	1/18/2017	29.50	---	---	---	---	---
7-OS	1/19/2017	11.30	0.435	11.26	7.7	166.0	5.39
7-I	1/18/2017	12.25	---	---	---	---	---
7-R	1/18/2017	13.95	---	---	---	---	---
8-OS	1/19/2017	13.85	0.318	8.13	8.3	207.3	25.23
8-I	1/19/2017	14.54	0.395	10.70	7.0	178.2	137.50
8-R	1/19/2017	13.30	1.225	9.56	7.7	174.3	6.66
9-OS	1/18/2017	8.66	0.156	8	6.1	271.4	6.78
9-I	1/18/2017	10.55	0.212	9.69	6.5	288.3	1.89
9-R	1/18/2017	11.75	0.738	8.46	7.0	258.5	19.15
10-OS	1/17/2017	12.34	0.101	7.43	6.6	299.6	19.2
10-I	1/17/2017	11.49	0.151	6.45	6.7	250.3	6.33
10-R	1/17/2017	10.91	0.156	7.06	7.0	189.8	10.78
UP-OS	1/17/2017	7.44	0.269	4.16	6.6	215.7	32.21
UP-I	1/17/2017	8.26	0.223	5.41	7.2	171.8	7.23
UP-R	1/17/2017	0.00	0.173	6.26	7.5	165.5	17.49
PW-1	1/16/2017	---	0.231	10.55	6.8	162.9	9.31
PW-2	1/16/2017	---	0.281	10.43	7.0	150.0	10.87
SVWC-93	1/16/2017	---	0.563	11.69	6.6	132.4	5.67
SVWC-94	1/16/2017	---	0.745	10.11	6.5	228.2	3.29
SVWC-95	1/16/2017	---	0.517	9.94	6.6	123.5	0.47
SVWC-96	1/16/2017	---	0.554	10.27	6.5	165.8	3.68

NOTES :

¹ Measured from the top of the PVC or stainless steel well casing to water surface.

² Monitoring Well UP-R has artesian well characteristics. The static water level was exactly at the measuring point elevation.

Value in **BOLD** indicates an exceedance of applicable water quality standard or guidance value.

--- Denotes no standard or not measured.

Table 5

Summary of Analytical Results for Downgradient Drinking Water Supply Wells (January 16, 2017)
Town of Ramapo Landfill, Hillburn, New York

Analyte	Units	NYDOH Part 5 ¹	USEPA MCLs ²	PW-1 1/16/2017	PW-2 1/16/2017	SVWC-93 1/16/2017	SVWC-94 1/16/2017	SVWC-95 1/16/2017	SVWC-96 1/16/2017
General Chemistry									
Alkalinity, Total	mg/L	---	---	25.4	53.6	60.2	56.6	51.7	58.1
Chemical Oxygen Demand	mg/L	---	---	2.7 U	5.8 J	5.8 J	10	10	5.8 J
Hardness	mg/L	---	---	33.23	70.33	106.4	88.79	89.89	102.5
Total Kjeldahl Nitrogen	mg/L	---	---	0.108 J	0.209 J	0.093 J	0.302	0.196 J	0.252 J
VOCs (Site Related)									
1,1-Dichloroethane	ug/L	5.0	5.0	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Benzene	ug/L	5.0	5.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chlorobenzene	ug/L	5.0	100	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Vinyl chloride	ug/L	2.0	2.0	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metals, Total Recoverable									
Aluminum	mg/L	---	0.05 - 0.2**	0.003 U	0.003 J	0.01	0.003 U	0.003 U	0.004 J
Antimony	mg/L	0.006	0.006	0.0004 U	0.0004 U	0.0007 J	0.0004 U	0.0004 U	0.0004 U
Arsenic	mg/L	0.01	0.01	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 J	0.0002 U
Barium	mg/L	2.0	2.0	0.0073	0.0023	0.0131	0.0156	0.013	0.0124
Beryllium	mg/L	0.004	0.004	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Cadmium	mg/L	0.005	0.005	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Calcium	mg/L	---	---	9.36	23.9	30.7	25	25.1	29.2
Chromium	mg/L	0.1	0.1	0.0004 J	0.0003 J	0.0013	0.0013	0.0004 J	0.0004 J
Cobalt	mg/L	---	---	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002
Copper	mg/L	---	1.3	0.0918	0.0556	0.0098	0.0049	0.0053	0.007
Iron	mg/L	0.3*	0.3**	0.048 J	0.066	0.034 J	0.047 J	0.104	0.076
Lead	mg/L	---	0.015	0.0042	0.0009 J	0.0003 U	0.0003 U	0.0003 U	0.0004 J
Magnesium	mg/L	---	---	2.39	2.58	7.24	6.38	6.62	7.21
Manganese	mg/L	0.3*	0.05**	0.0011	0.00096 J	0.001	0.0005 J	0.0675	0.0004 U
Mercury	mg/L	0.002	0.002	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U
Nickel	mg/L	---	---	0.0006 U	0.0007 J	0.002	0.0013 J	0.0018 J	0.0007 J
Potassium	mg/L	---	---	1.13	0.918	2.25	1.7	1.98	1.56
Selenium	mg/L	0.05	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Silver	mg/L	0.1	0.1**	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	--- ³	--- ³	19.8	6.41	63	56.4	56.1	59.7
Thallium	mg/L	0.002	0.002	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Vanadium	mg/L	---	---	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Zinc	mg/L	5.0	5.0**	0.0119	0.0453	0.0201	0.0141	0.19	0.0084 J

Column Name Description

¹ NYSDOH Part 5: NYSDOH Part 5-SubPart5-1 Public Water Supply Stds.: MCLs Tables 1-7; Eff. 1 October 2007.

² USEPA MCLs: USEPA - Primary Drinking Water Standards

³: While there is no Maximum Contaminant Level (MCL) for Sodium, people on severely restricted Sodium diets should consult with the County Health Department for guidance if reported Sodium concentration is higher than 20 mg/L.

Bold = Value indicates reported concentration exceeds applicable NYSDOH Part 5 water quality standards.

Yellow = Value indicates reported concentration exceeds USEPA Primary or Secondary Drinking Water Standards.

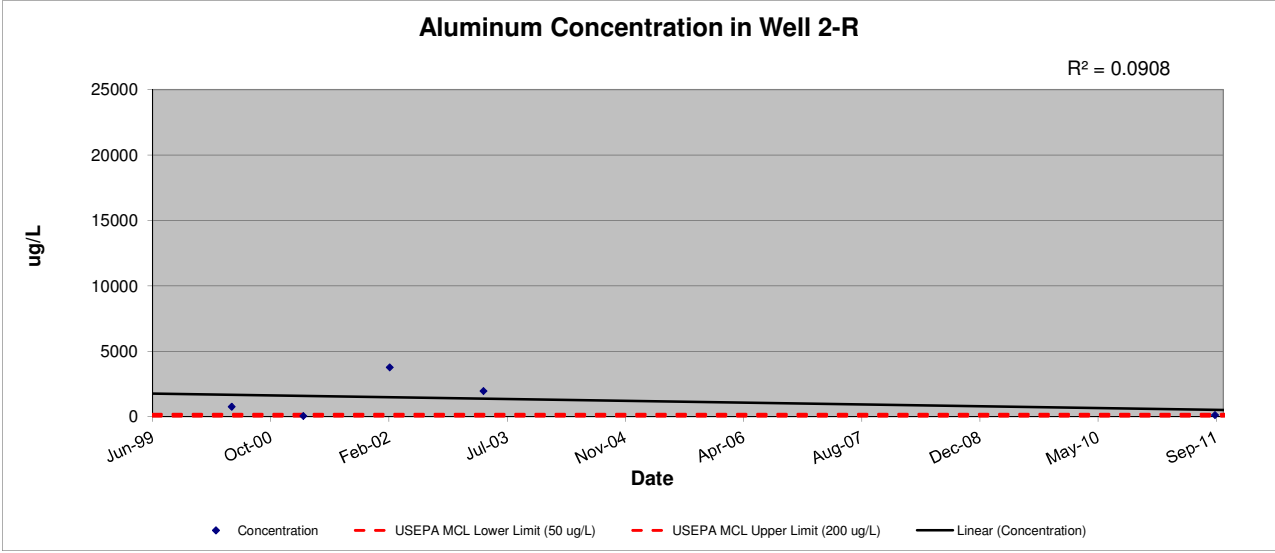
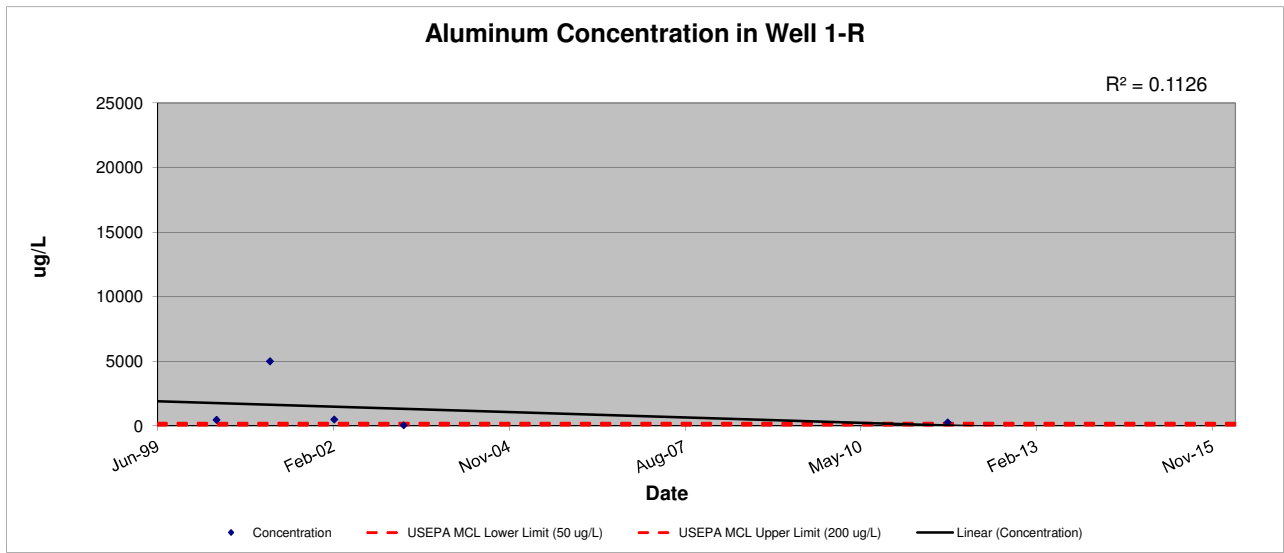
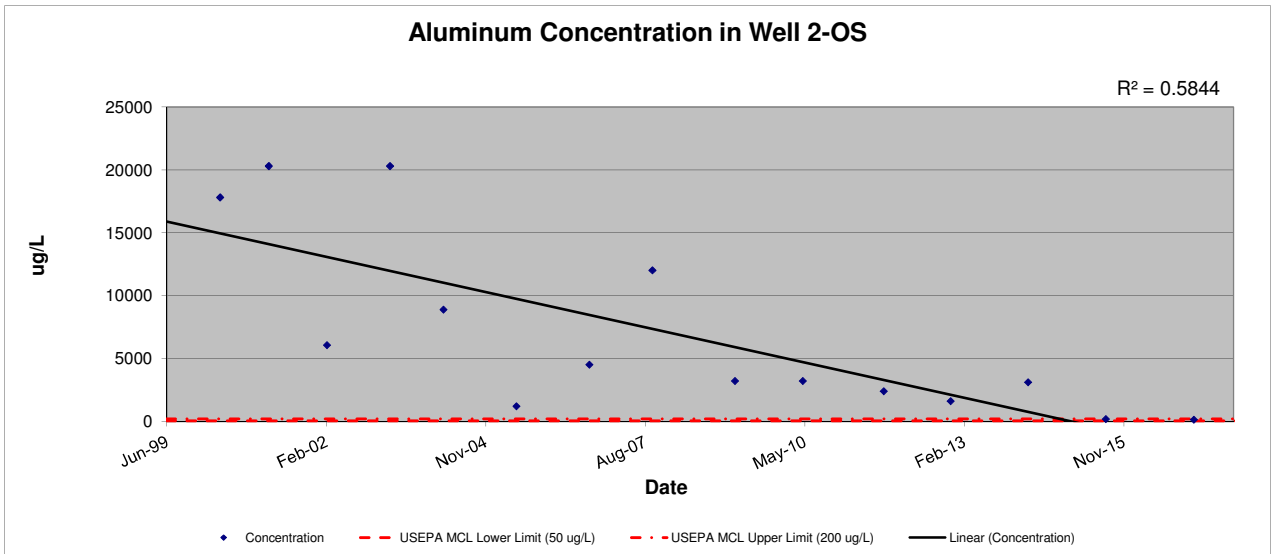
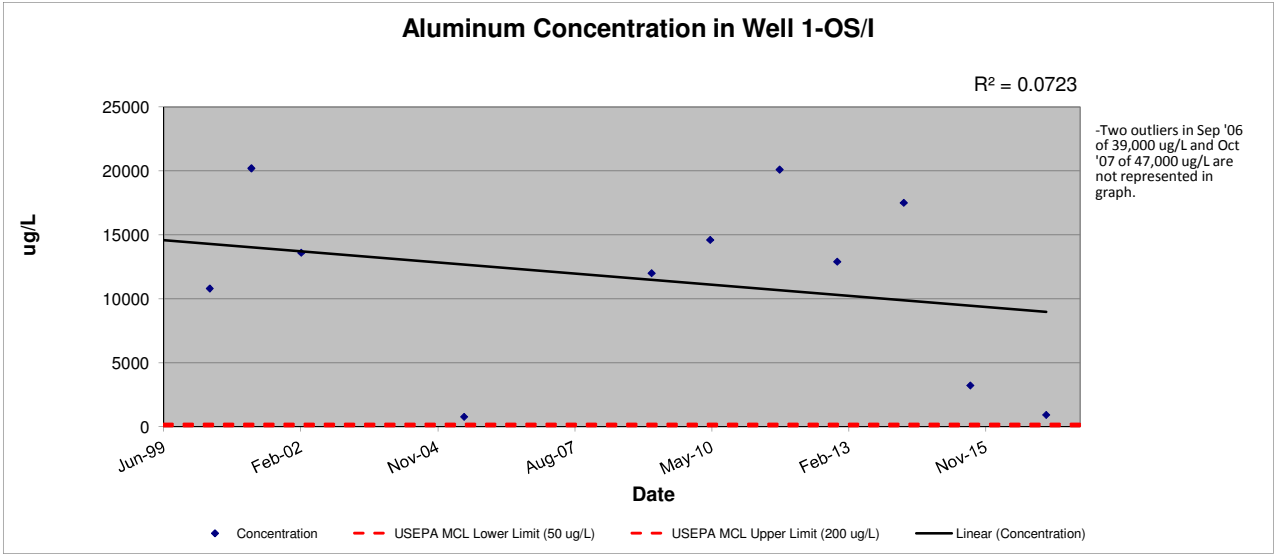
J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

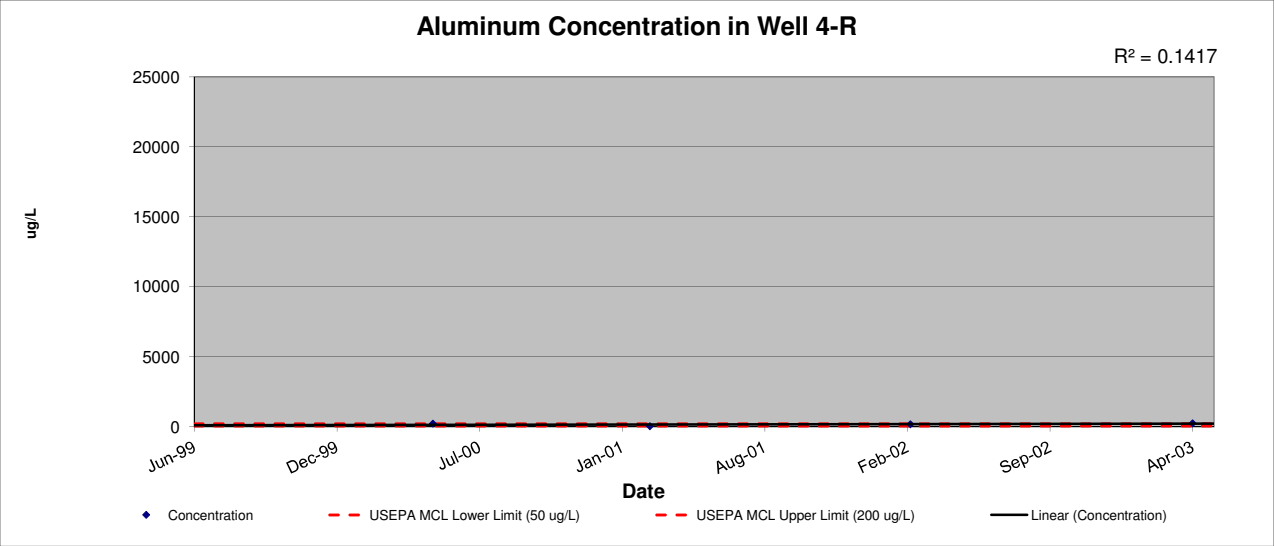
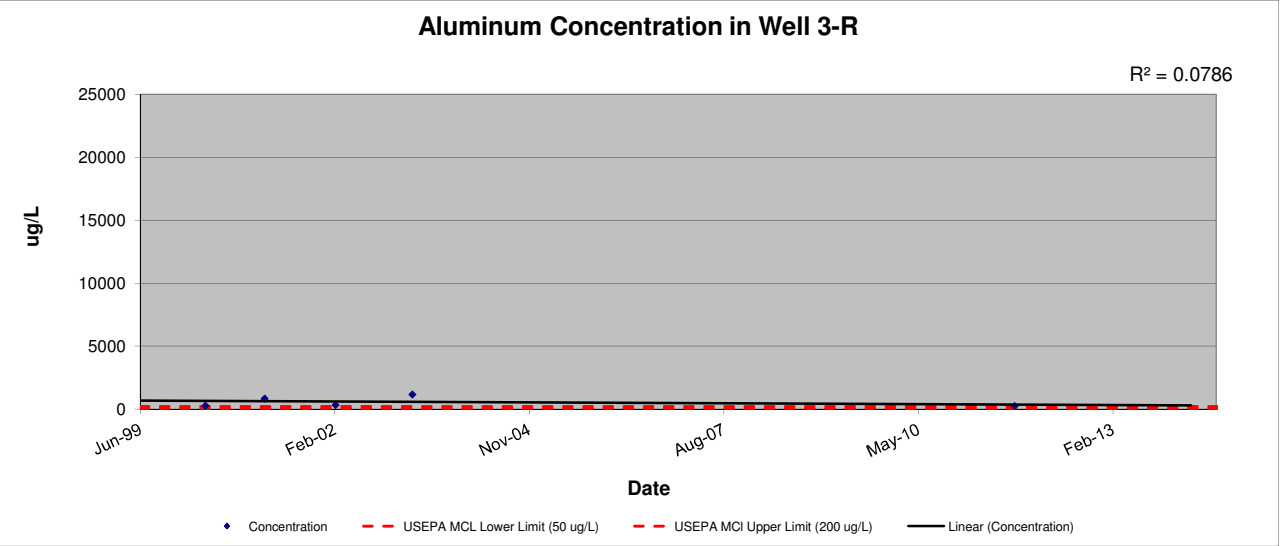
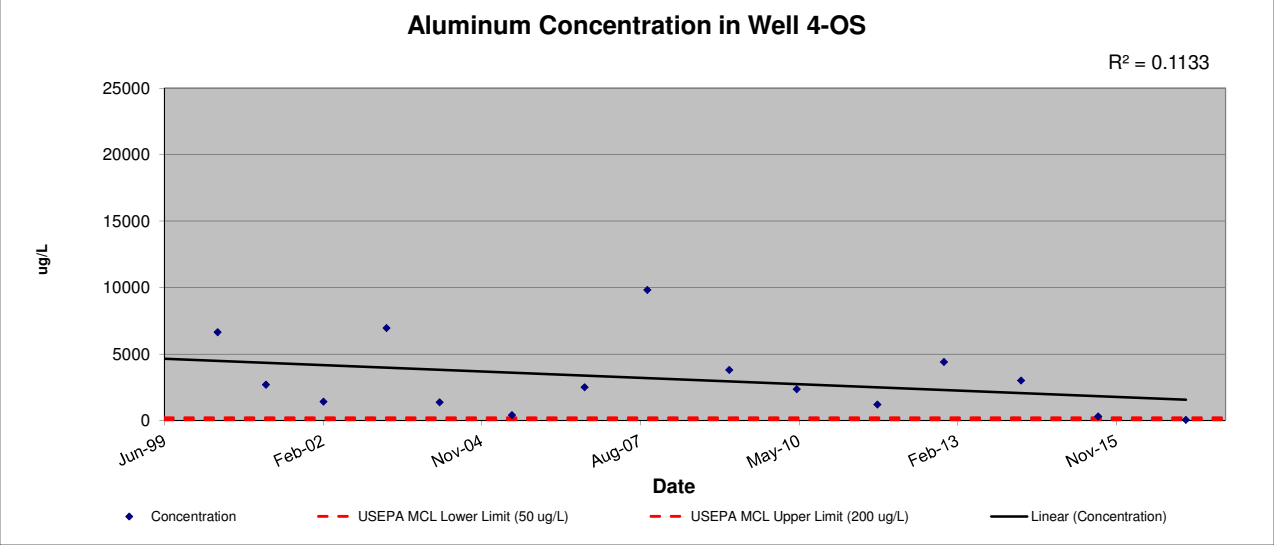
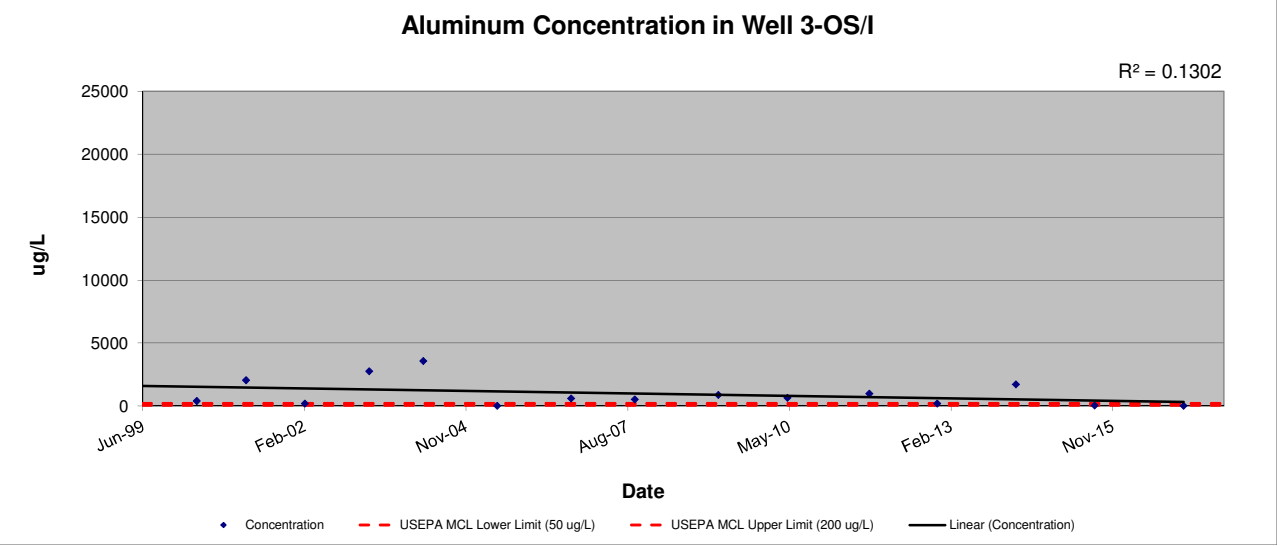
U = Analyte was not detected at or above the laboratory method detection limit.

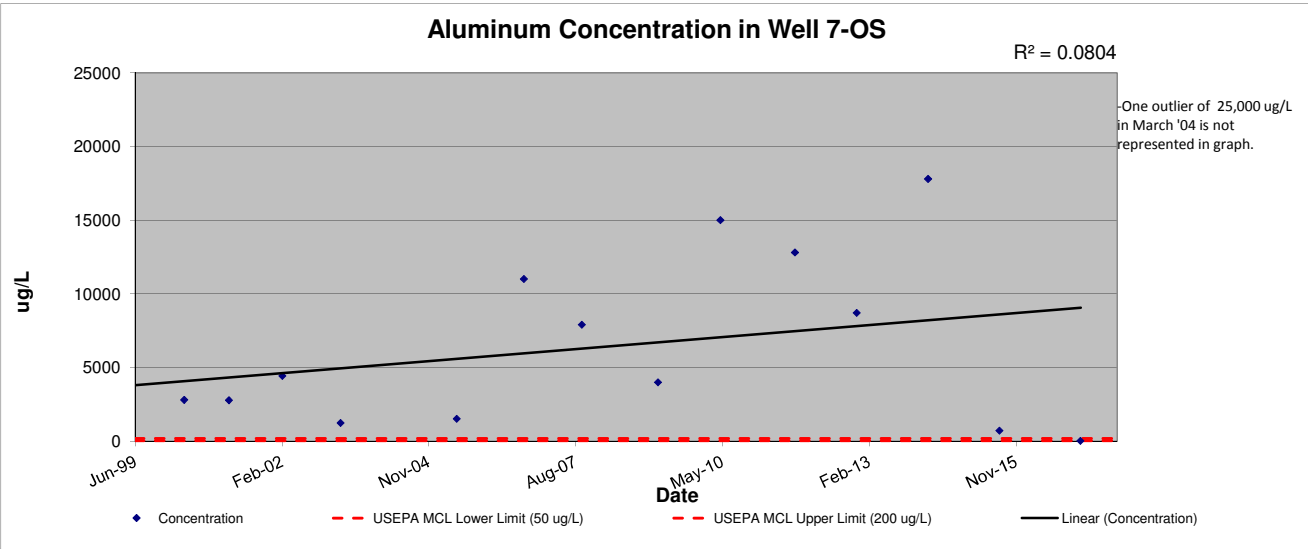
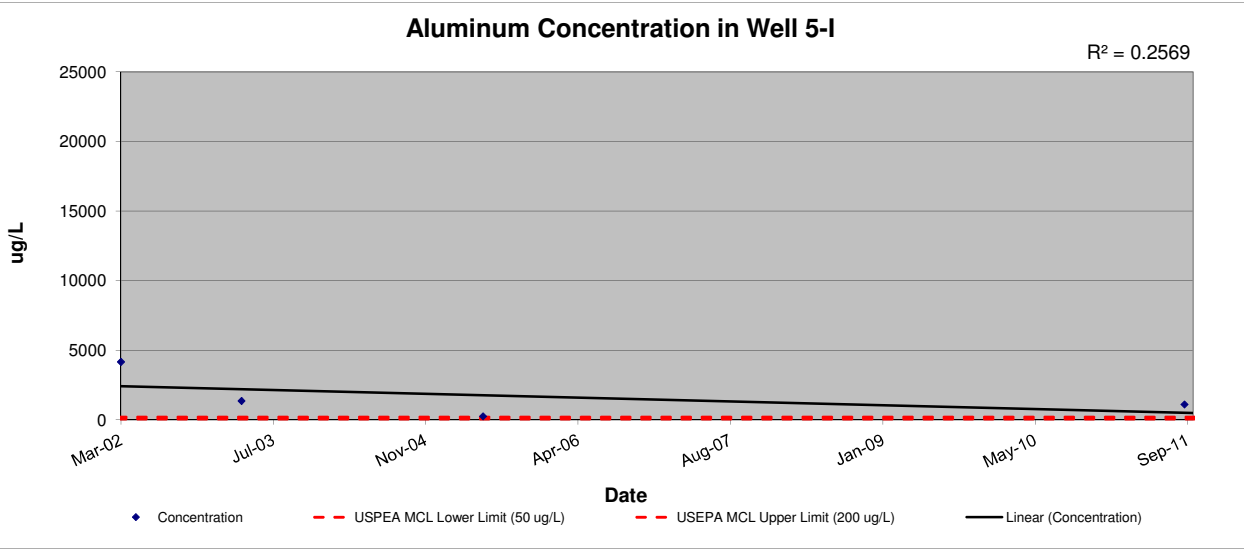
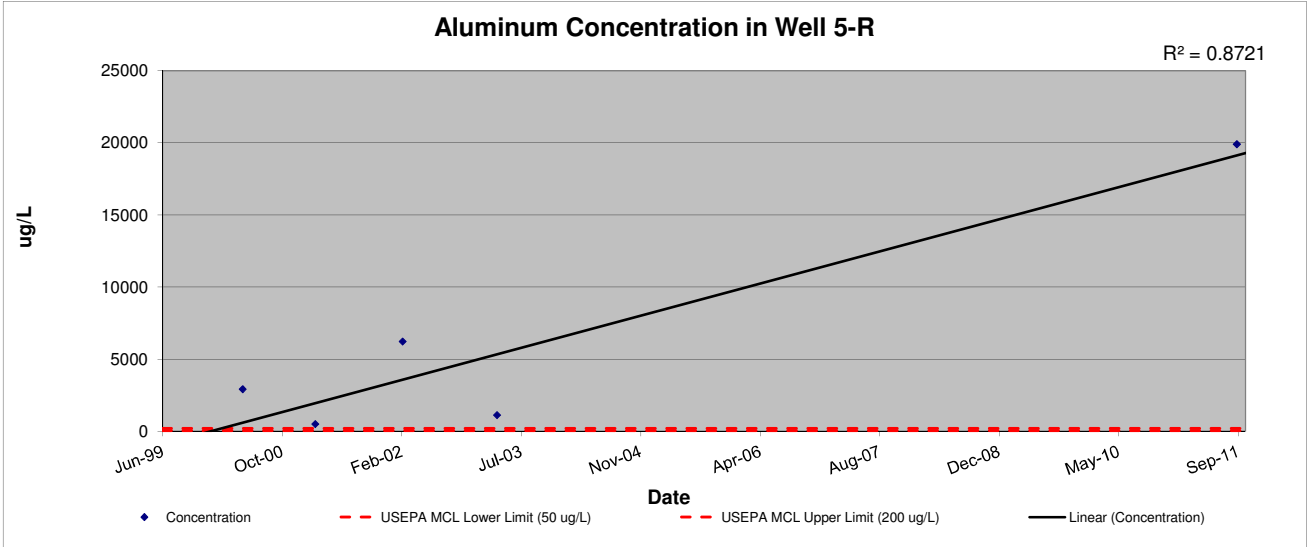
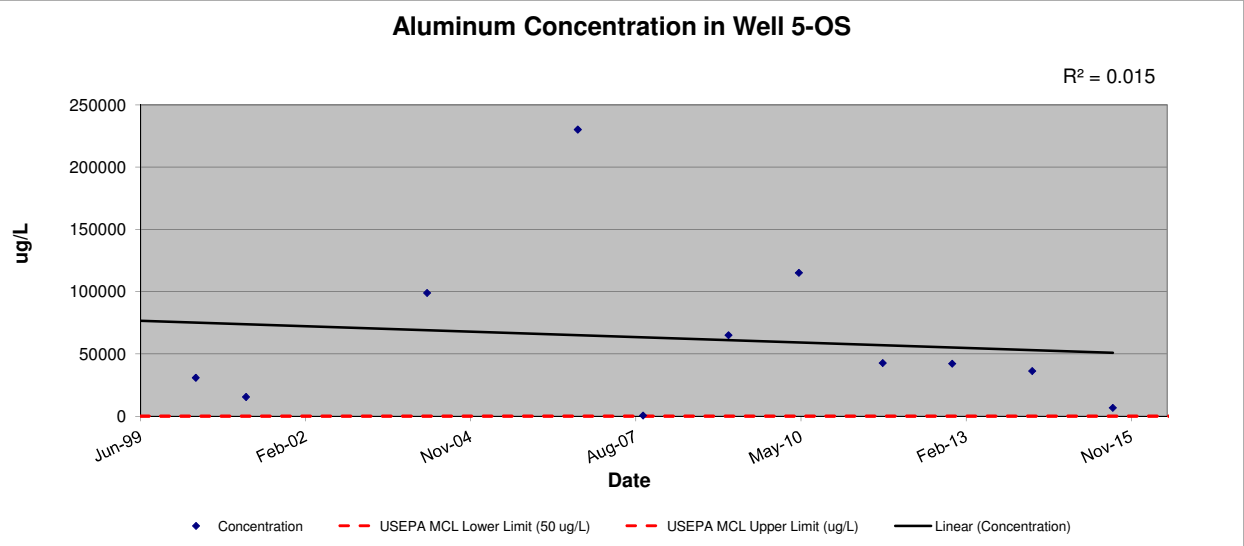
* = If Iron and Manganese are present, the total concentration of both should not exceed 0.5 mg/L.

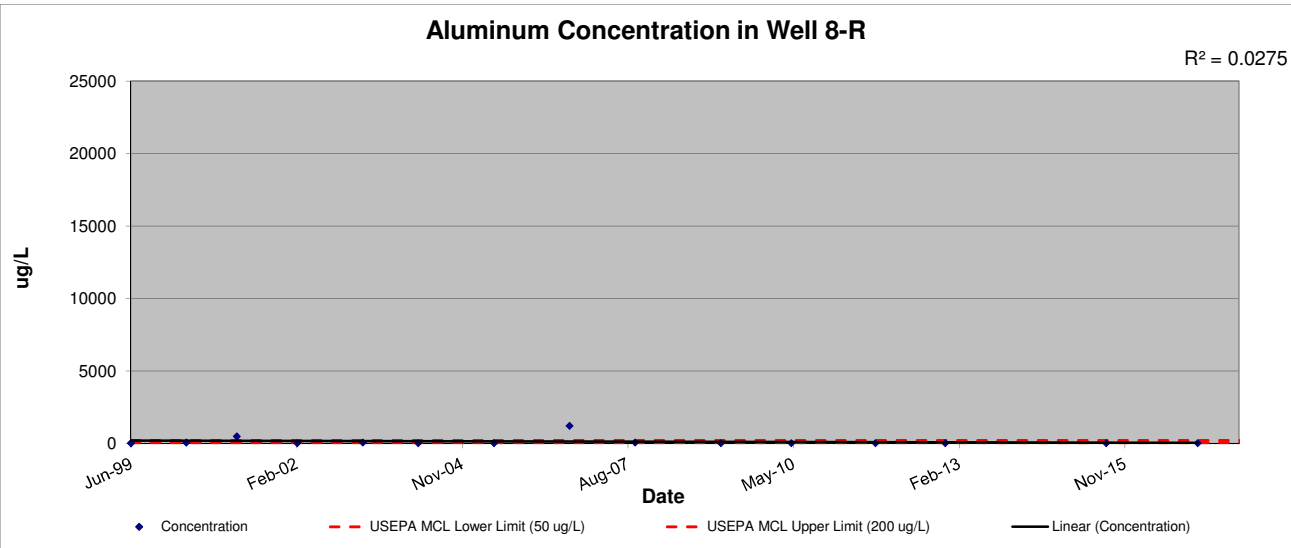
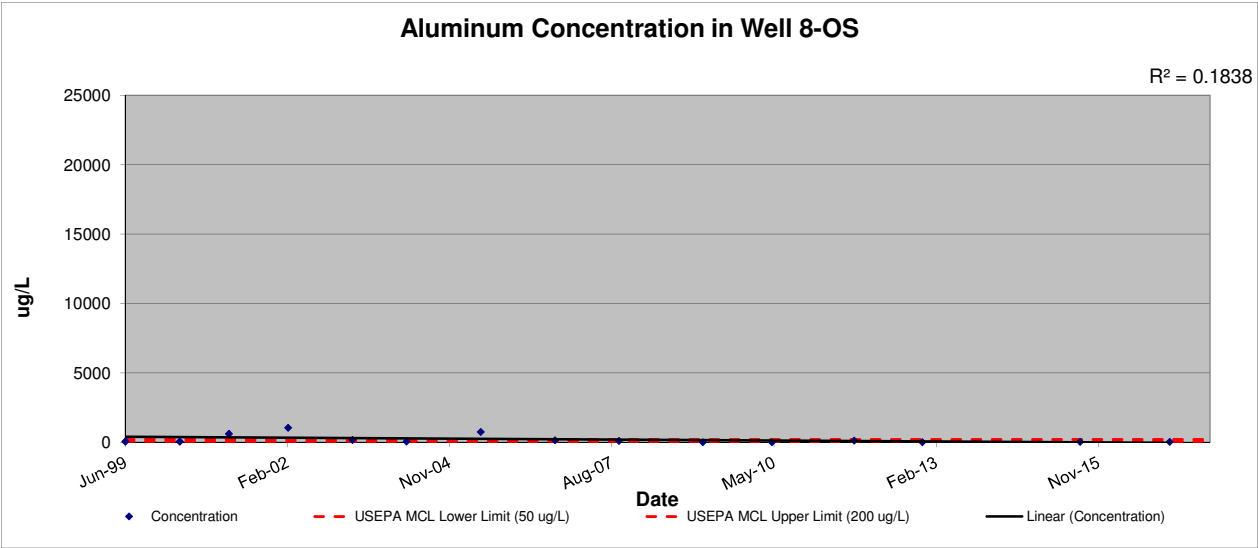
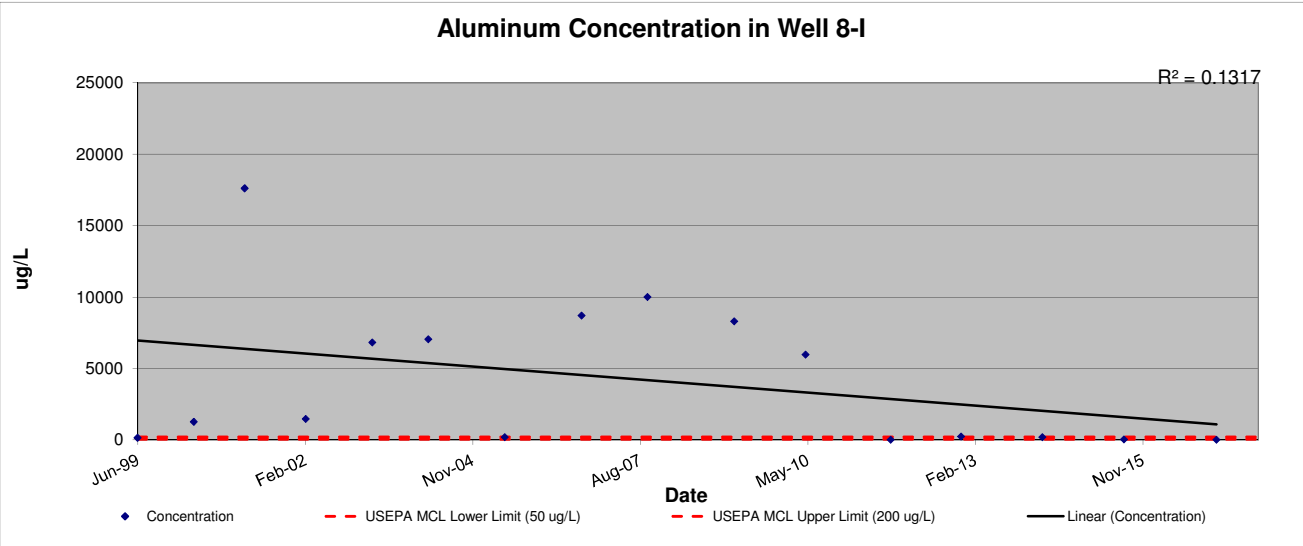
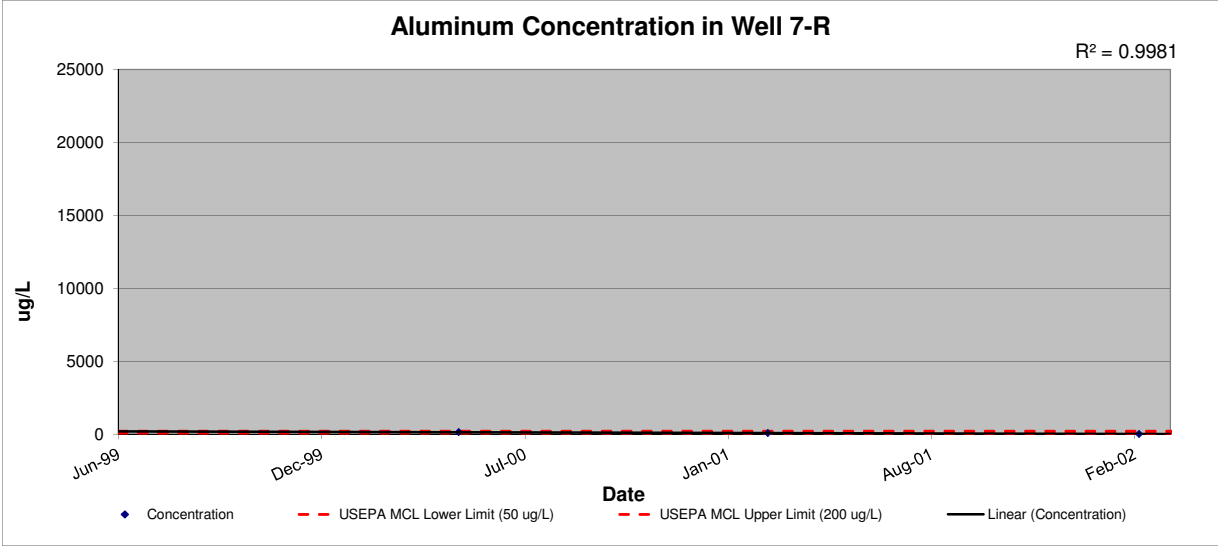
** = USEPA Secondary Drinking Water Standard. This standard is associated with aesthetic characteristics of the sample and not adverse health effects.

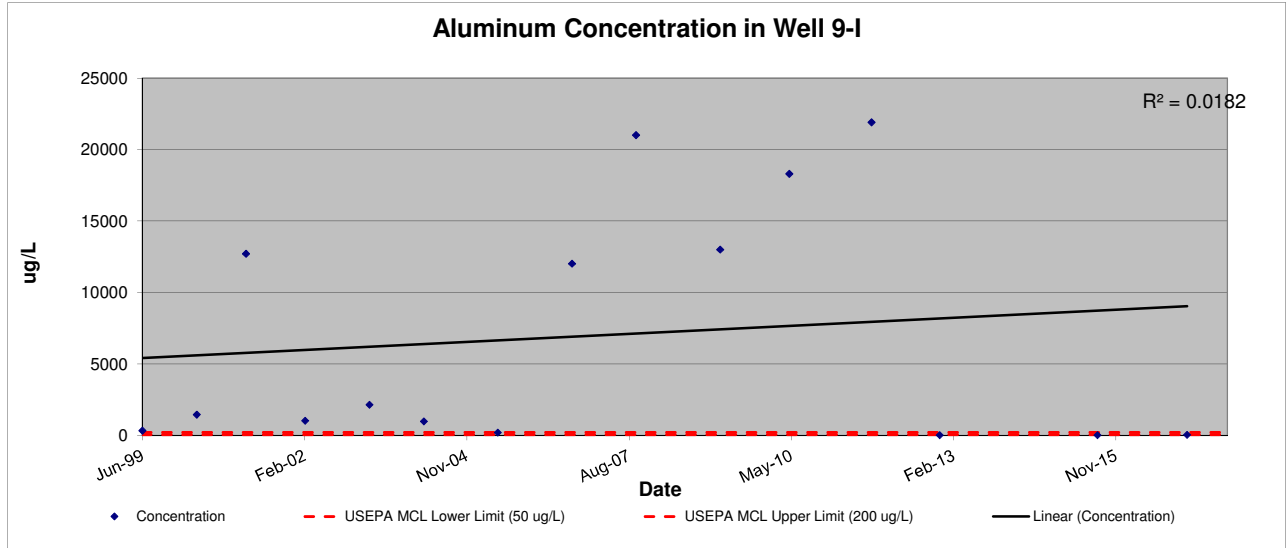
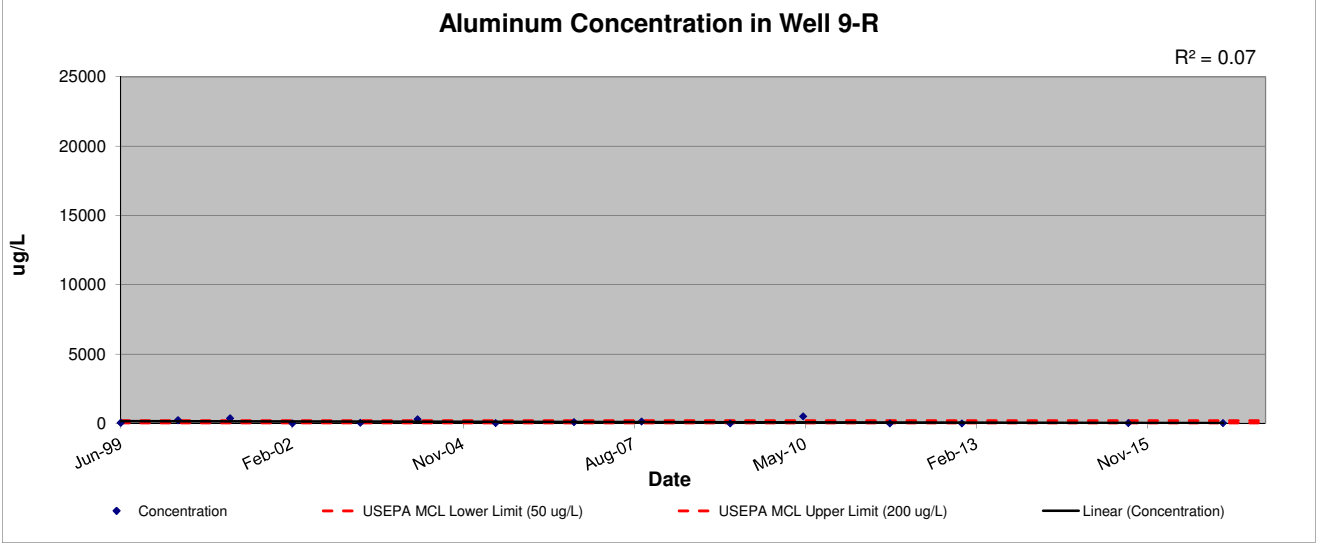
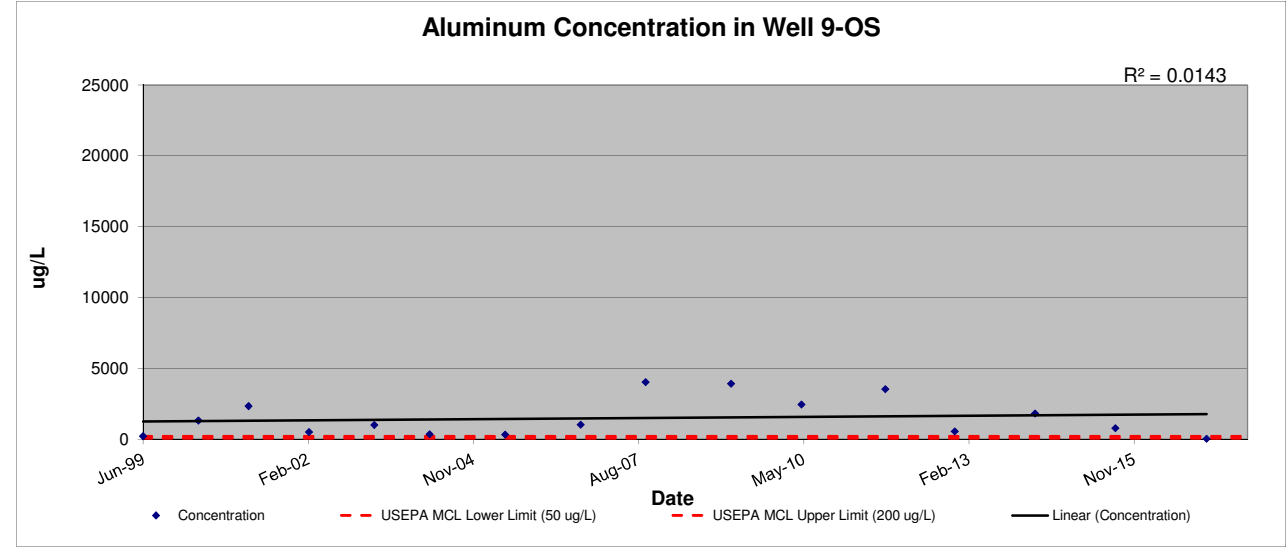
--- Denotes no applicable water quality standard.

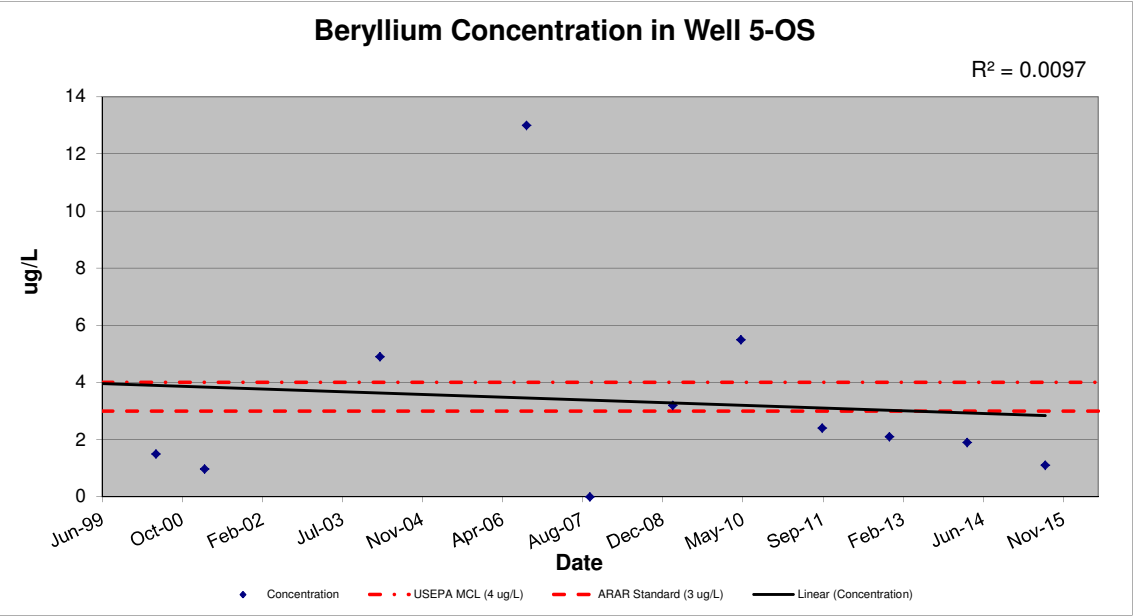


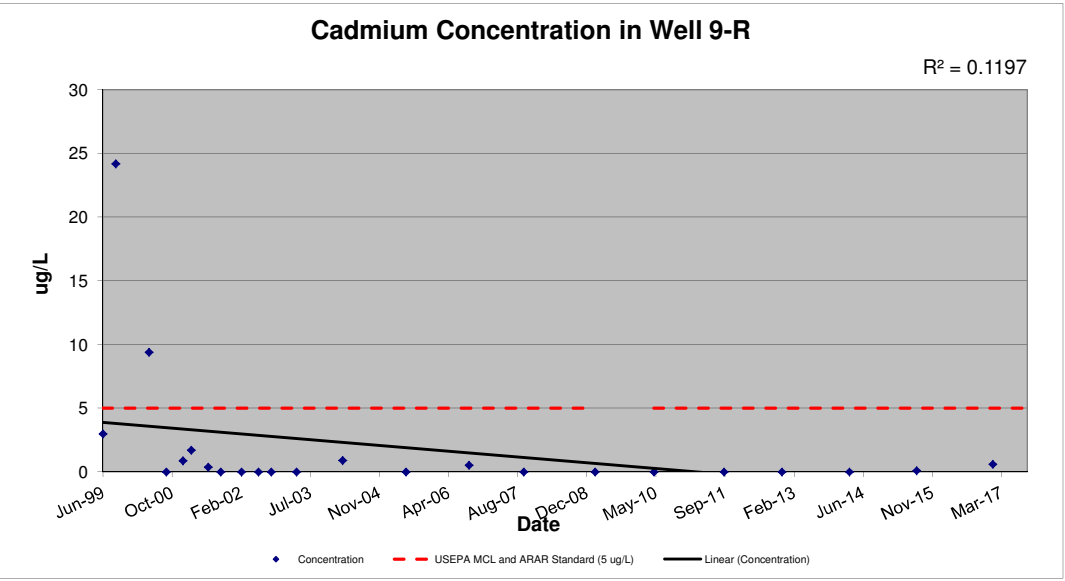












Summary of Historical Groundwater Quality Results - Copper (µg/L)
ARAR Standard = 200 µg/L; MCL Guidance = 1,000 µg/L*; and, Part 5 MCL = Not Available
Town of Ramapo Landfill

S:\Sterling\Projects\2000 Projects\Town of Ramapo - 20010\Reports\Periodic Review Report Jan2016-Mar2017\Tables\Tables 6 - 19_Historical Groundwater Quality Results.xls

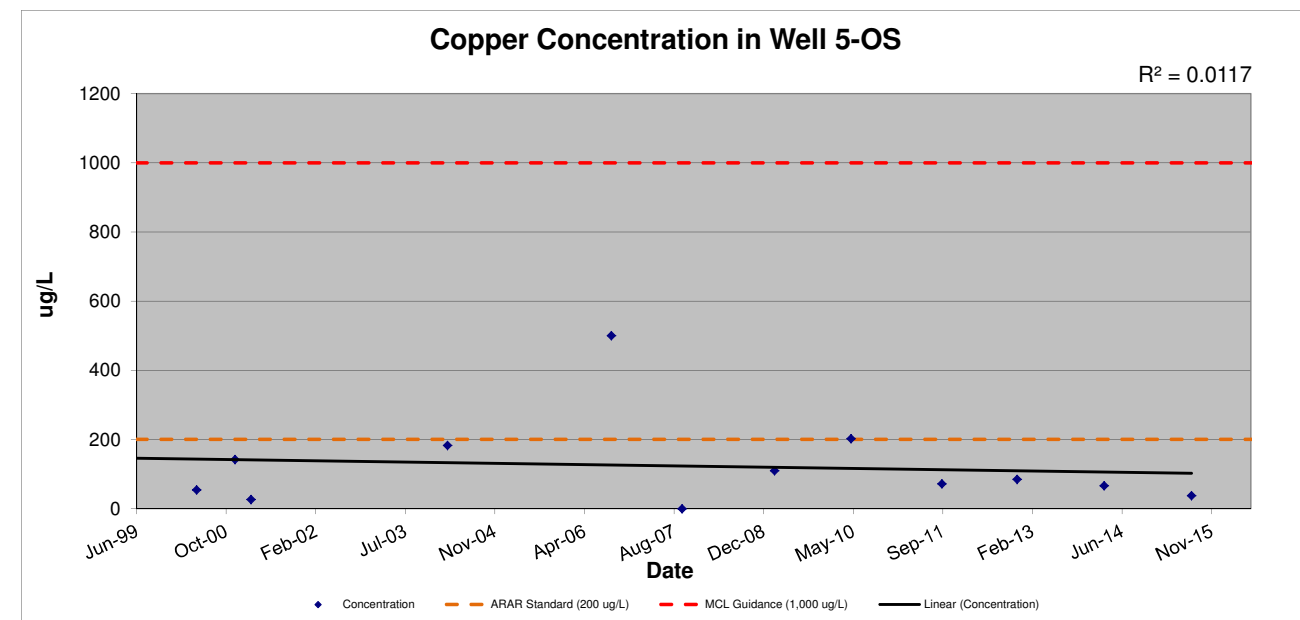


TABLE 10

Summary of Historical Groundwater Quality Results - Antimony (µg/L)
ARAR Standard = 3 µg/L; USEPA MCL = 6 µg/L; and, Part 5 MCL = 6 µg/L
Town of Ramapo Landfill

[illegible]

Notes:

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

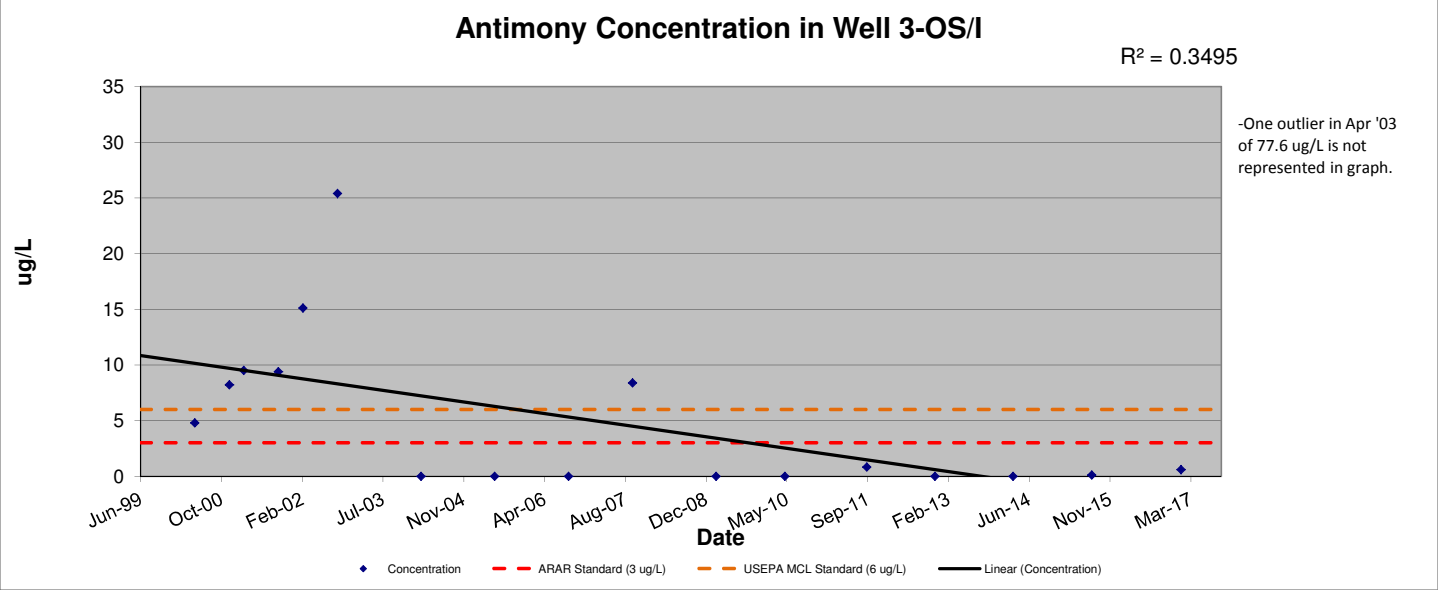
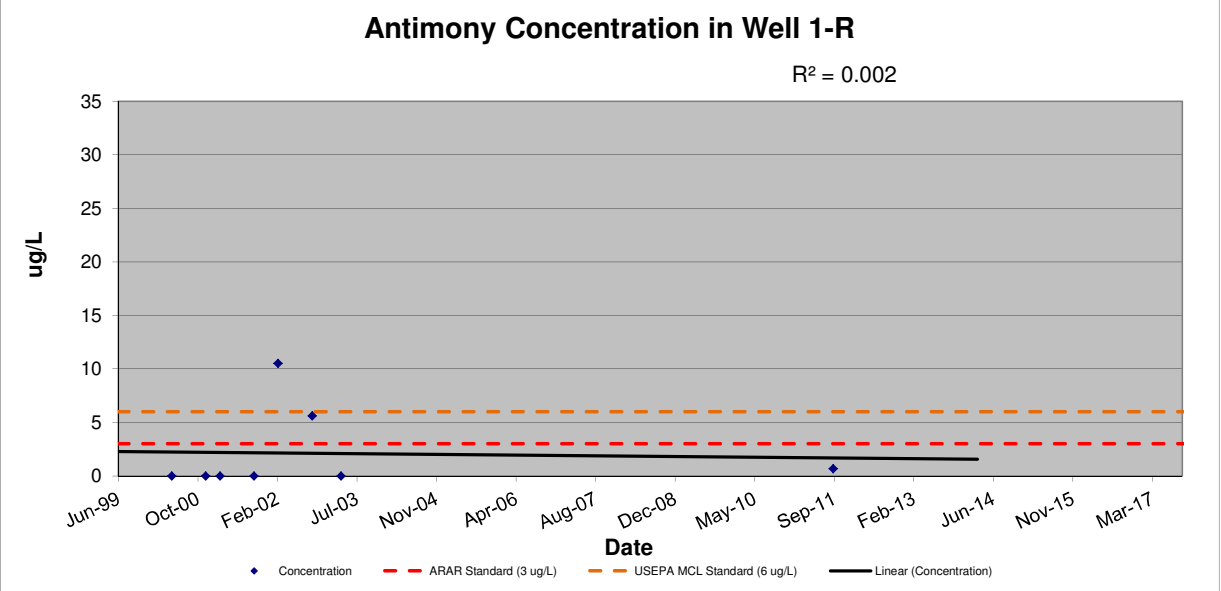
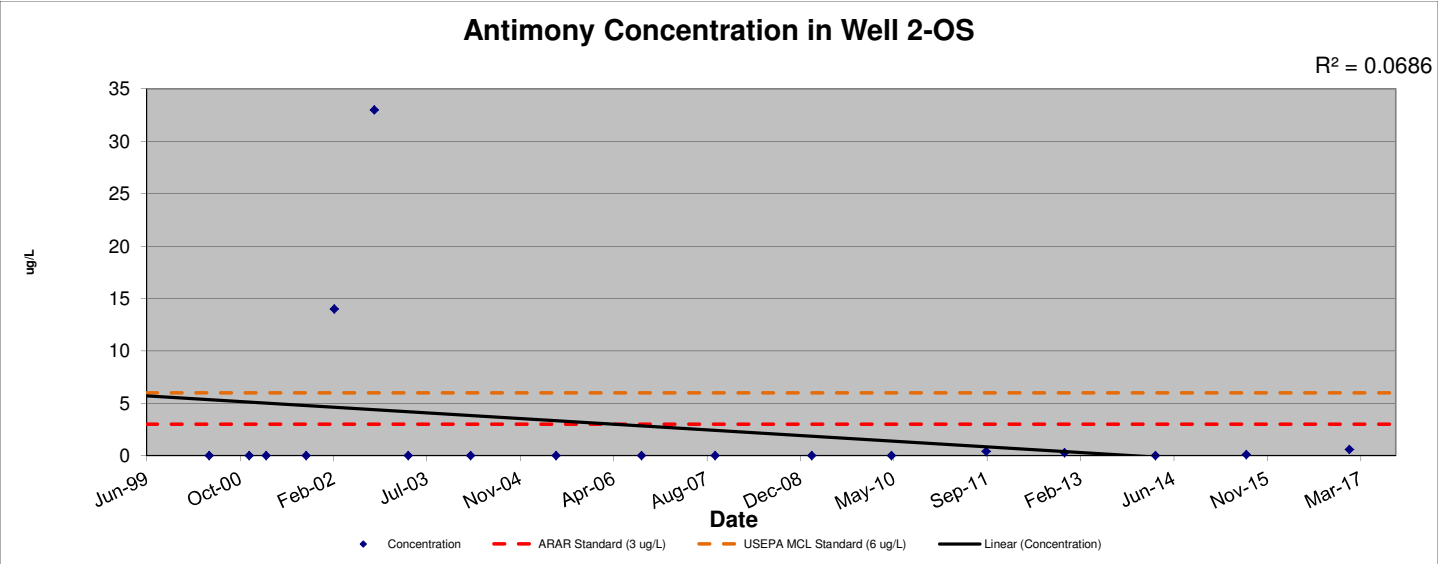
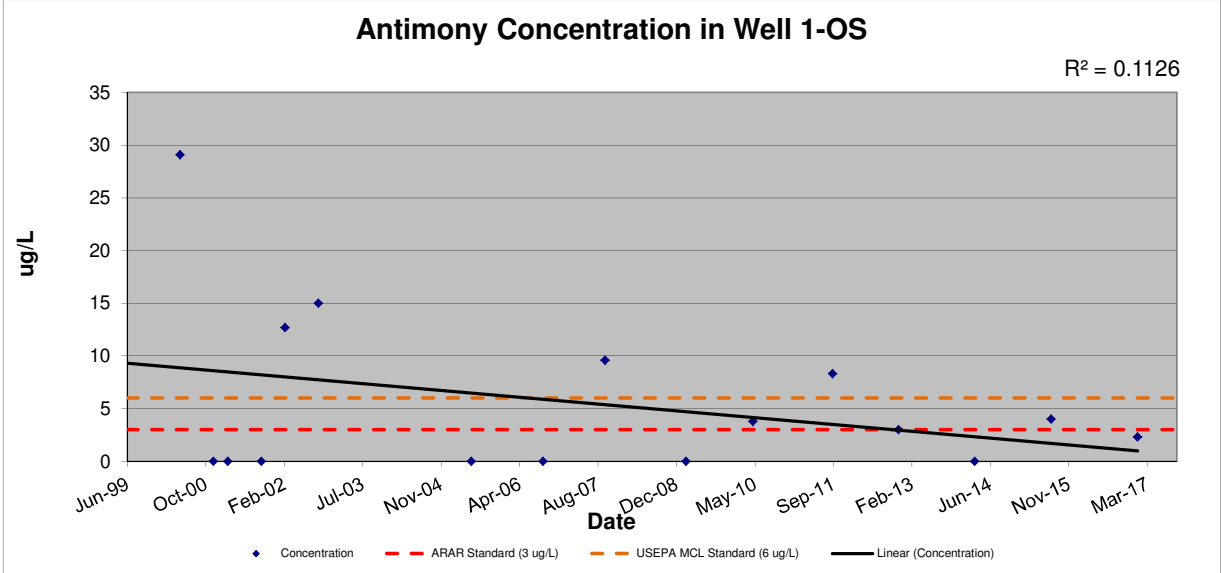
MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

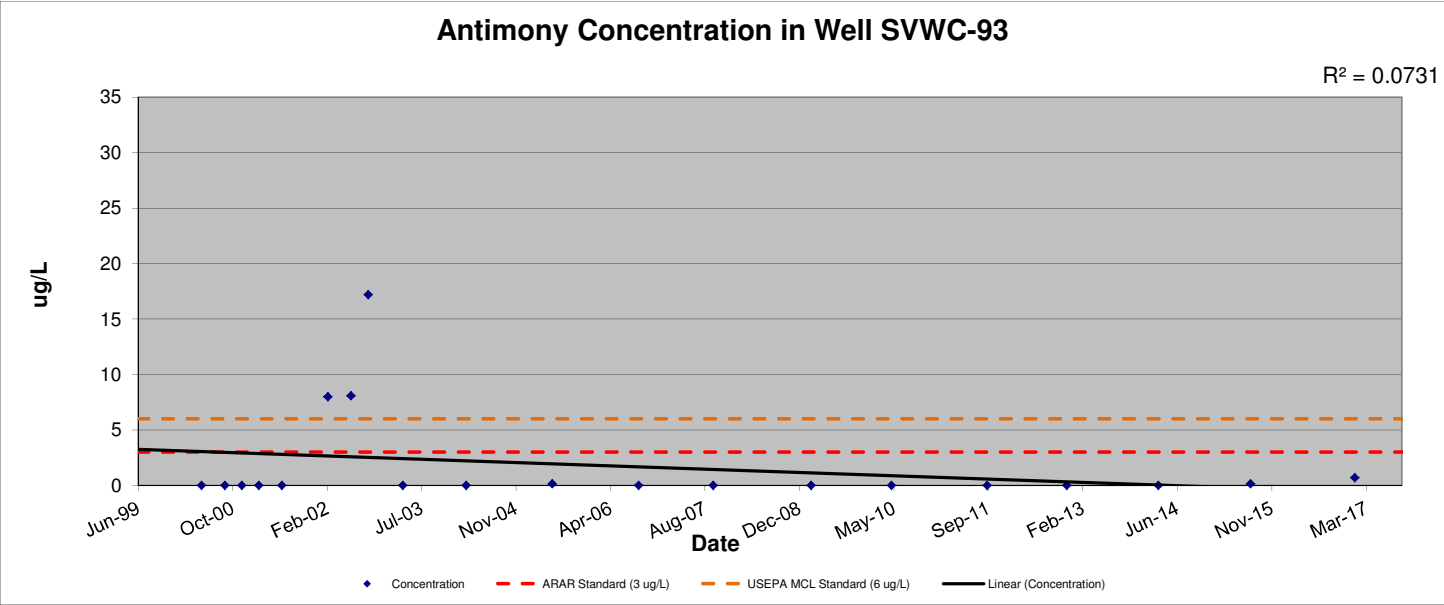
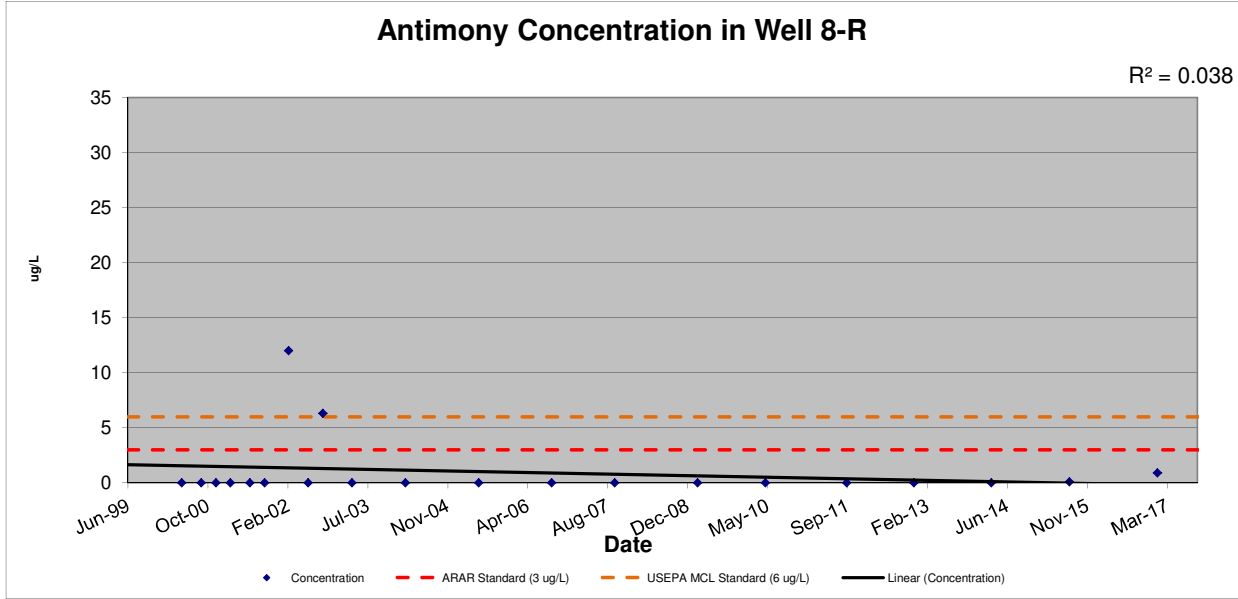
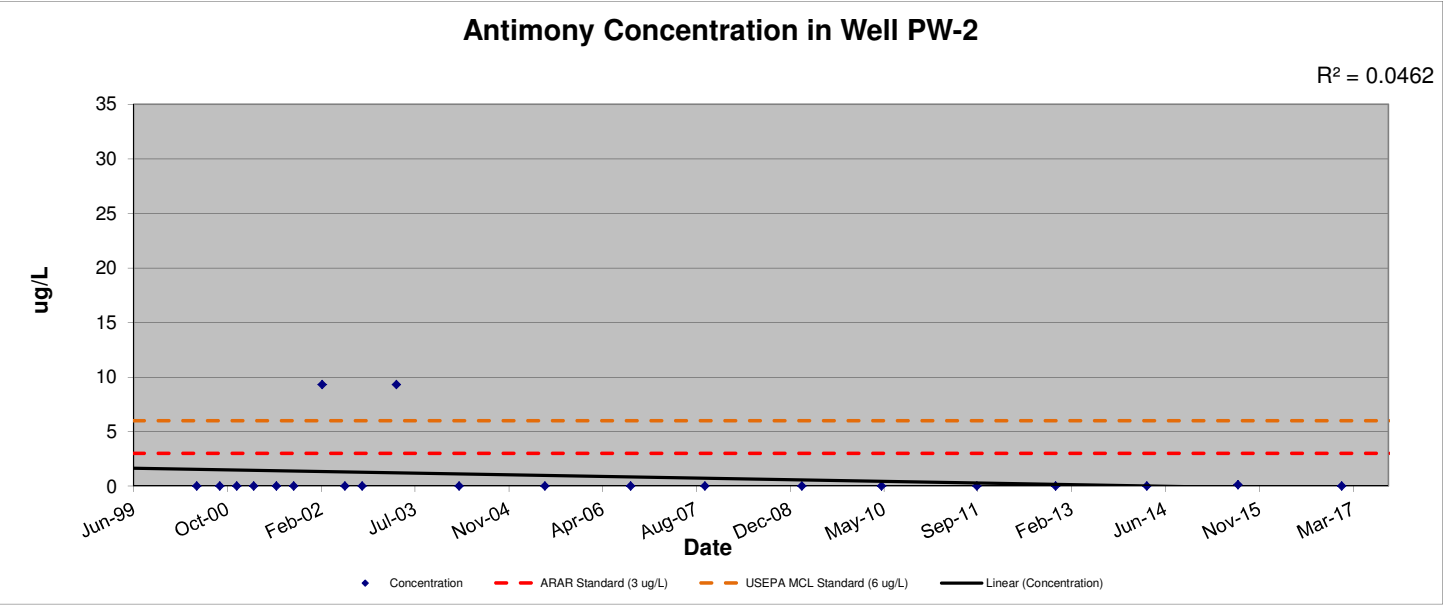
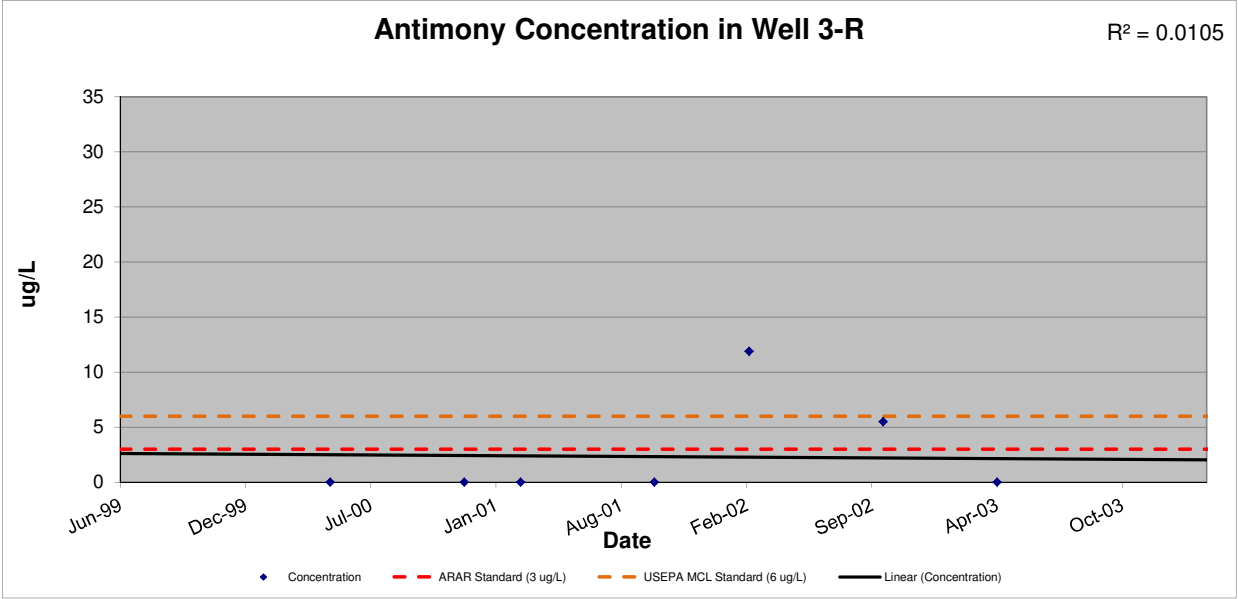
Laboratory Qualifier Definitions

B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

N = Spiked sample recovery not within control limits.





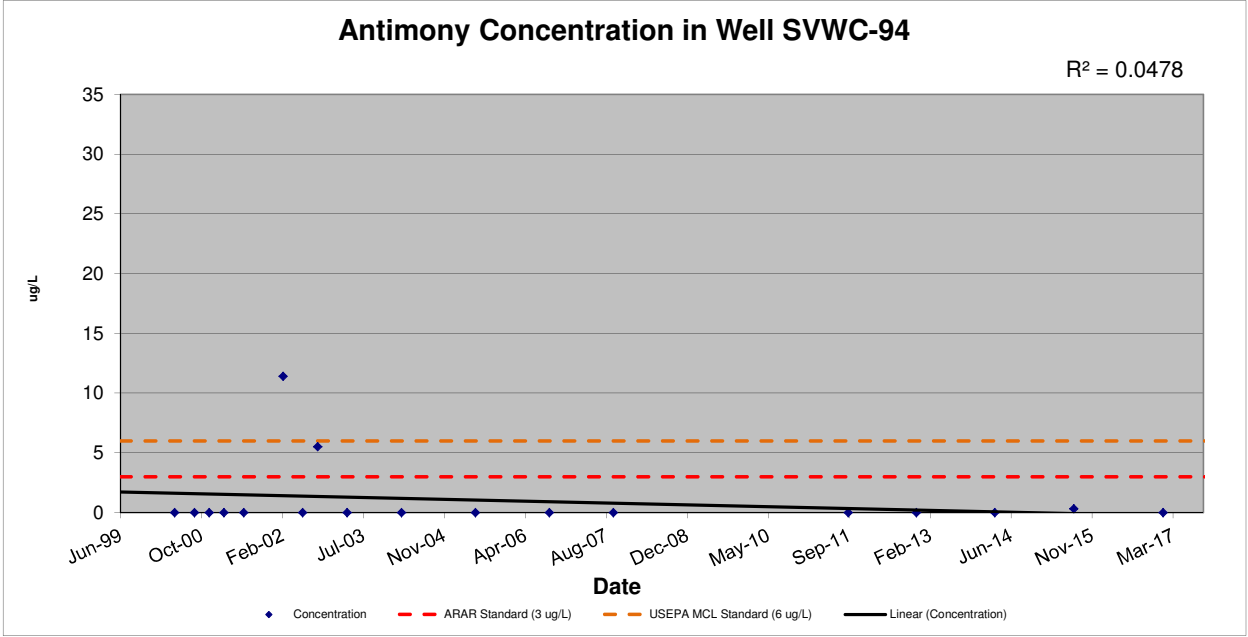


TABLE 11

Summary of Historical Groundwater Quality Results - Arsenic (µg/L)
ARAR Standard = 25 µg/L; USEPA MCL = 10 µg/L; and, Part 5 MCL = 10 µg/L
Town of Ramapo Landfill

Well ID	Well 1-OS	Well 1-R	Well 2-OS	Well 2-R	Well 3-OS/I	Well 3-R	Well 4-OS	Well 4-R	Well 5-OS	Well 5-I	Well 5-R	Well 7-OS	Well 7-R	Well 8-OS	Well 8-I	Well 8-R	Well 9-OS	Well 9-I	Well 9-R	Well 10-OS	Well 10-I	Well 10-R	UP-OS	UP-I	UP-R	Well PW-1	Well PW-2	SWWC-93	SWWC-94	SWWC-95	SWWC-96					
DATE																																				
Jun-99		NA		NA		NA		NA		NA		NA		NA		NA		ND		ND		NA					9.7	7.1			ND		ND			
Sep-99	11.4			ND		ND		ND	7.9		8.5		ND	NA		ND		ND		ND		NA						ND		NA		NA				
May-00	7.3	B	<2.6		6.6	B	<2.6		<2.6	<2.6		<2.6	3.2	B		NA	<2.6		<2.6	<2.6		NA					<2.6	ND	<2.6	ND		NA	NA			
Sep-00		NA		NA		NA		NA		NA		NA		NA		NA		<2.6		<2.6		NA					<2.6		<2.6		<2.6		NA			
Dec-00	11.8		<1.8		9.4	B	<1.8		<1.8	<1.8		<1.8	3.3	B	16.8		NA	<1.8		3.4	B	<1.8		NA			<1.8	NA	<1.8		<1.8		<1.8			
Jan-01		NA		NA		NA		NA		NA		NA		NA		NA		<2.2		<2.2		3	B				<2.2		<1.8	NA	<1.8		<1.8			
Mar-01	13.5		3.7	B	10.5		<2.2		<2.2	<2.2		2.6	B	<2.2		3.9	B		<2.2		<2.2	<2.2		2.6	B	13.4		<2.2	<2.2	5.8	B	6.3	B			
Jul-01		NA		NA		NA		NA		NA		NA		NA		NA		<2.2		<2.2		3.7	B				<2.2		<2.2		<2.2		NA			
Oct-01	5.9	B	2.6	B	8.4	B	<2.2		<2.2	<2.2		<2.2		NA	2.7	B	<2.2		2.6	B	<2.2		2.4	B	6.9	B	<2.2	<2.2	<2.2		4	B				
Mar-02	9.1	B	<2.6		<2.6		<2.6		<2.6	<2.6		<2.6		NA	<2.6		<2.6		<2.6		<2.6	<2.6					<2.6		<2.6		<2.6		NA			
Jul-02		NA		NA		NA		NA		NA		NA		NA		NA		<2.6		<2.6		5.5	B				<2.6		<2.6		<2.6		NA			
Oct-02	91.3		4	B	13.3		<2.6		<2.6	<2.6		7.5	B	<2.6		NA	<2.6		<2.6		5.2	B		NA	<2.6	5.2	B	<2.6	<2.6	<2.6		<2.6		NA		
Apr-03		NA	<2.4		10.3		<2.4		5.4	B	<2.4		4	B	4.4	B		NA	<2.4		<2.4		NA	<2.4	7.5	B	<2.4		<2.4	3.7	B		NA			
Mar-04		NA		NA	7.4	B		NA	<1.9		NA	<2.7		NA	30.4		NA	<1.9		8.9	B	<1.9		<1.9		8.9	B	<1.9		3.4	B		NA			
Jun-05	8.1	B		NA	4	B		NA	<3.1	N		NA		NA	<3.1	N		NA	3.7	B,N	8.6	B,N	<3.1	N		<3.1	N	<3.1	N		NA	NA	NA			
Sep-06	43			NA	2.8	J		NA	6.9		NA	2.8	J		NA	33		NA	<5		26		3.1	J		<5		4.5	J	5.9		NA	NA			
Oct-07	31			NA	6.2			NA	<5		NA	<5		NA	<5		NA	<5		NA	<5		NA	<5		4.2	J	4.4	J	6.1		NA	NA			
Mar-09	7.1	J		NA	<10			NA	<10		NA	<10		NA	9.8	J		NA	<10		NA	<10		NA	<10		12	<10	<10	<10	<10		NA	NA		
May-10	11.2			NA	<10			NA	<10		NA	<10		NA	15.5		NA	<10		NA	<10		NA	<10		10.1	<10	<10	<10	<10		8.4	J			
Sep-11	40		<10		<10		<10		53		7.3	J	<10		NA	9.5	J	<10		<10		NA	<10		6.1	J	<10	<10	7.6	J	7.9	J		NA	NA	
Nov-12	18			NA	<10			NA	15		NA	9.8	J		NA	9.3	J		NA	<10		NA	<10		12	<10	<10	<10	<10	<10	<10	<10		NA	NA	
Mar-14	14				<10			NA	<10		NA	<10		NA	6.7	J		NA	<10		NA	9.3	J		NA	<10		11		<10		<10	<10		NA	NA
Nov-14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		<10					<10		<10		<10		NA	NA		
Jul-15	7.32			NA	0.7			NA	0.3	J		NA		NA	0.7		NA	3.1		NA		NA		NA	0.4	J	6.8		0.6		1	<0.1	3.8		NA	<10
Jan-17	3.1			NA	1			NA	<0.2		NA	0.2	J		NA		NA	0.2		NA		NA		NA	0.2	J	3.8		0.6		<0.2	<0.2	0.6		0.4	J

Notes:

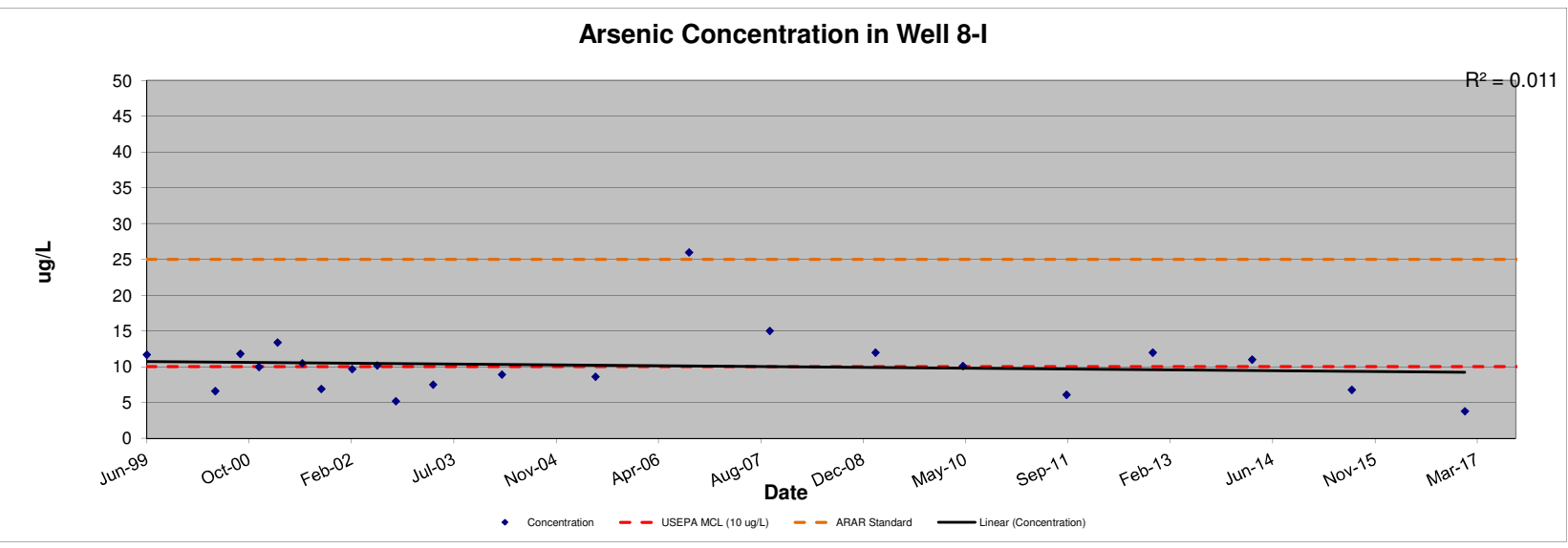
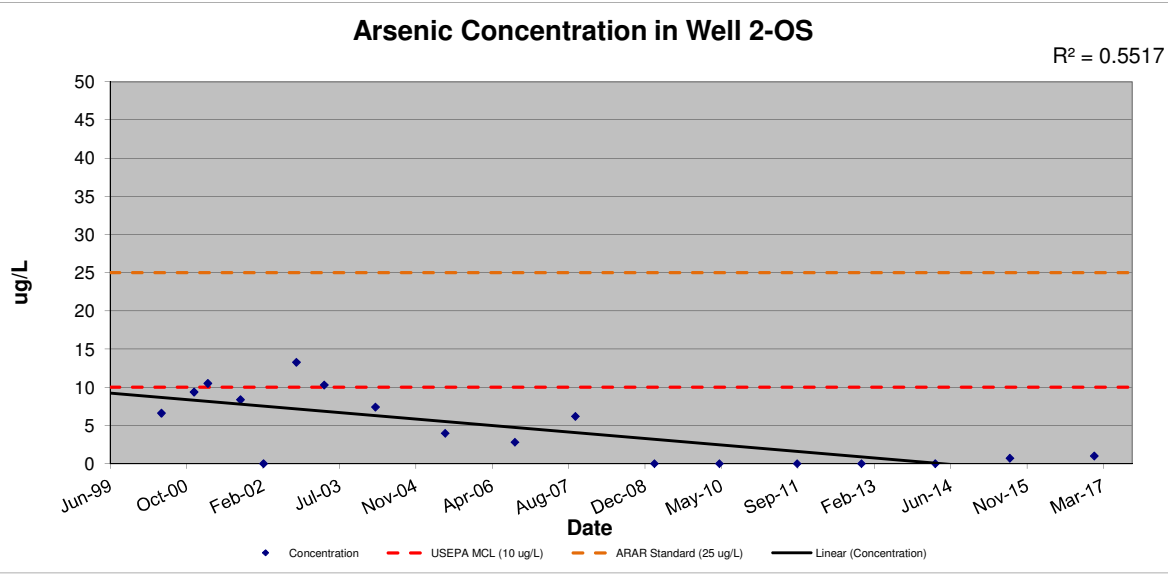
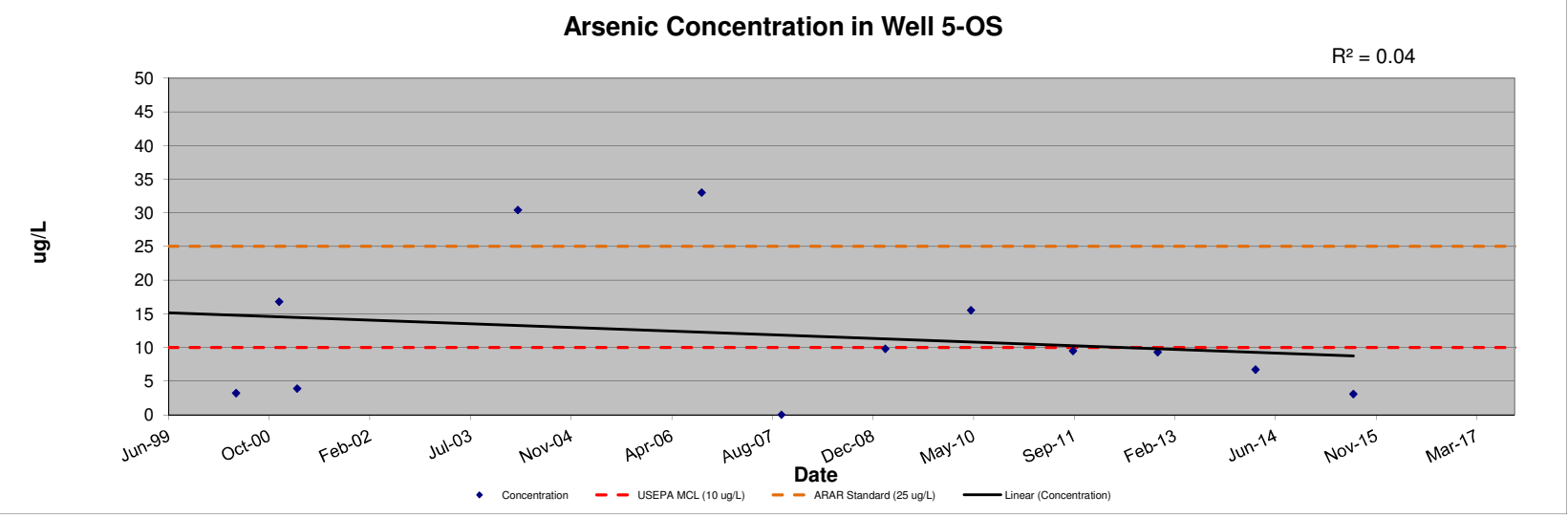
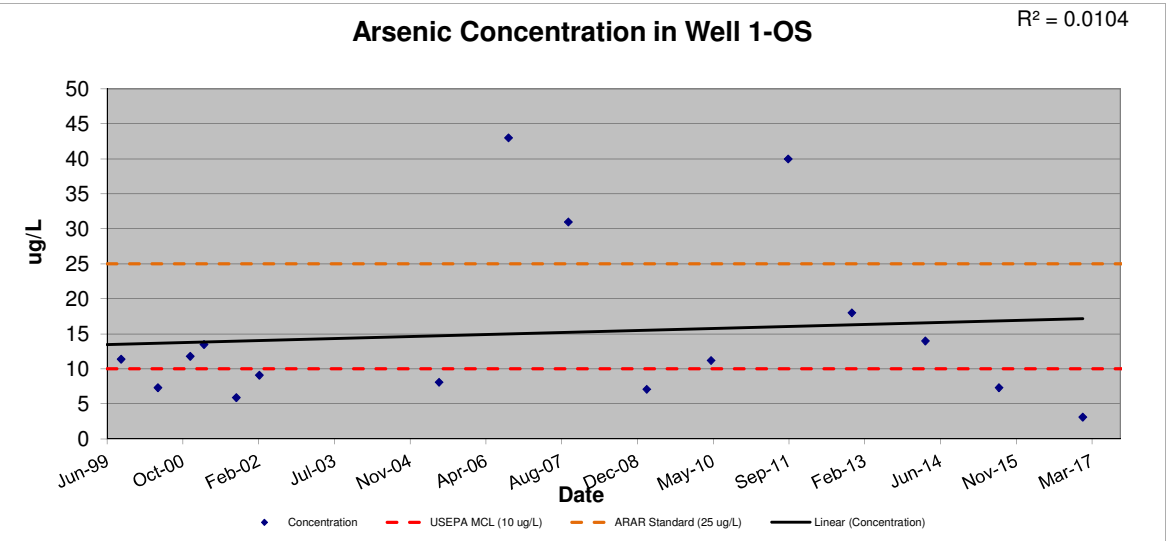
Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

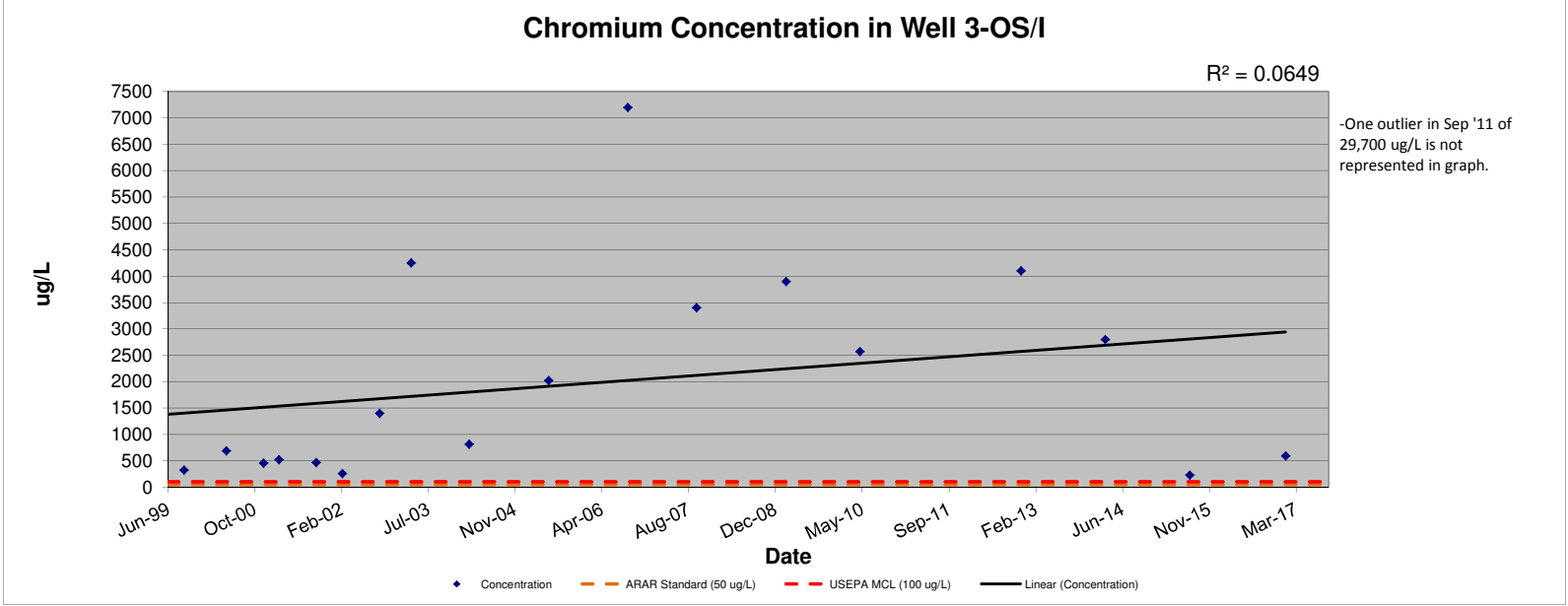
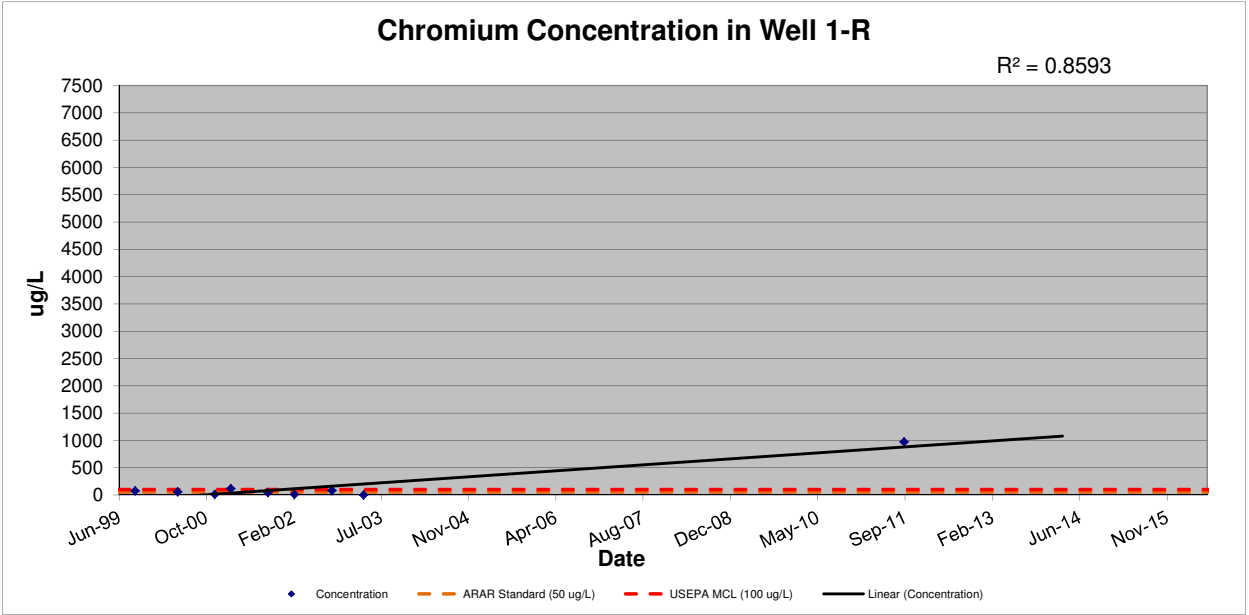
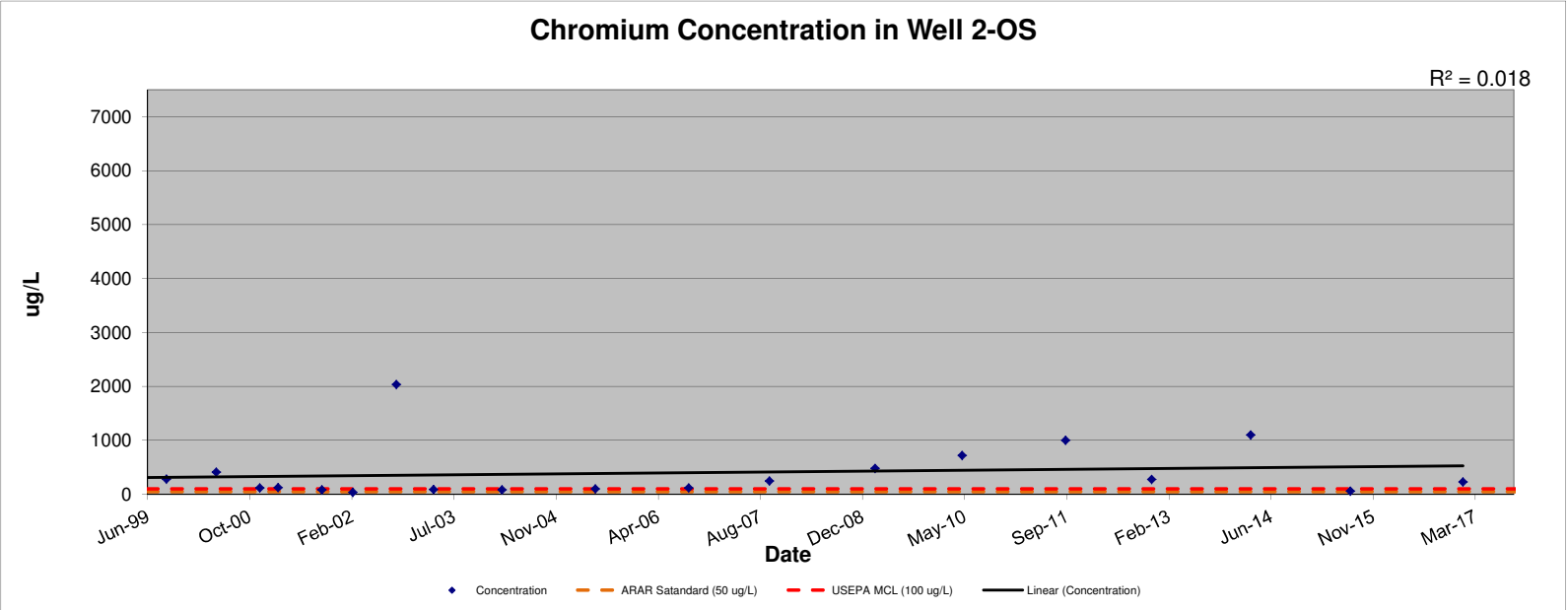
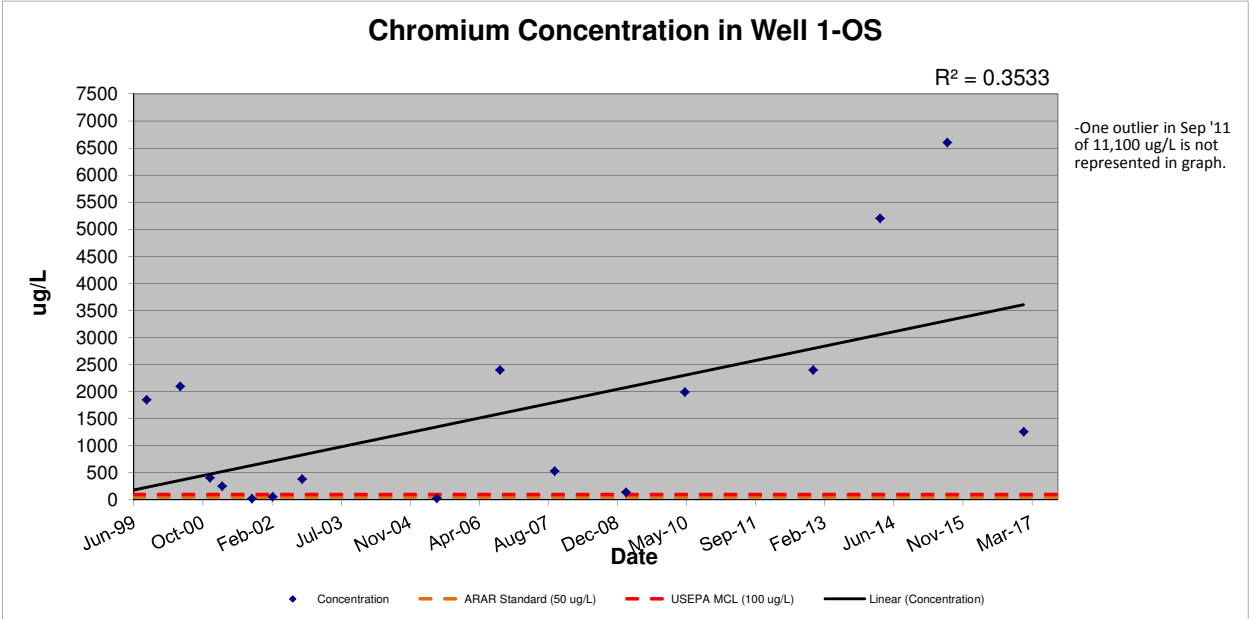
NA = Not Analyzed
ND = Not Detected

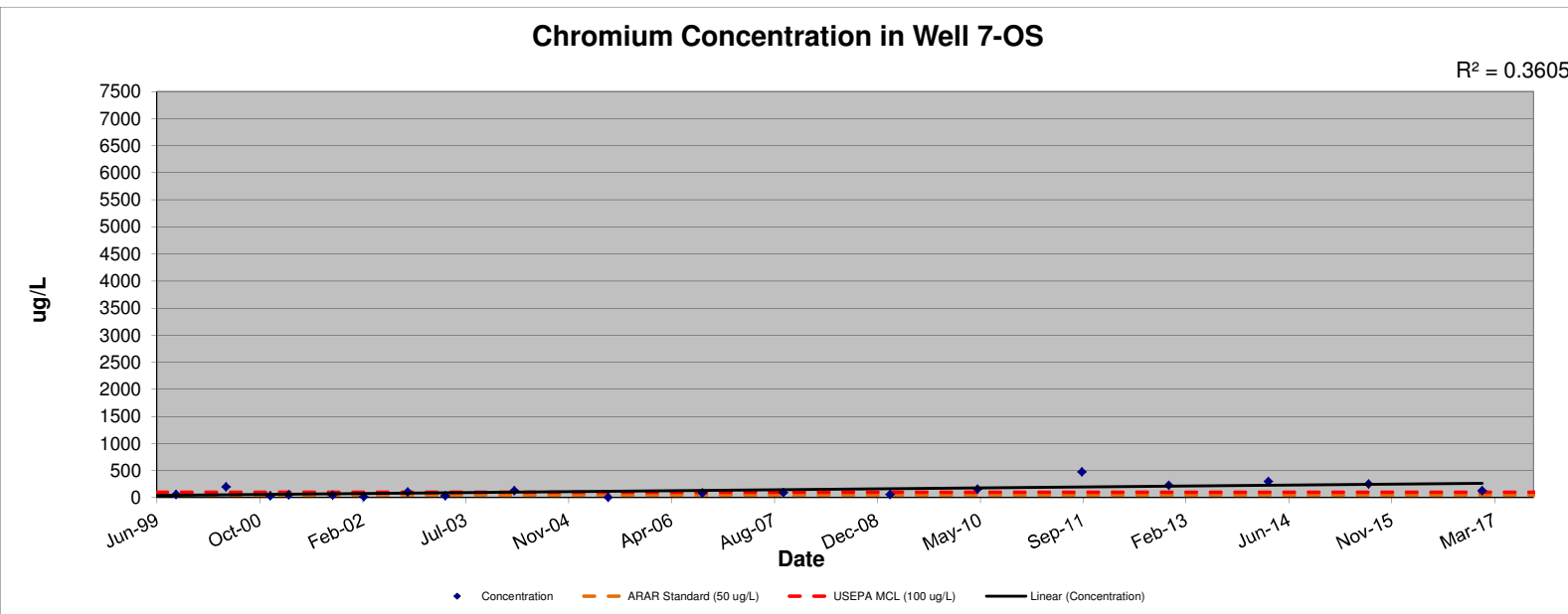
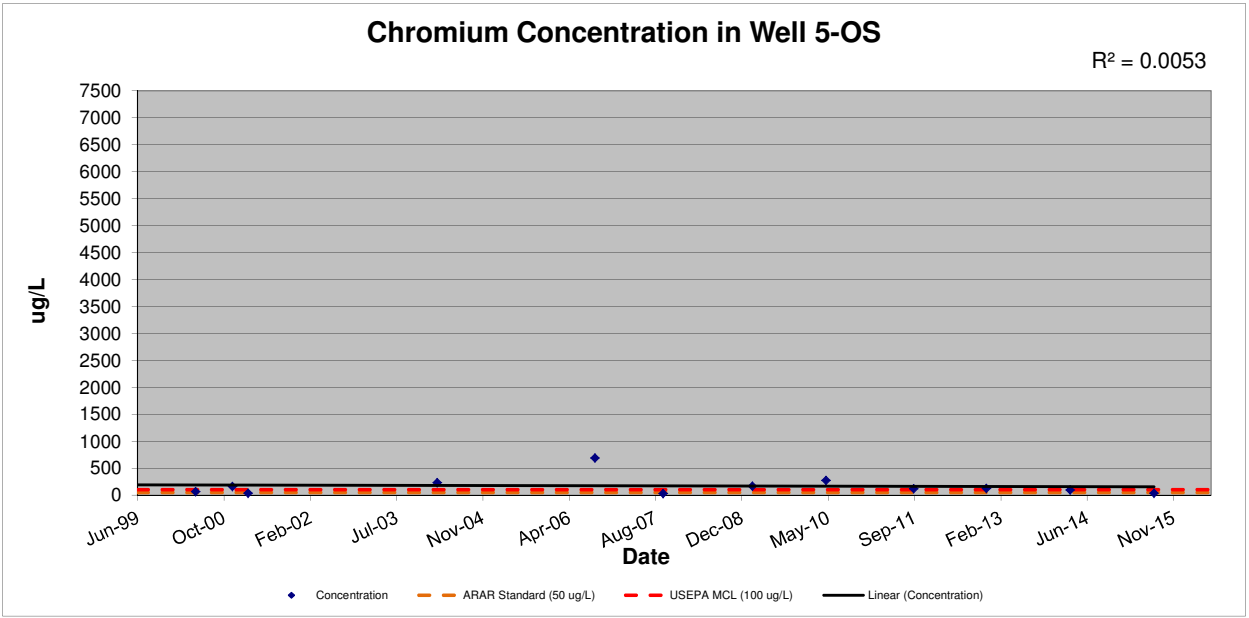
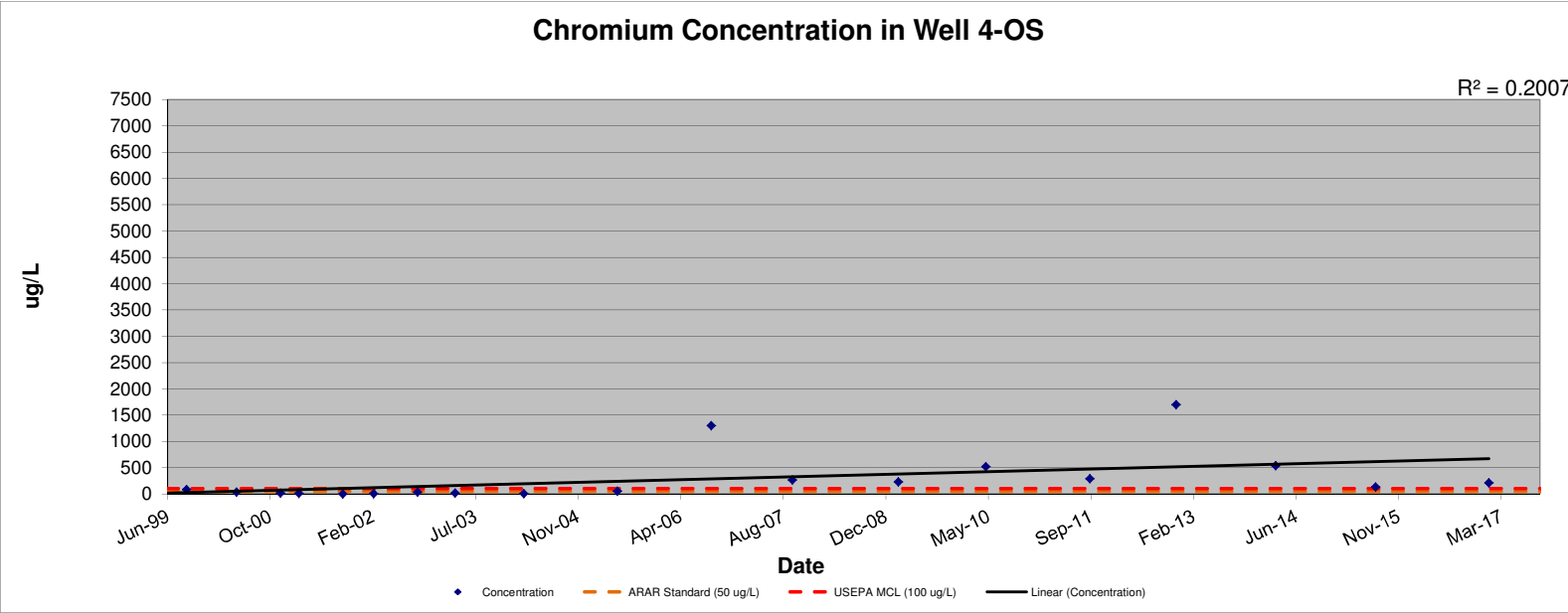
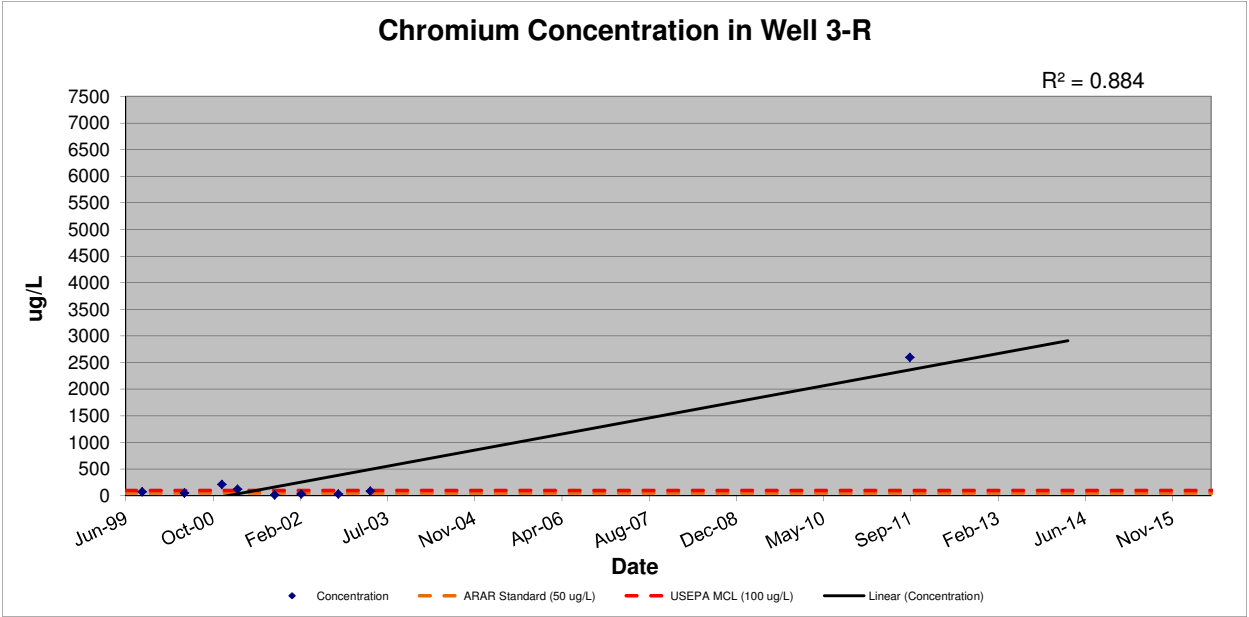
< = The compound was analyzed for but not detected at the laboratory detection limit listed.
ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).
MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

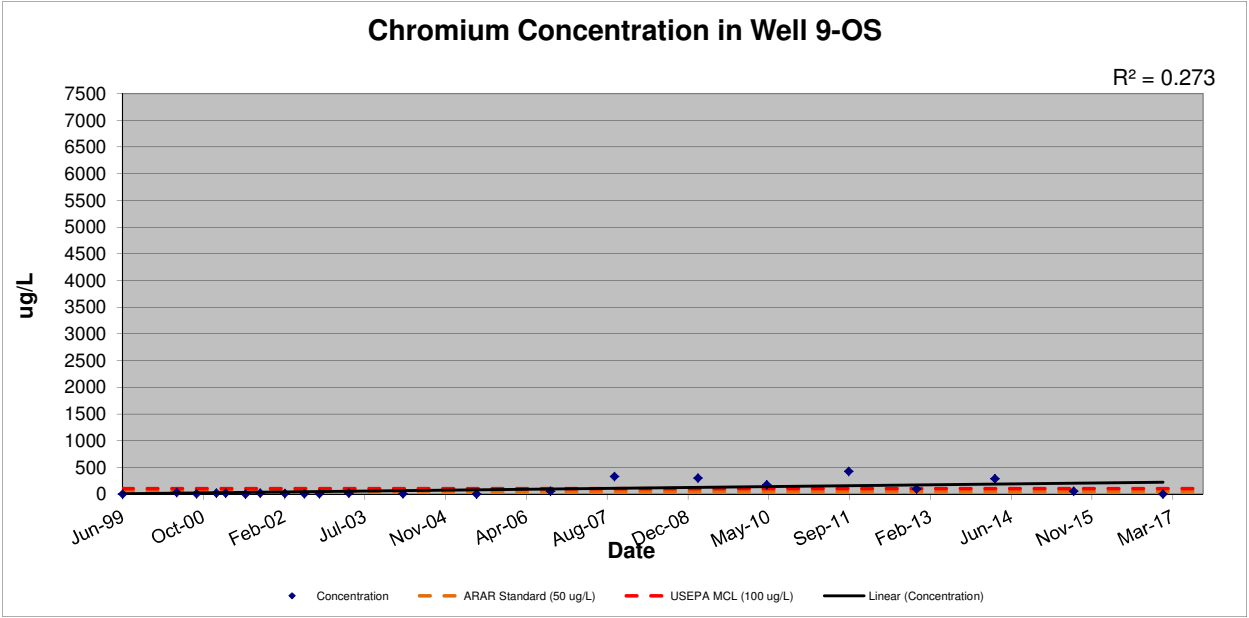
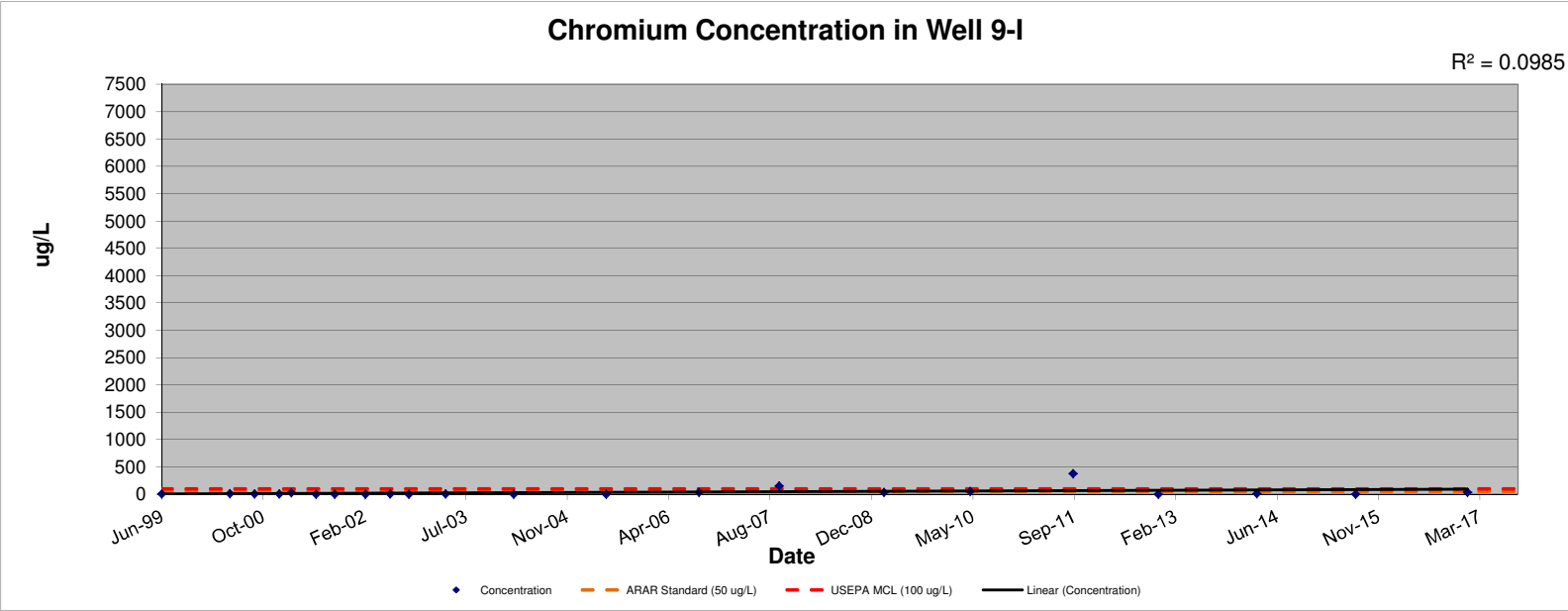
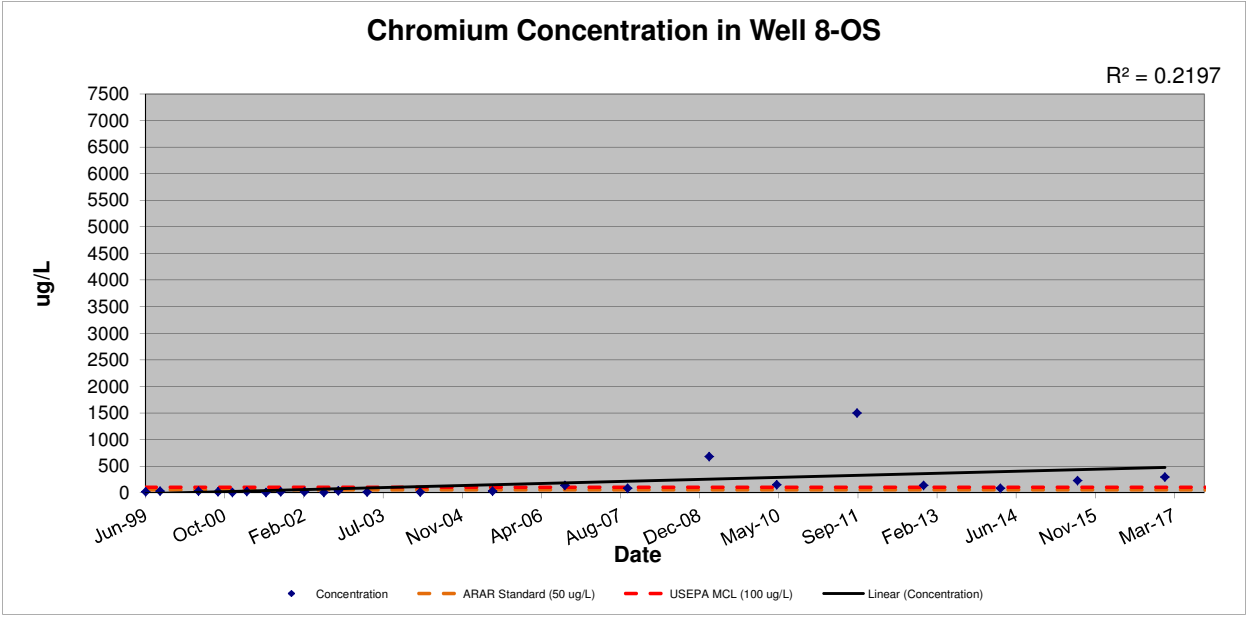
Laboratory Qualifier Definitions

B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N = Spiked sample recovery not within control limits.









Summary of Historical Groundwater Quality Results - Iron (µg/L)
ARAR Standard = 300 µg/L; USEPA Secondary MCL = 300 µg/L; and, Part 5 MCL = 300 µg/L
Town of Ramapo Landfill

Notes:

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

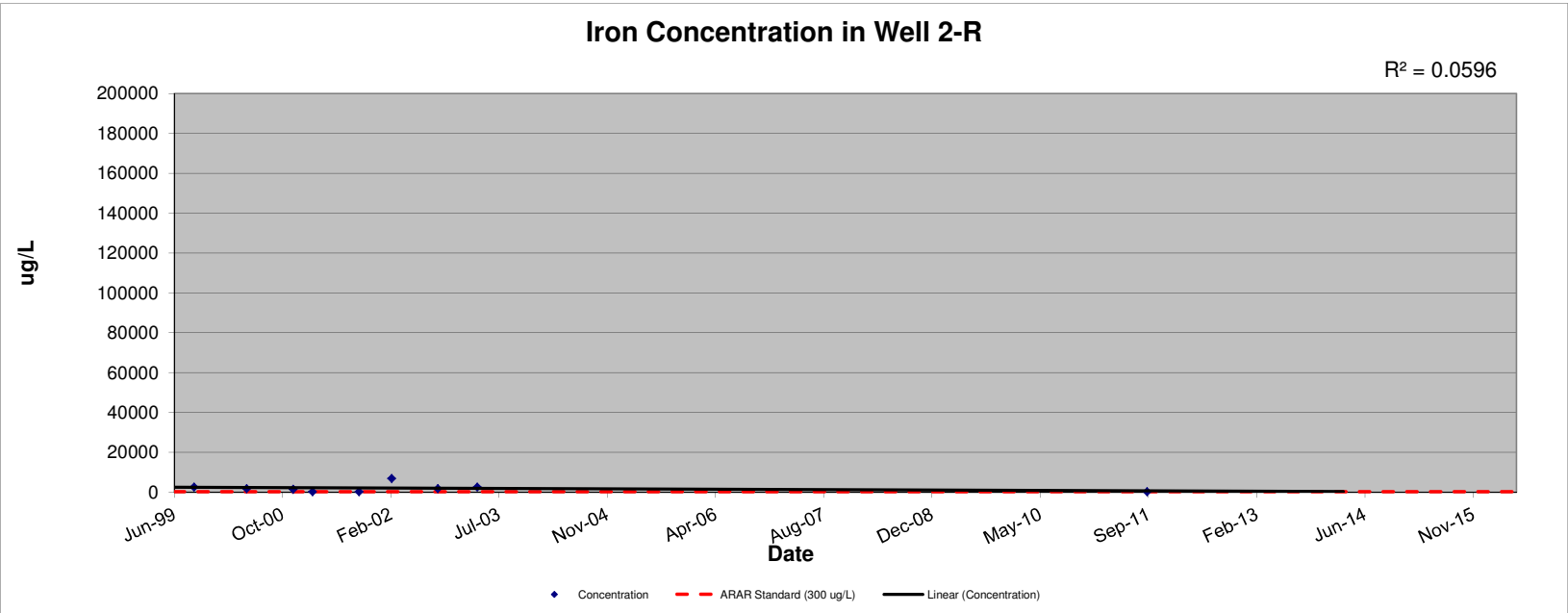
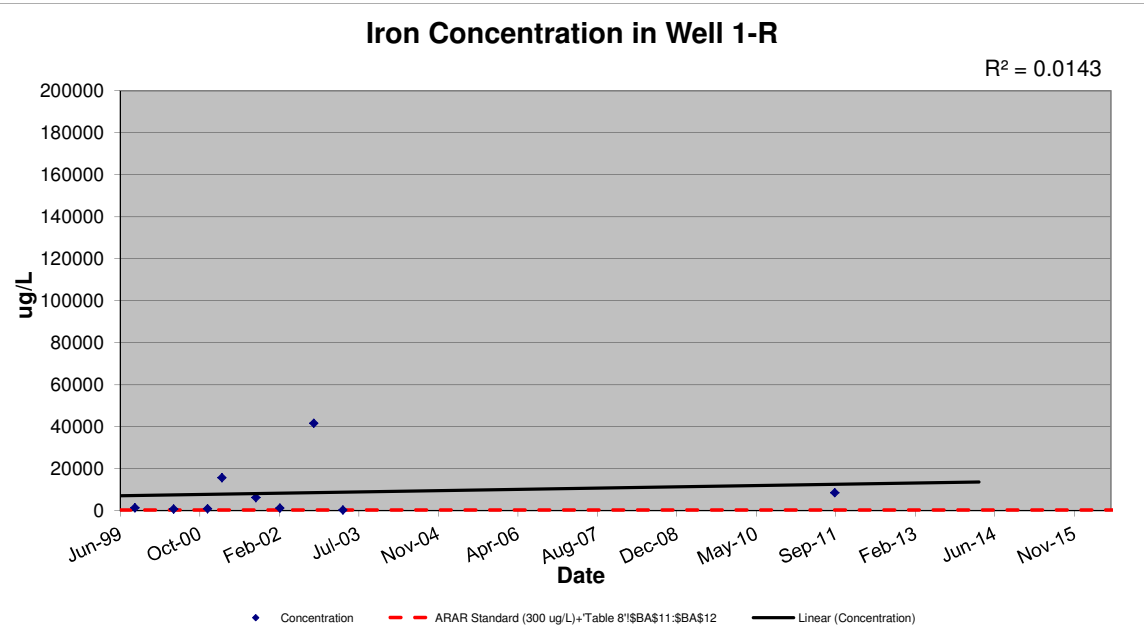
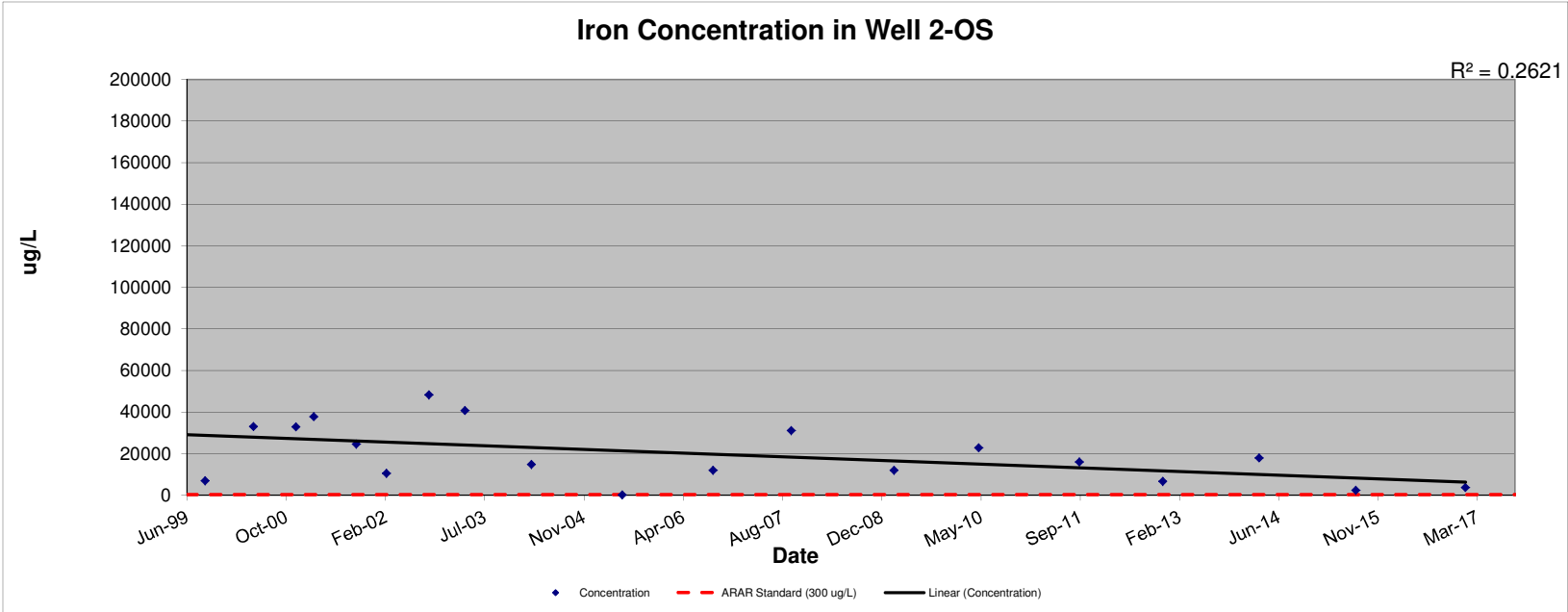
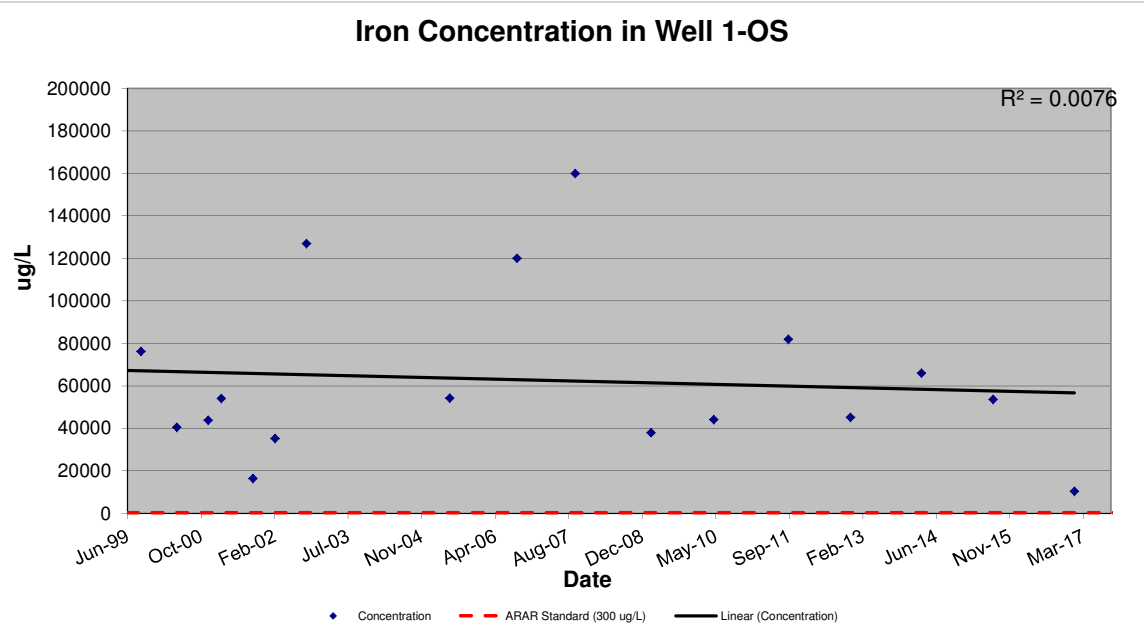
Laboratory Qualifier Definitions

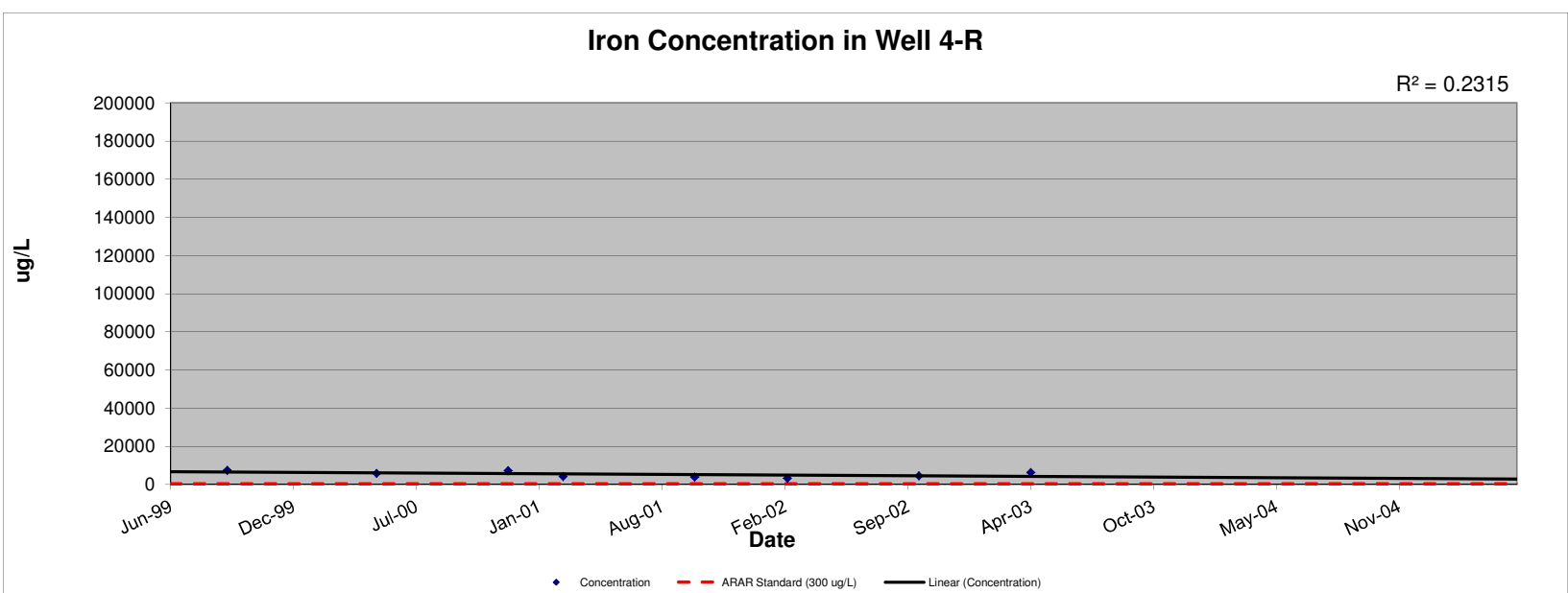
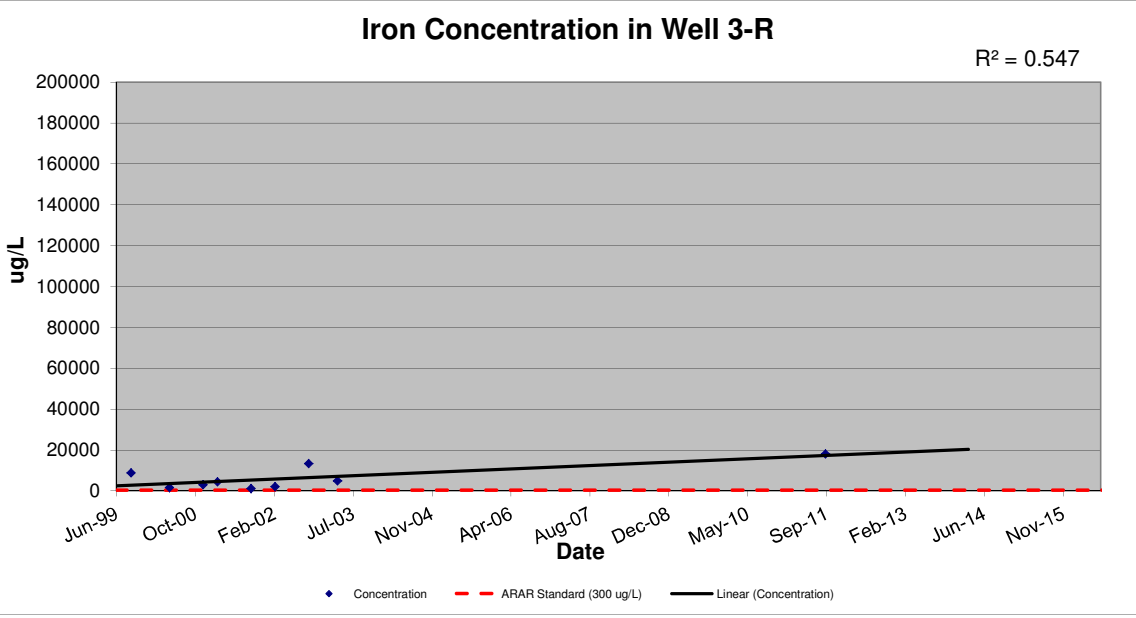
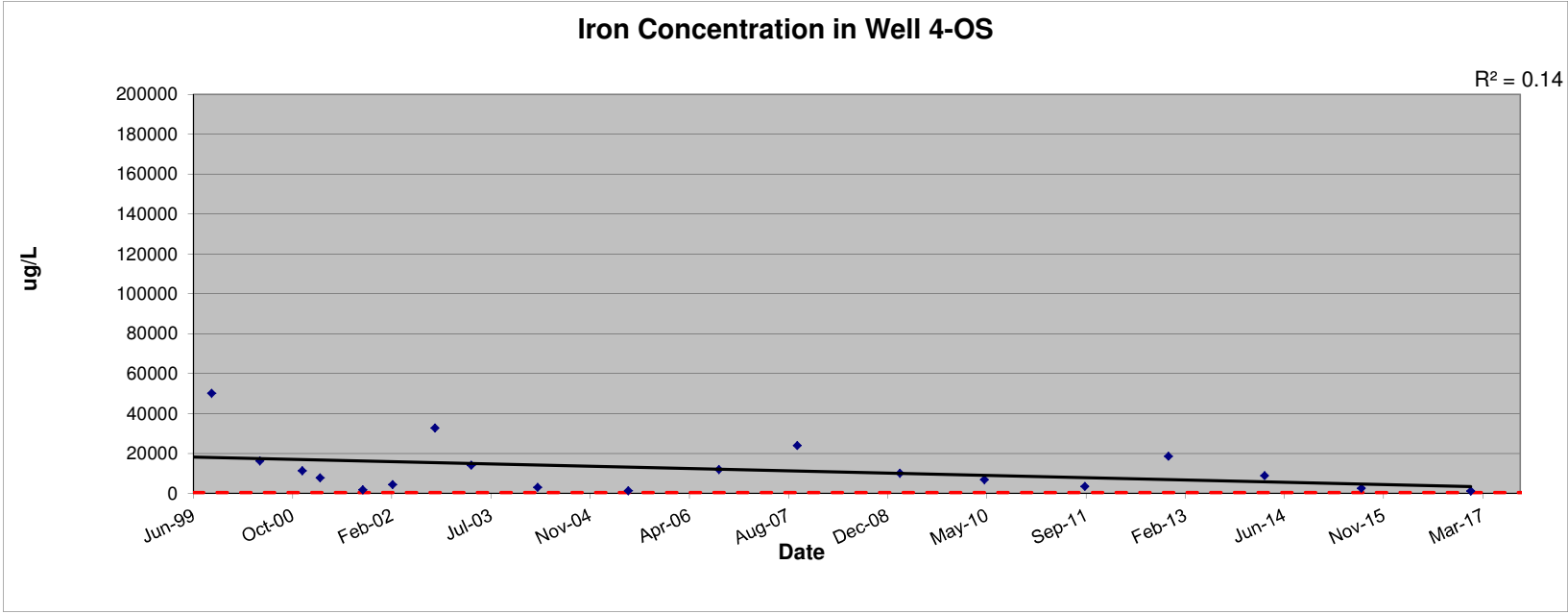
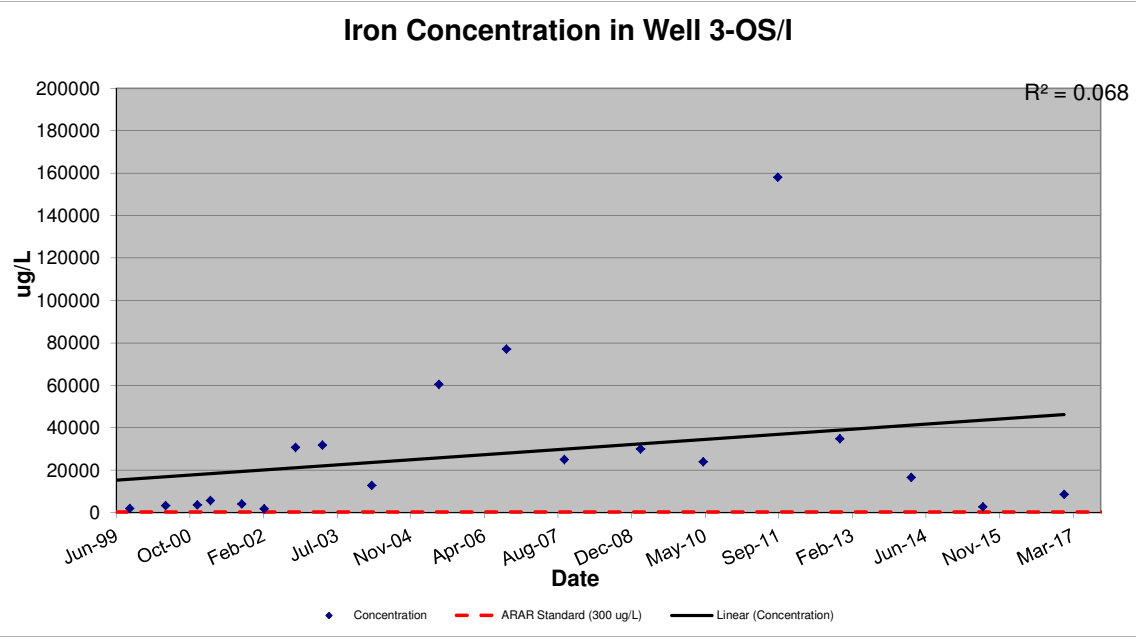
B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

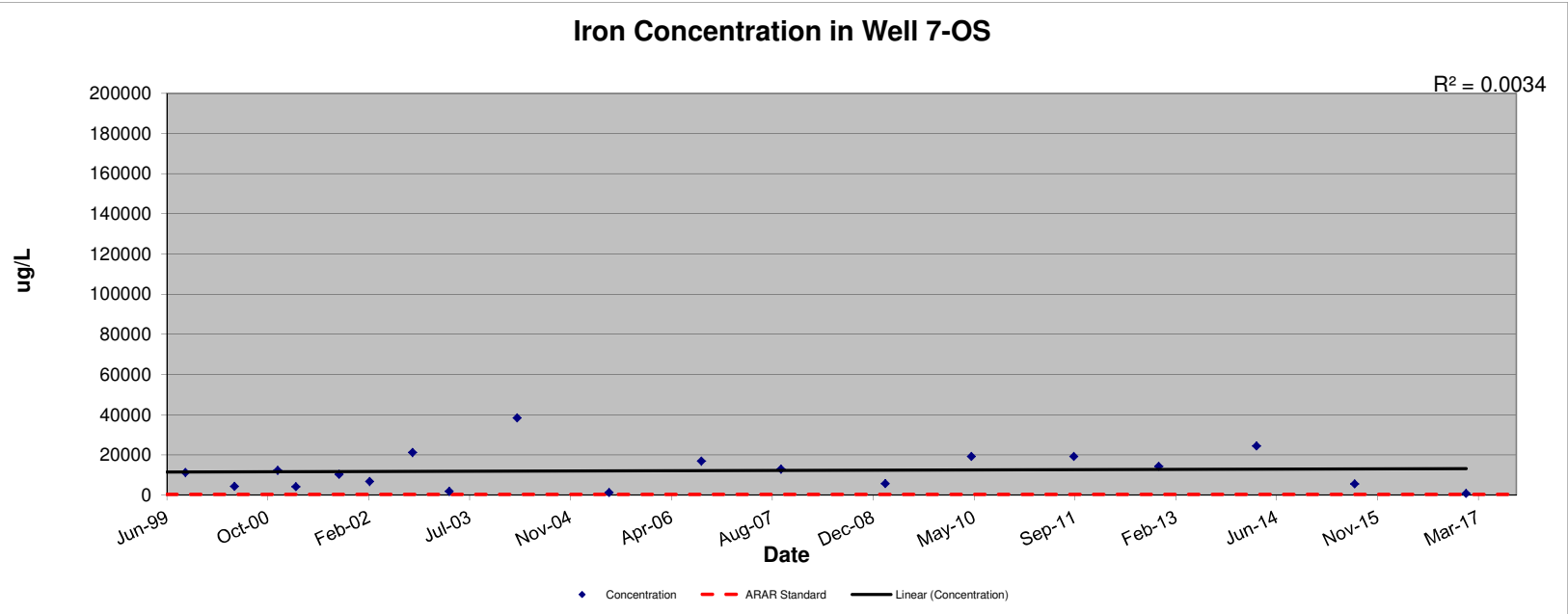
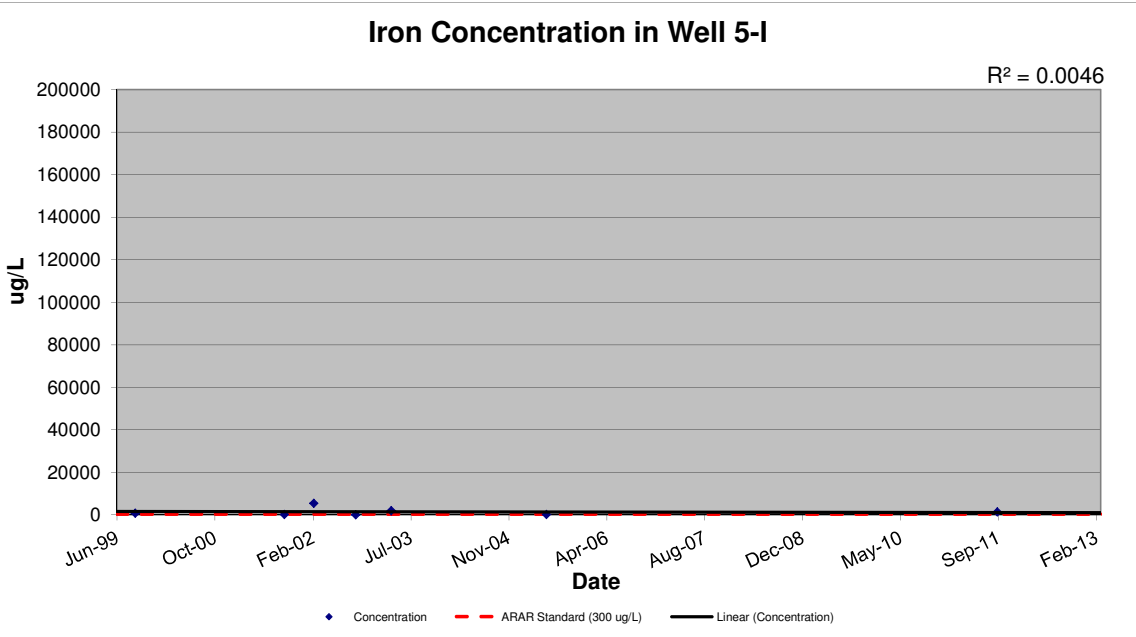
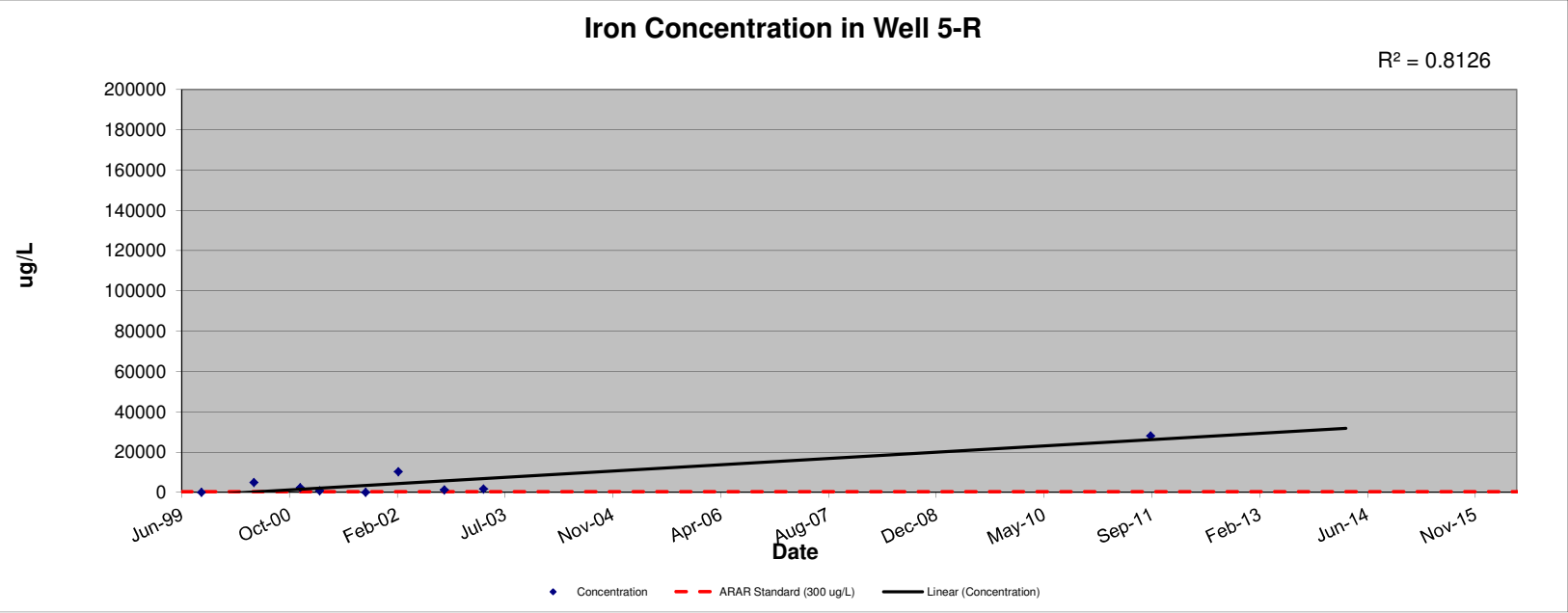
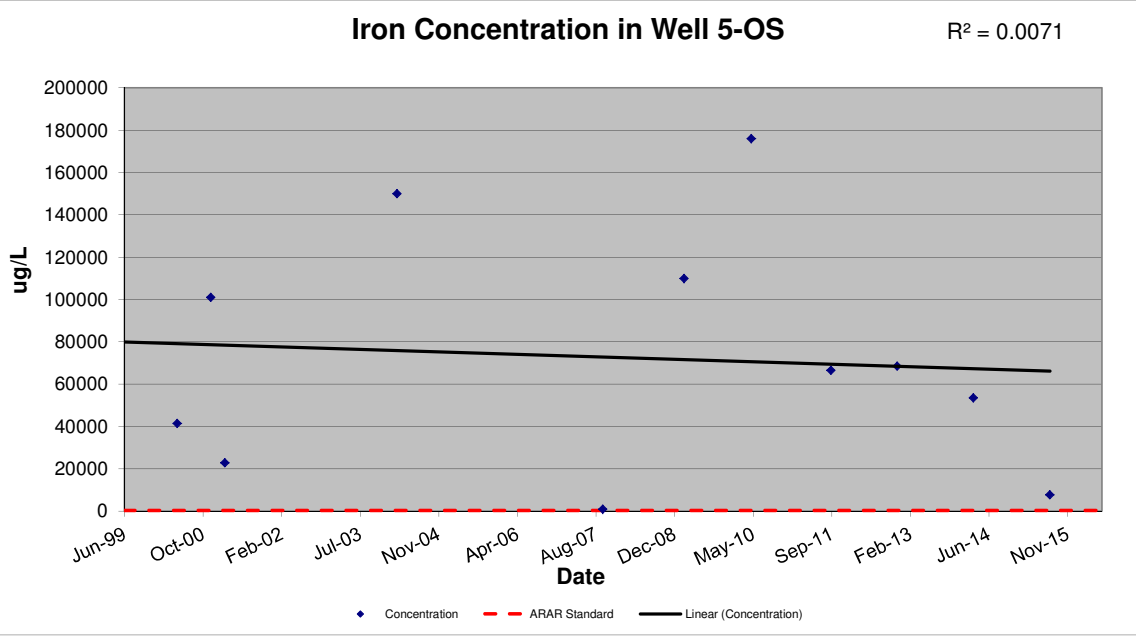
E = Indicates an estimated value because of the possible presence of interference.

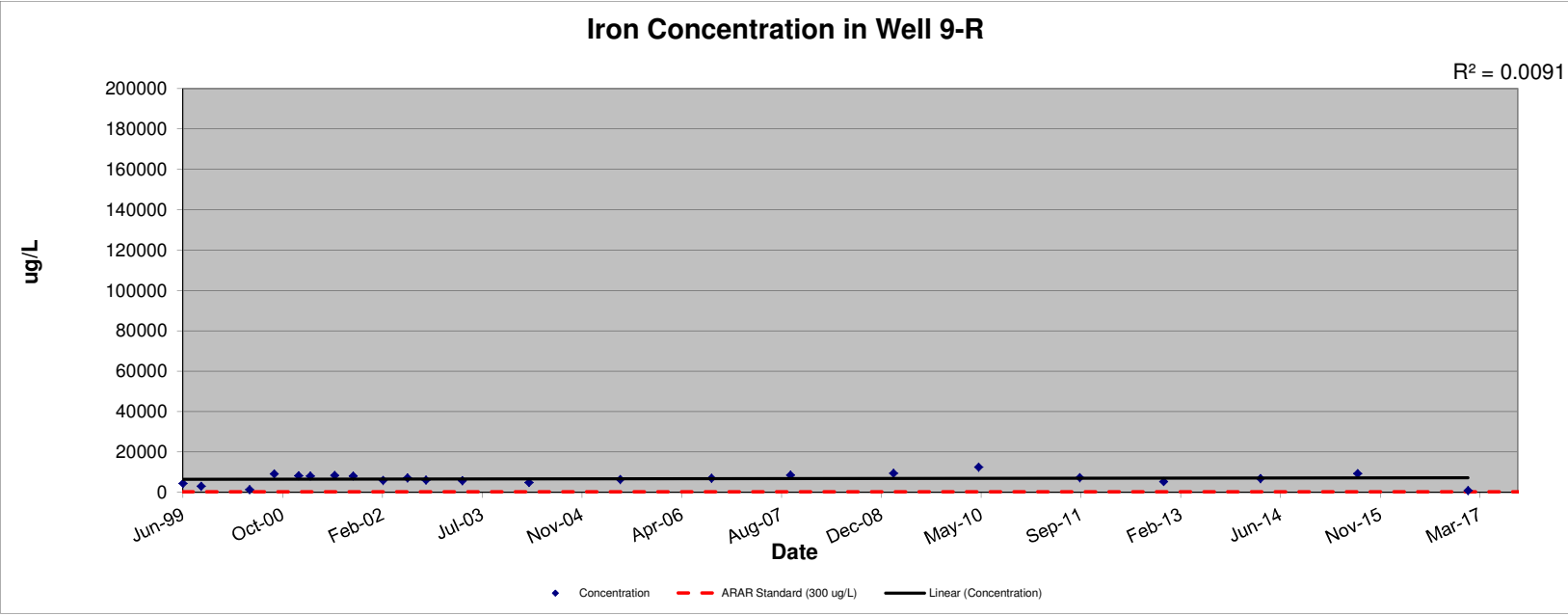
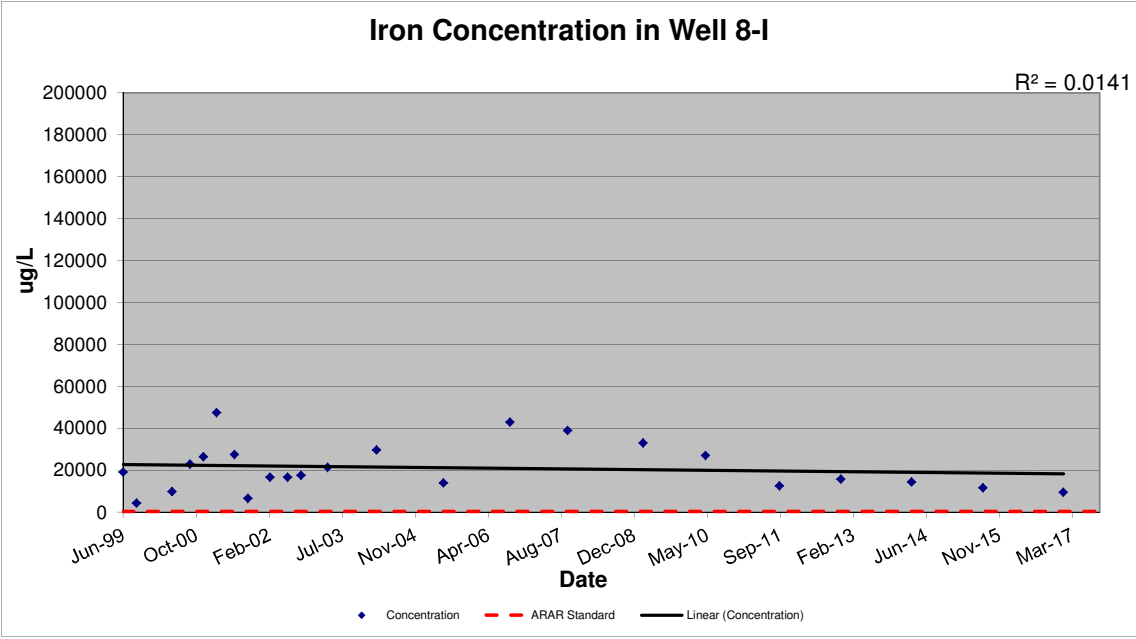
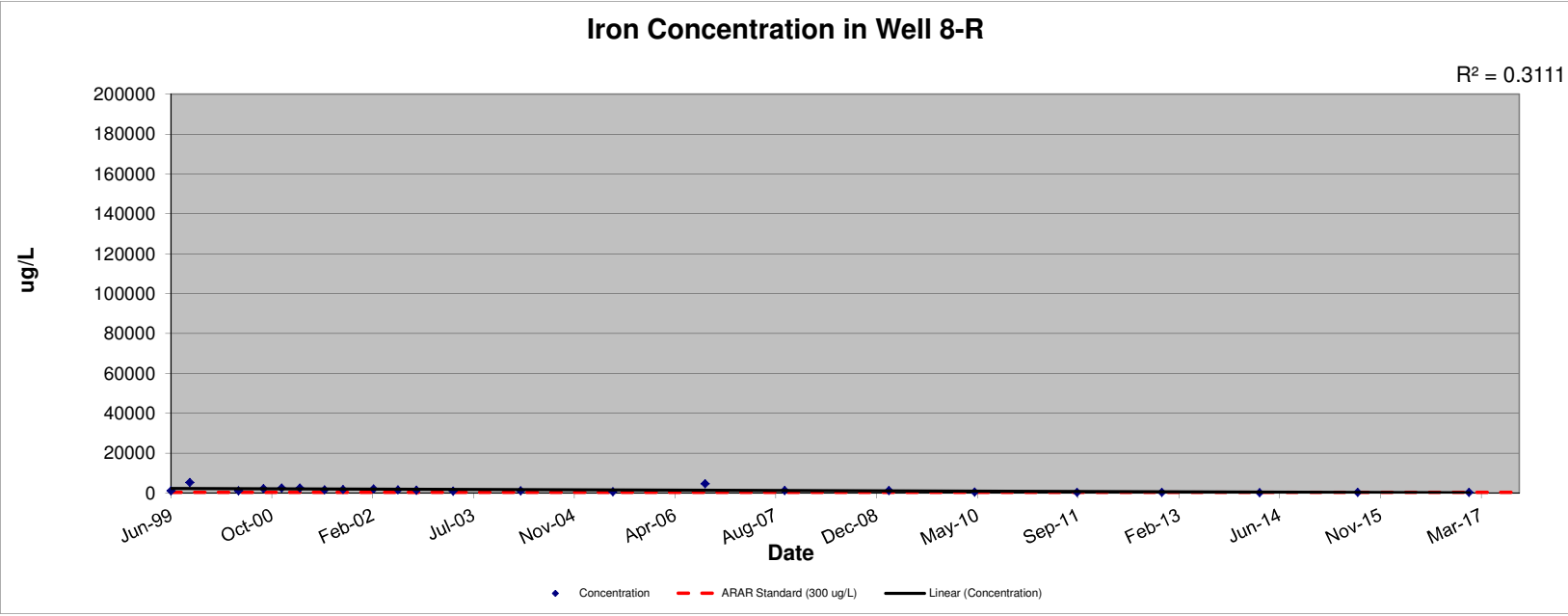
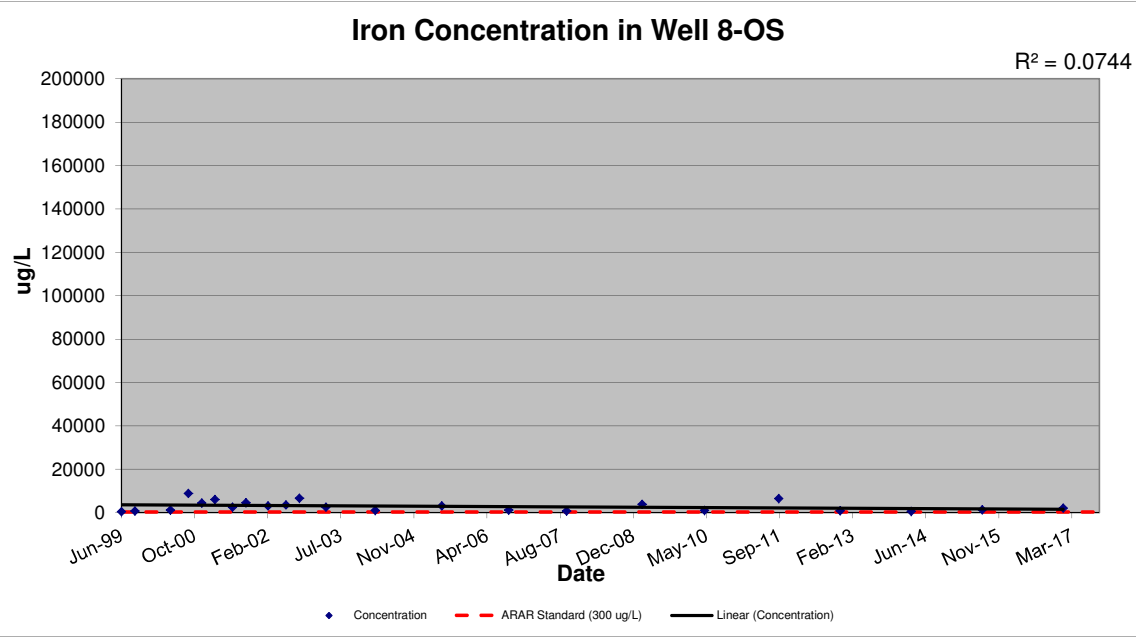
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

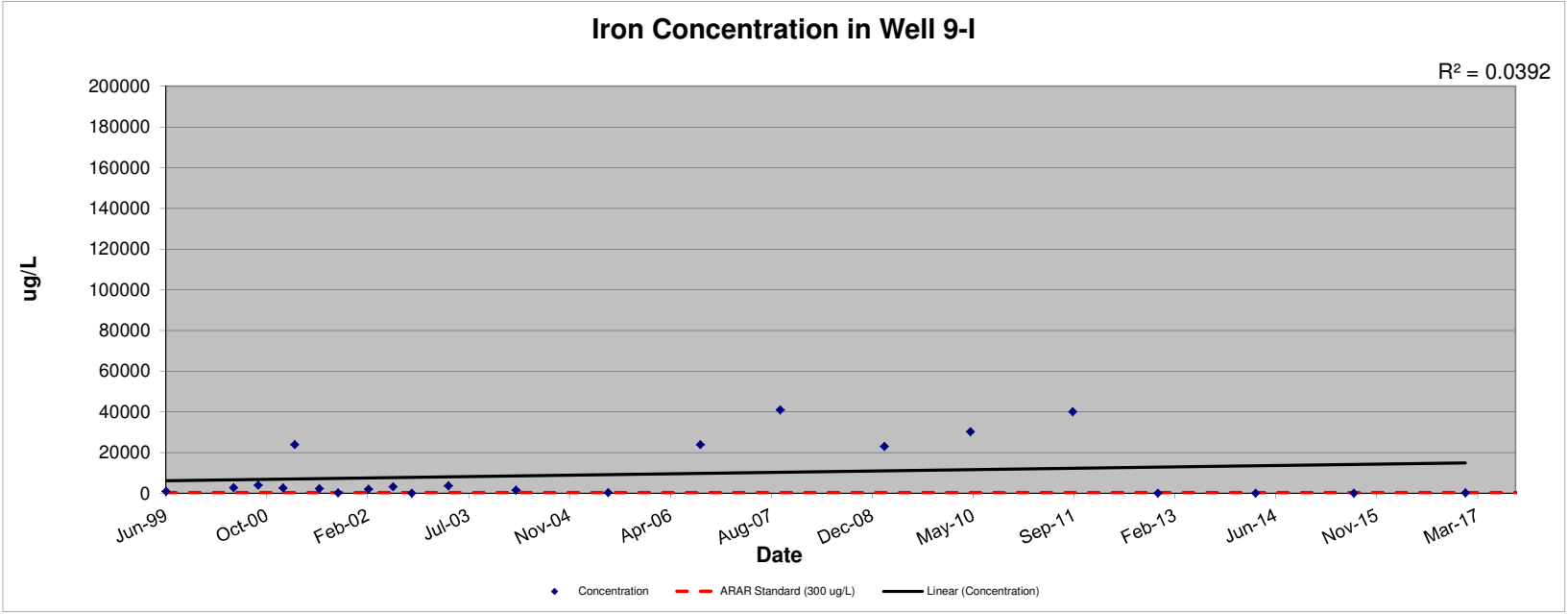
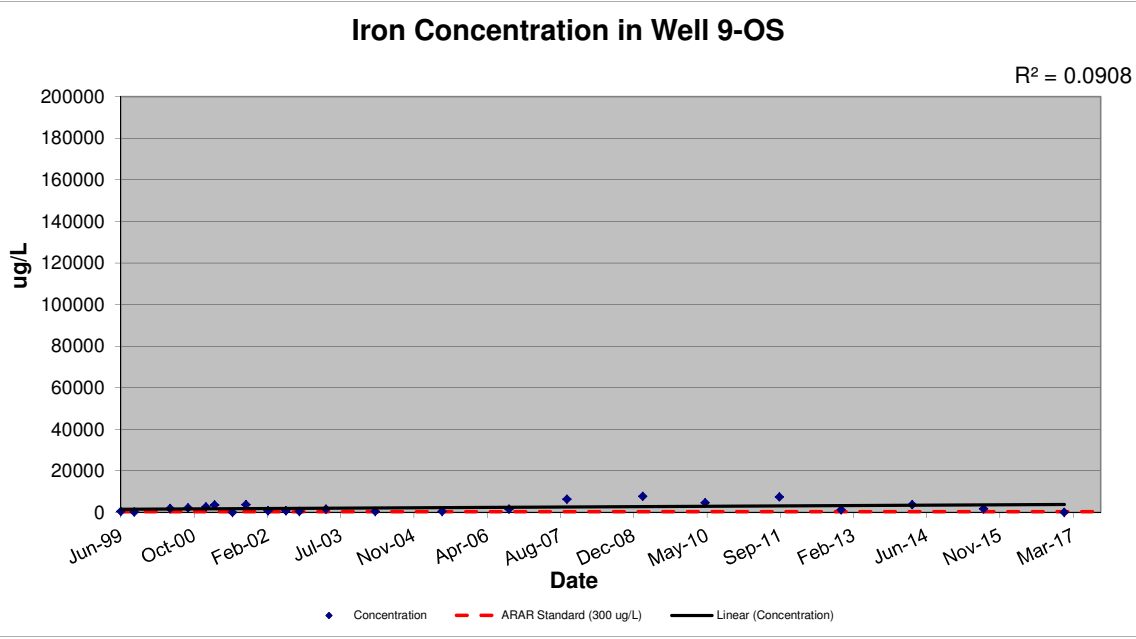
N = Spiked sample recovery not within control limits.

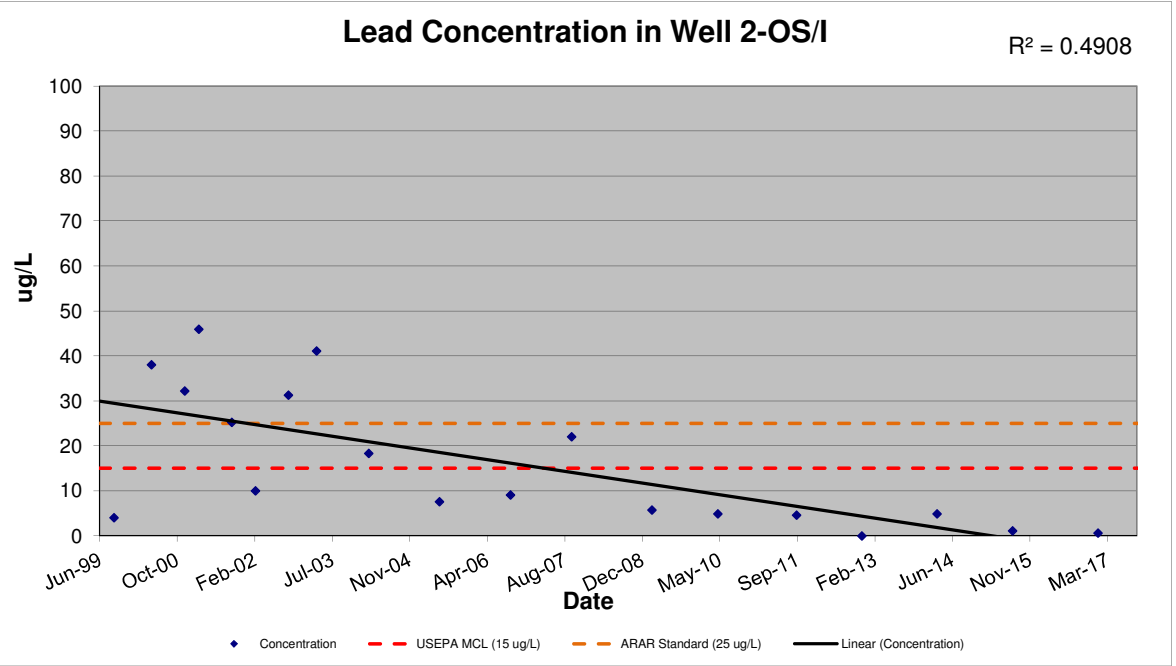
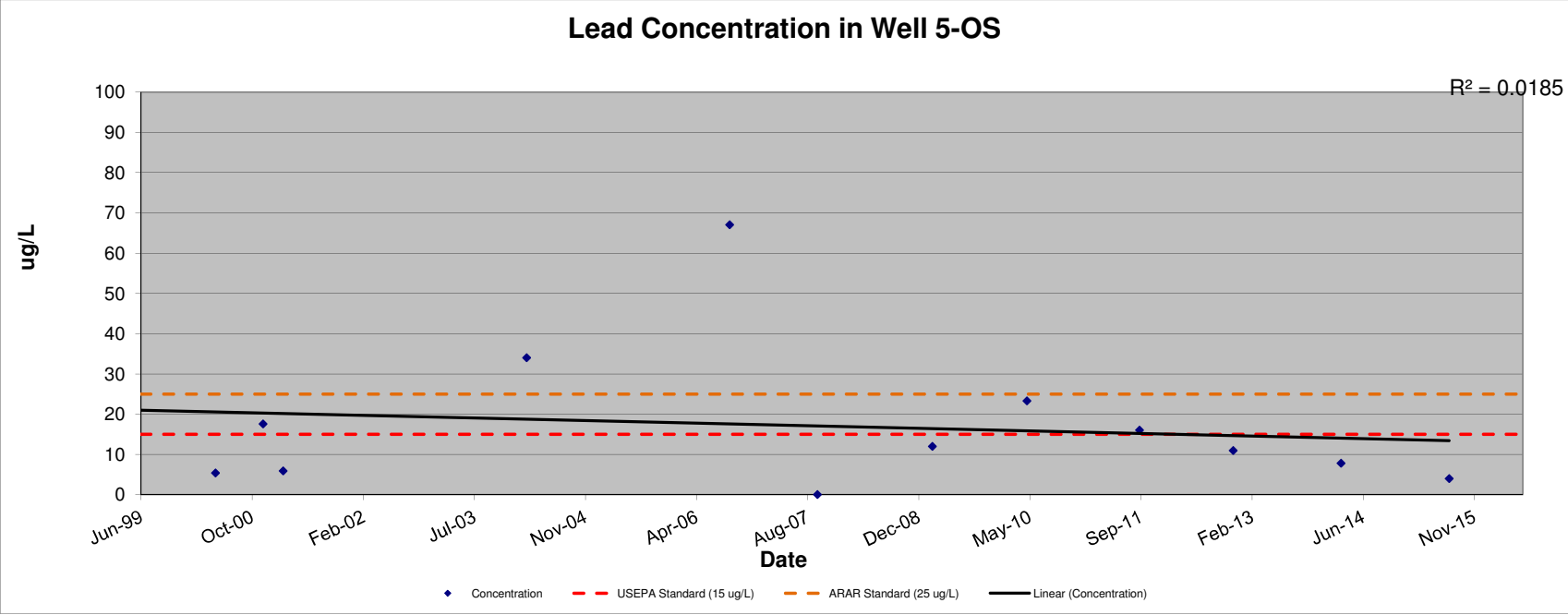
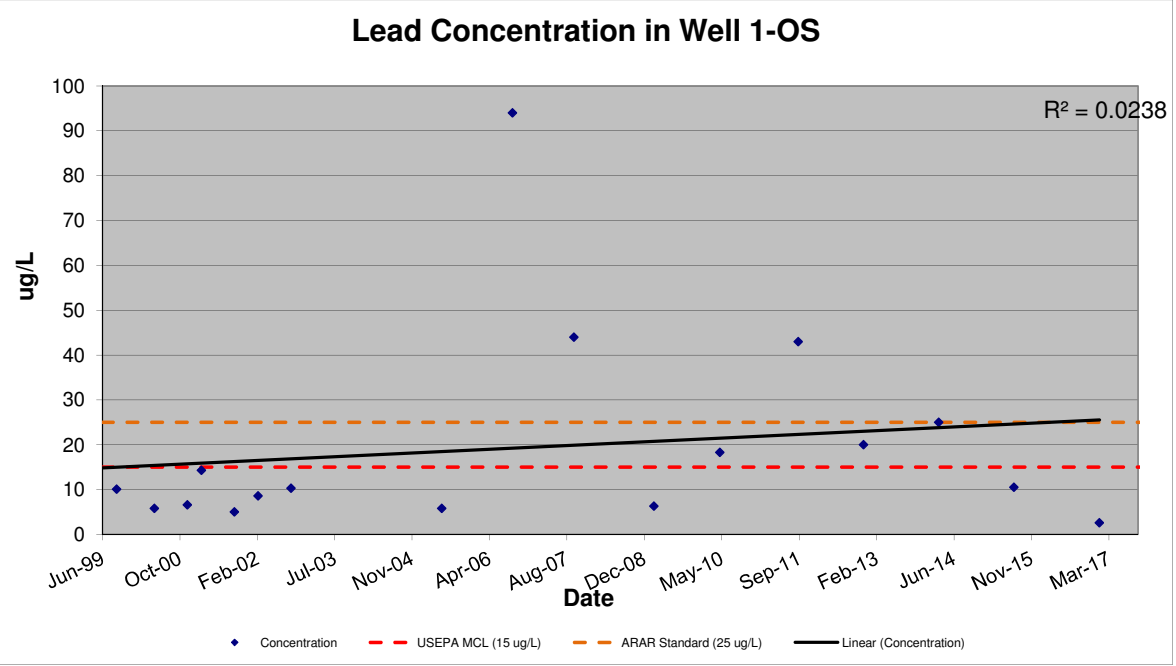












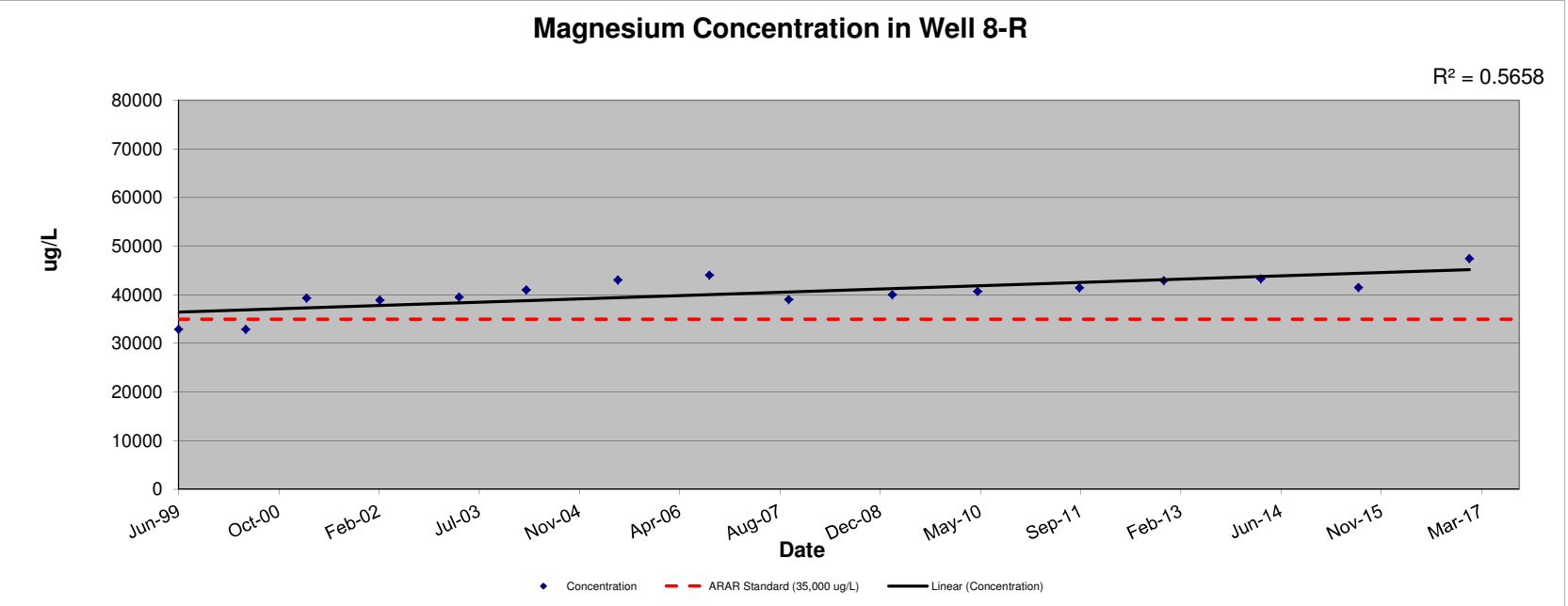
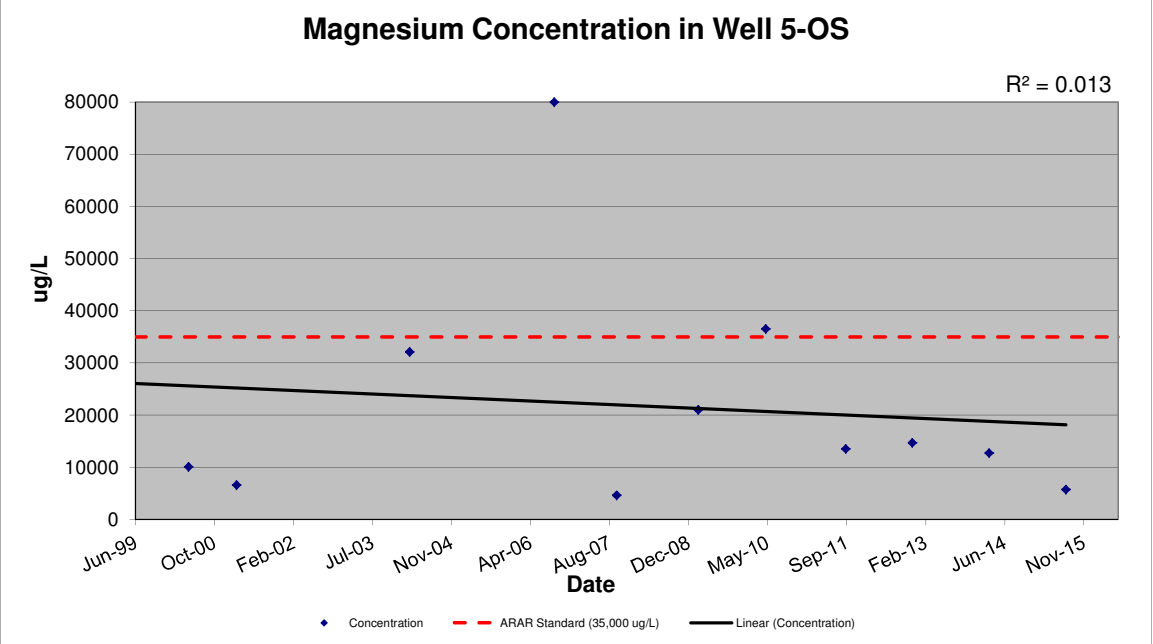


TABLE 16

Summary of Historical Groundwater Quality Results - Manganese (µg/L)
ARAR Standard = 300 µg/L; USEPA Secondary MCL = 50 ug/L; and, Part 5 MCL = 300 µg/L
Town of Ramapo Landfill

DATE	Well 1-OS	Well 1-R	Well 2-OS	Well 2-R	Well 3-OS/I	Well 3-R	Well 4-OS	Well 4-R	Well 5-OS	Well 5-I	Well 5-R	Well 7-OS	Well 7-R	Well 8-OS	Well 8-I	Well 8-R	Well 9-OS	Well 9-I	Well 9-R	Well 10-OS	Well 10-I	Well 10-R	UP-OS	UP-I	UP-R	Well PW-1	Well PW-2	SVWC-93	SVWC-94	SVWC-95	SVWC-96																																				
Jun-99		NA		NA		NA		NA		NA		NA		NA		NA	1400		1050		1900		15.1		18		1620			NA		NA		NA		1.9		6.6		2.5		4.3		40.6		1.6																					
Sep-99	9830		599		936		744		577		15100		1720		1180		NA	27.2		1.2		755		98.5		860		1570		2780		11.7		5.4		1320		NA		NA		NA		NA		ND		ND		NA		NA															
May-00	5740		236		4110		497		5720		14200		1340		1320		533		69.3		NA		305		257		525		789		2640		40.1		109		NA		NA		NA		NA	0.81	B	1.8	B	0.49	B	3.6	B	40.4		< 0.2		NA											
Sep-00		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		3820		2810		2390		54.6		66.7		3020		NA		NA		NA		NA		NA	0.74	B	2.5	B	2.1	B	7.1	B	49.7		< 0.7										
Dec-00	5810		158		3370		247		5070		13100		1930		1240		1080		NA		33		1270		360		2410		2560		2120			NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.7															
Jan-01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA															
Mar-01	4940		2070		3450		142		3750		10400		440		1040		323		NA	13.1	B	638	N	379	N	6760	N	3430		2250	N	93.2	N	561	N	2860	N		NA		NA		NA		NA		NA		NA	13.6	B	6	B	2.2	B	4.7	B	49.8		< 0.6							
Oct-01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		5800		2990	N	2640		< 0.6		38		2960		NA		NA		NA		NA		NA		NA	4.35	B	1.96	B	< 0.6		2.67	B	143		< 0.6								
Jul-01	5310		909		3830		106		2040		12700		839		1070		NA	2.7	B	< 2.2		668		375		6340		1760		2060		77.6		4.9	B	3080		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA									
Mar-02	6240		104		2300		616		2800		9950		759		1110			NA	132		154		592		292		1620		3670		1930		24.7		44.6		2490		NA		NA		NA		NA		NA	< 1.4		6	B	< 1.4		6.9	B	68.2		< 1.4									
Oct-02		E	NA		NA		NA		E	NA		NA		NA		NA		NA		NA		NA		NA		3390		2390		2160		19		75.8		2740		NA		NA		NA		NA		NA	< 1.9		6.9	B	< 1.9		4.6	B	77.4		< 1.9										
Jul-02	8160		E	1650	E	6940	E	404	E	13400	E	19400	E	3790	E	953	E	NA	3.7	B,E	21.7	E	1730	E	NA	6950	E	2980	E	1980	E	10.5	E	4.1	B,E	2880	E		NA		NA		NA		NA		NA	2.1	B,E	3.3	B,E	7.4	B	< 1.9		61.7		3.4	B								
Apr-03		NA	177		3100		157		24800		12100		620		1180			NA	63.6		29.5		124		NA	894		3140		2050		35.6		52.3		2630		NA		NA		NA		NA		NA	< 0.8		3.9	B	< 0.8		6.1	B	80		< 0.8										
Mar-04		NA		NA	2300				NA	7200			NA	338		NA	2040		NA		NA		NA		2140		1590		4650		2150		4.4	B	19		1980		NA		NA		NA		NA		NA	< 0.9		< 0.9		< 0.9		3.3	B	88		< 0.9									
Jun-05	4720			NA	778				NA	6450			NA	700		NA		NA	13.6		NA		NA		222		691		3090		2190		27.7		11.6		2730		NA		NA		NA		NA		NA	< 2.1		< 2.1		< 2.1		6.5	B	86		< 2.1									
Sep-06	2800			NA	1900				NA	9200			NA	860		NA	5100		NA		NA		NA		1300		110		1900		2200		51		290		2800		NA		NA		NA		NA		NA	0.75	J	1.4	J	0.62	J	3.2	J	25	J	< 50									
Oct-07	5100			NA	3500				NA	4400			NA	2700		NA	14	J	NA		NA		NA		920		2000		2200		1900		140		560		2900		NA		NA		NA		NA		NA	< 50		5.6	J	< 50		3.8	J	96		< 50									
Mar-09	9000			NA	2200				NA	14000			NA	400		NA	1000		NA		NA		NA		450		610		3100		1900		150		290		3700		NA		NA		NA		NA		NA	< 50		1.8	J	< 50			NA	140		< 50									
May-10	14800	B		NA	1680				NA	2460	B		NA	223		NA	2230		NA		NA		NA		1710	B	NA	399	B	4590	B	1960	B	90.1	B	392	B	4030	B		NA		NA		NA		NA		NA	1.2	J,B	3.1	B	0.3	J,B		NA	110	B	22	B						
Sep-11	8300	B	1500	B	780	B	530	B	4500	B	41400	B	160	B		NA	830	B	26	B	640	B	1200	B		NA	700	B	3500	B	2100	B	110	B	590	B	2700	B		NA		NA		NA		NA		NA		NA	2.1	J,B	2.4	J,B	1.8	J,B	1.5	J,B		NA		NA					
Nov-12	11600			NA	980	B			NA	2800	B		NA	560	B	NA	660	B		NA		NA		1400	B		NA	280	B	3500	B	2000	B	19	B	3.8	B	2300	B		NA		NA		NA		NA		NA	1.3	J,B	2.6	J,B	0.89	J,B	0.75	J,B	200	B		NA						
Mar-14	16900	B		NA	1900	B			NA	2900	B		NA	740	B	NA	620	B	NA		NA		NA		1500		NA	100	B	3300	B	1900	B	51		4		3100			NA		NA		NA		NA		NA	1.6	J	41			ND		ND	130		ND							
Nov-14		NA		NA		NA			NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA								
Jul-15	12550			NA	363.3				NA	271.3			NA	275.9			NA	65.1		NA		NA		NA		173		NA		178.4		2560		47		31.8		4459			NA		32.9		8.3		15.8			NA		NA		<2		<2		<2		1810		<2					
Jan-17	2479			NA	86.8				NA	520			NA	23.9		NA		NA		NA		NA		NA		19		NA		65.6		1558		1.7		2.3		1659			NA		22.3		1.3		16.2		15.4	10.9		4.5		NA		1.1		0.96	J	1		0.5	J	67.5		<0.4	

Notes:

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations

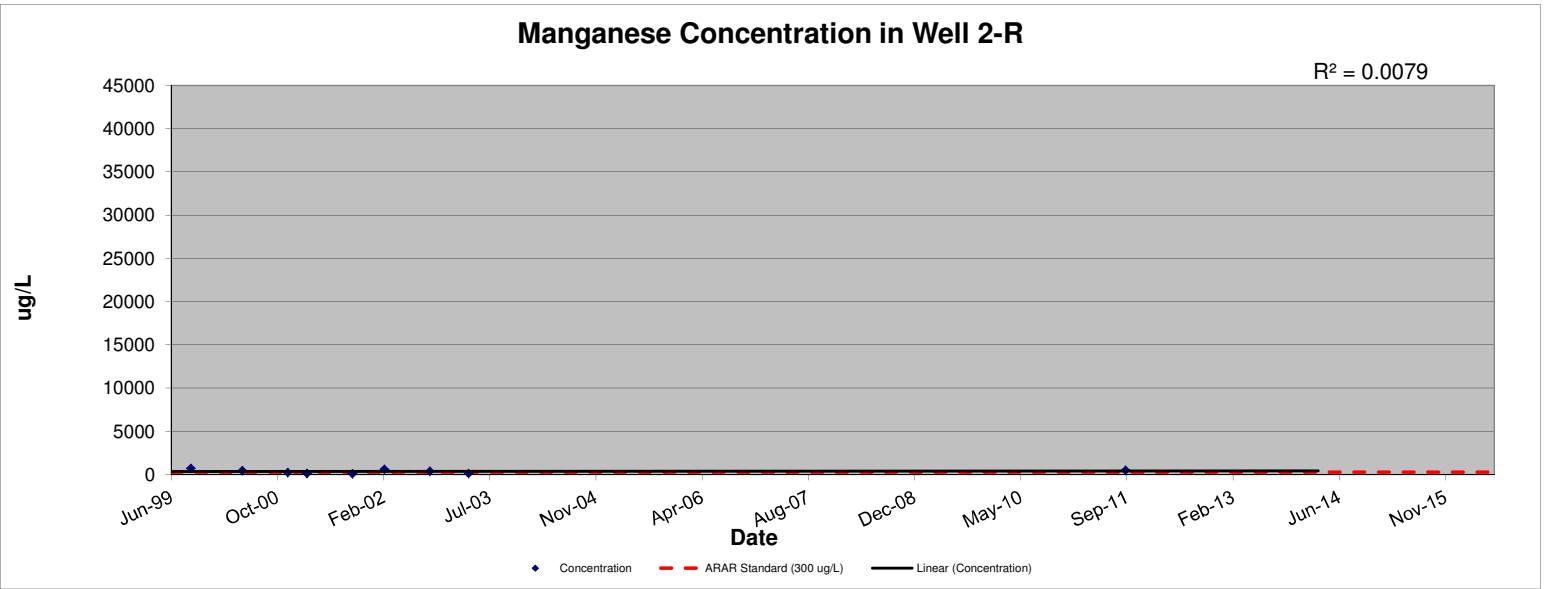
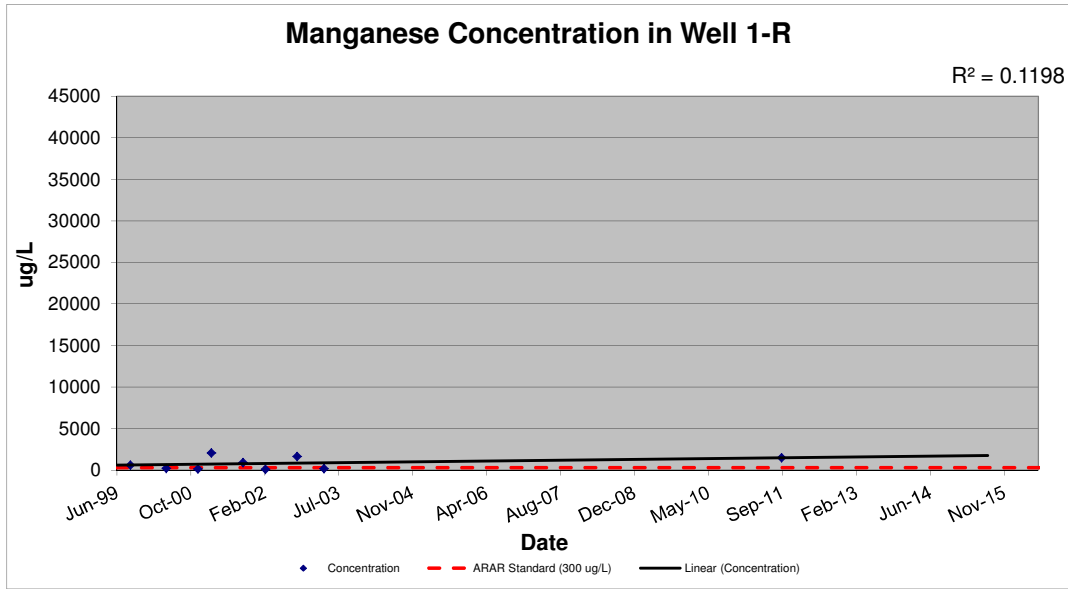
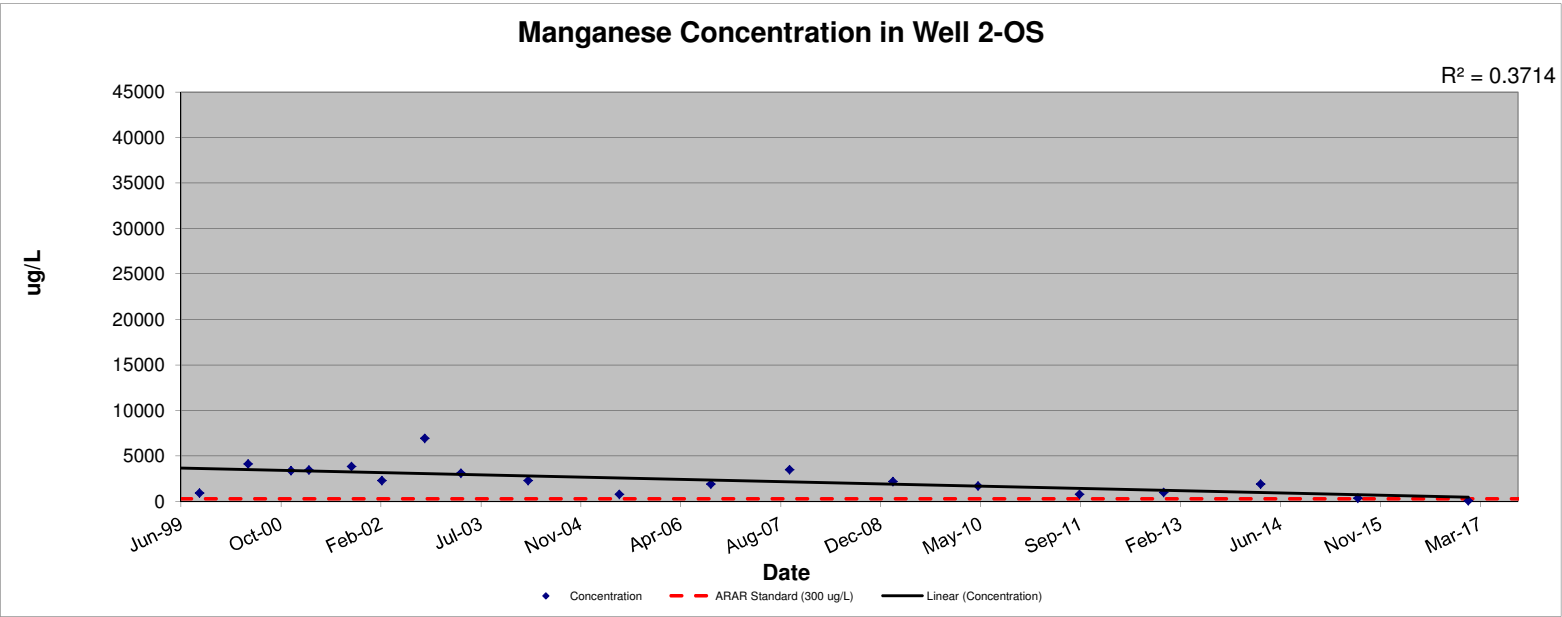
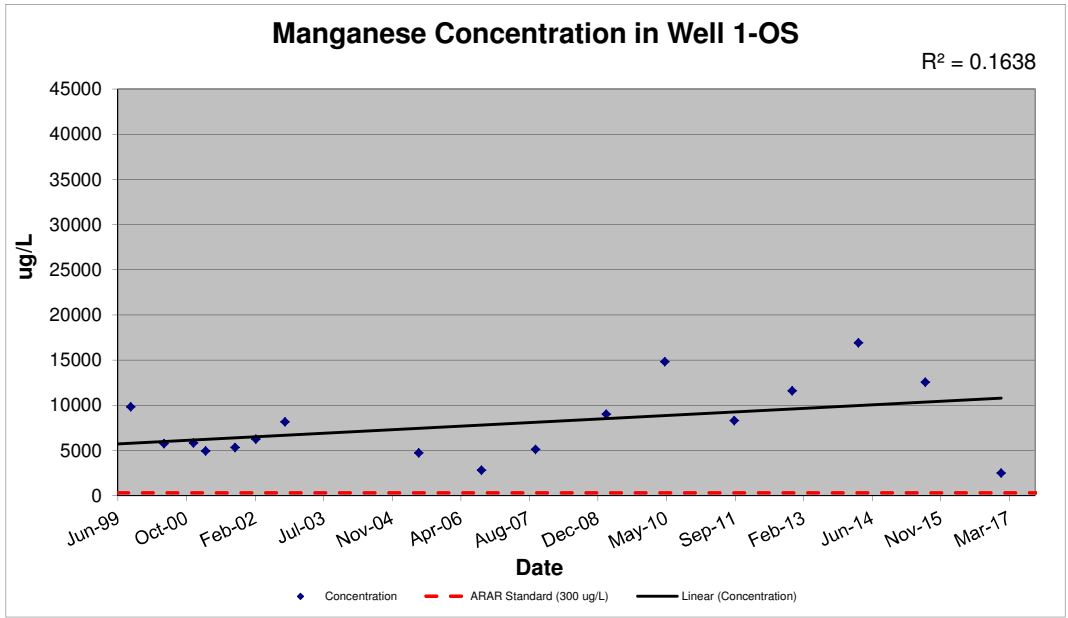
Laboratory Qualifier Definitions

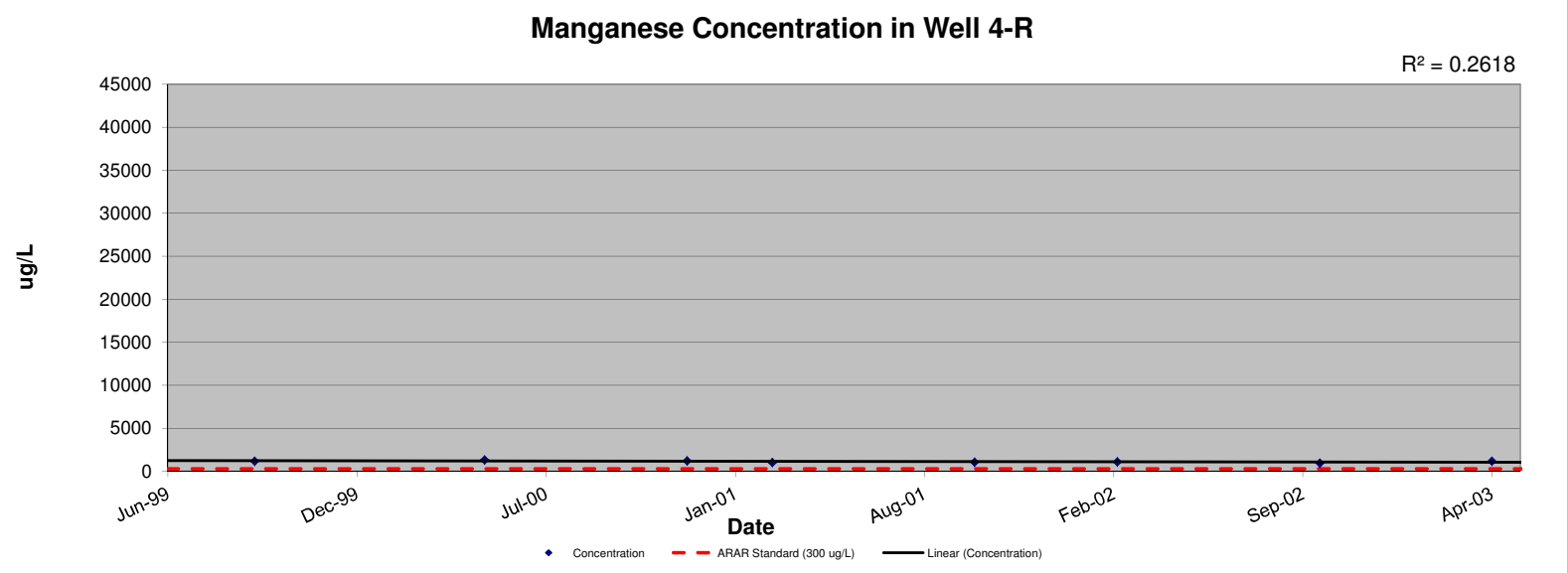
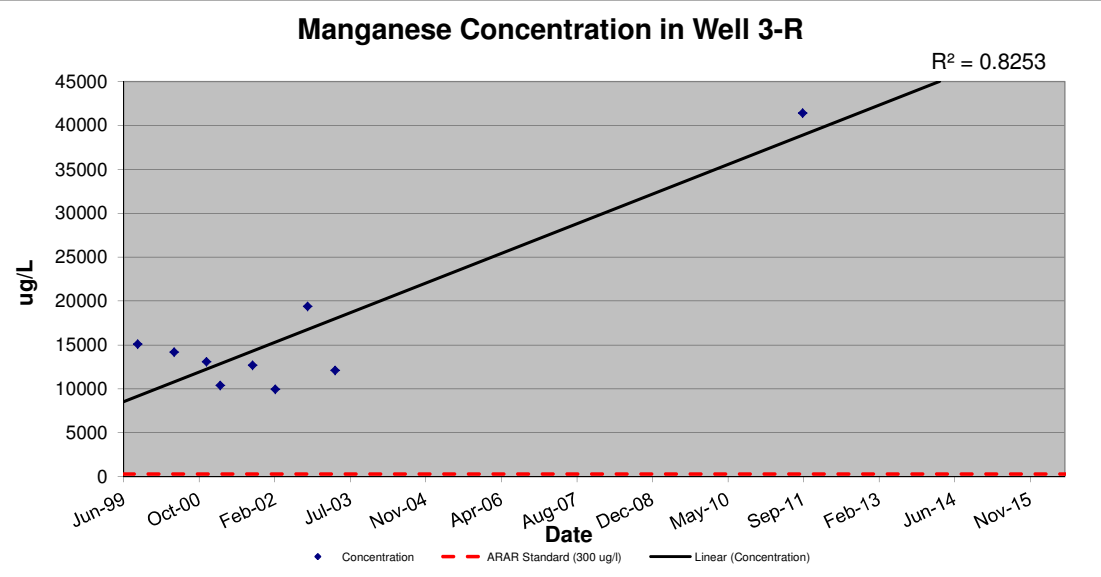
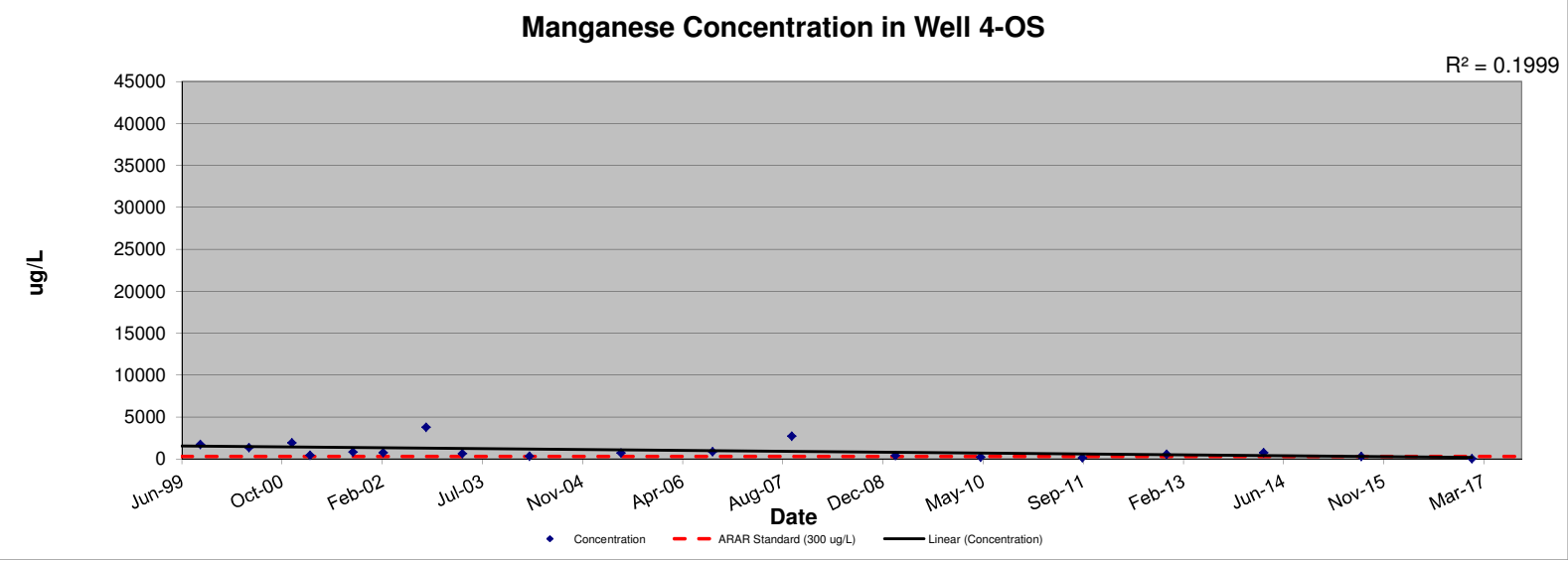
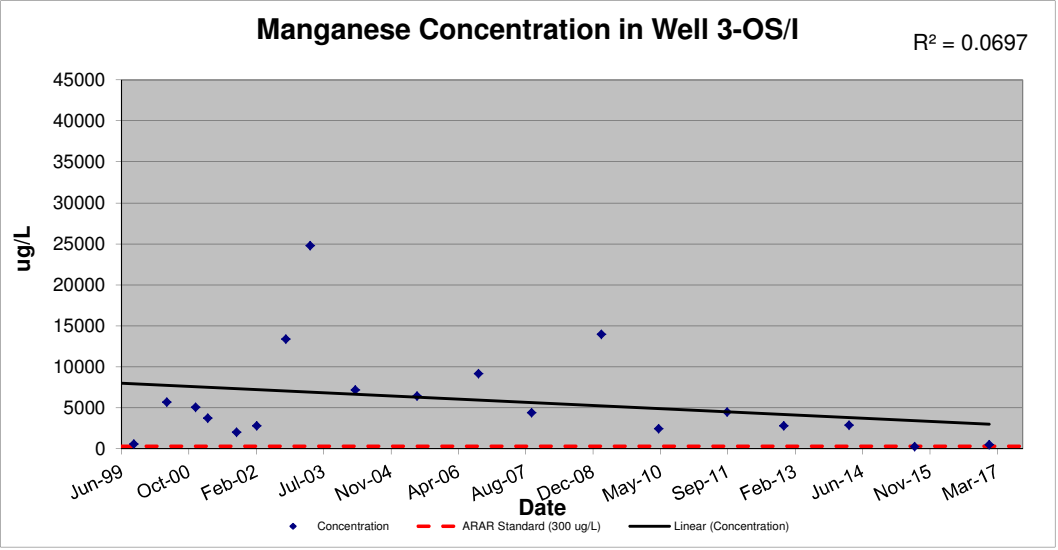
B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

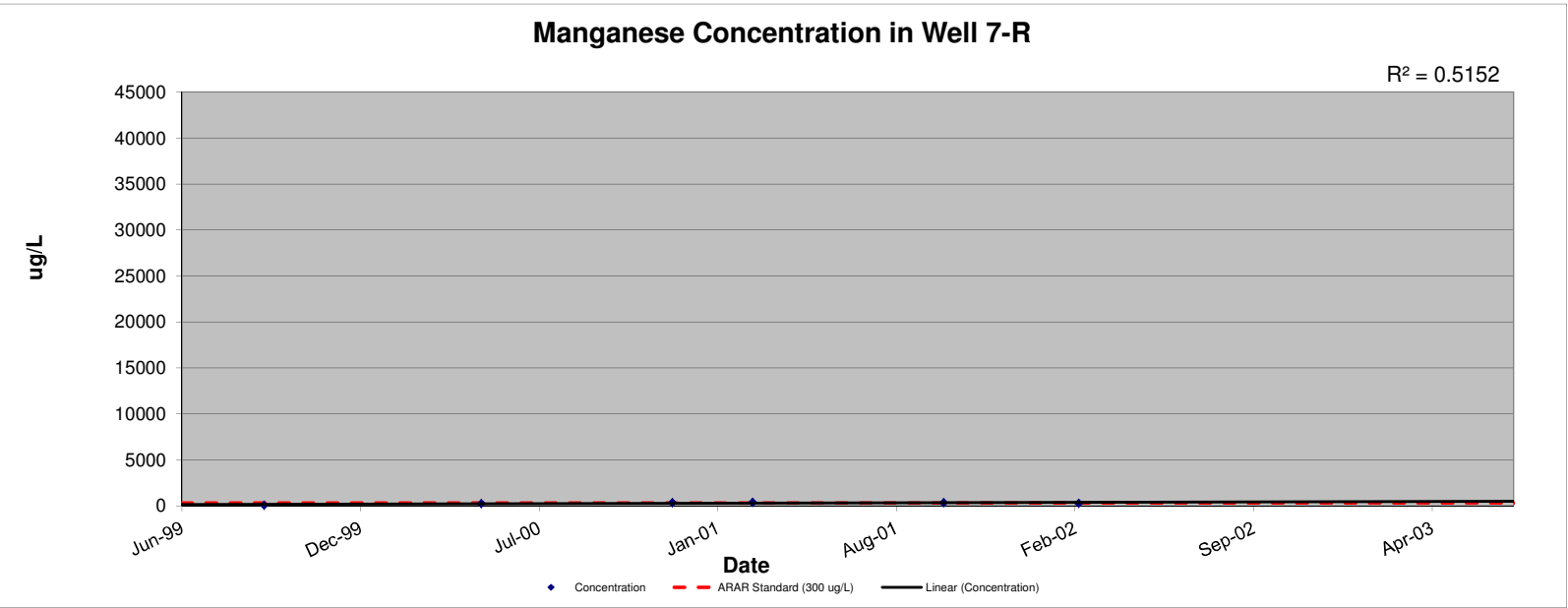
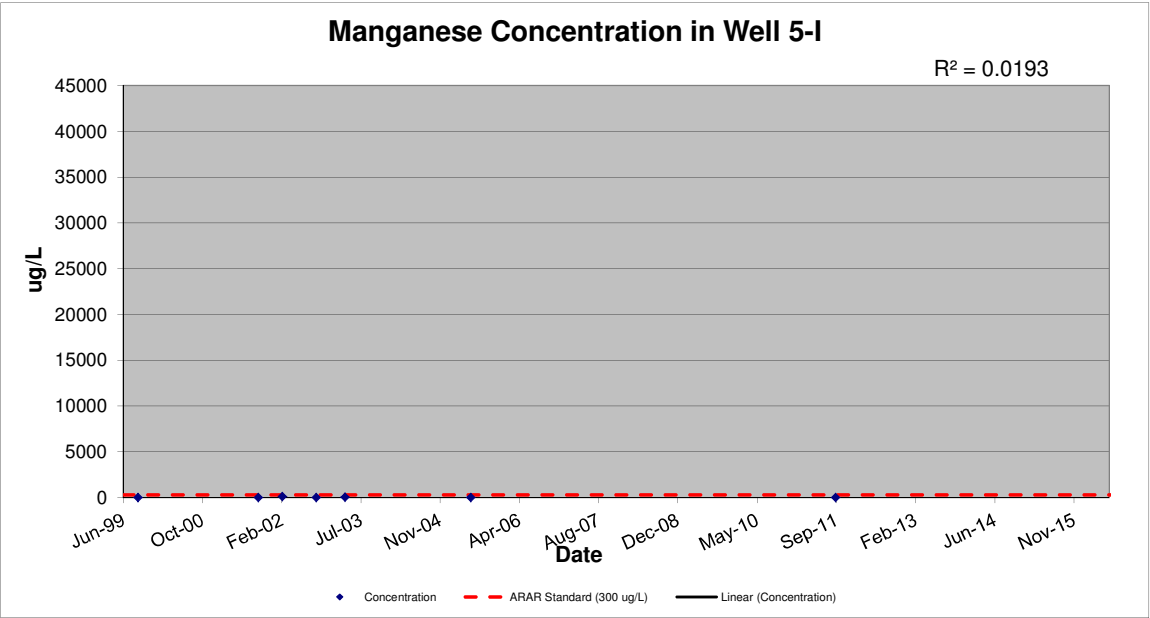
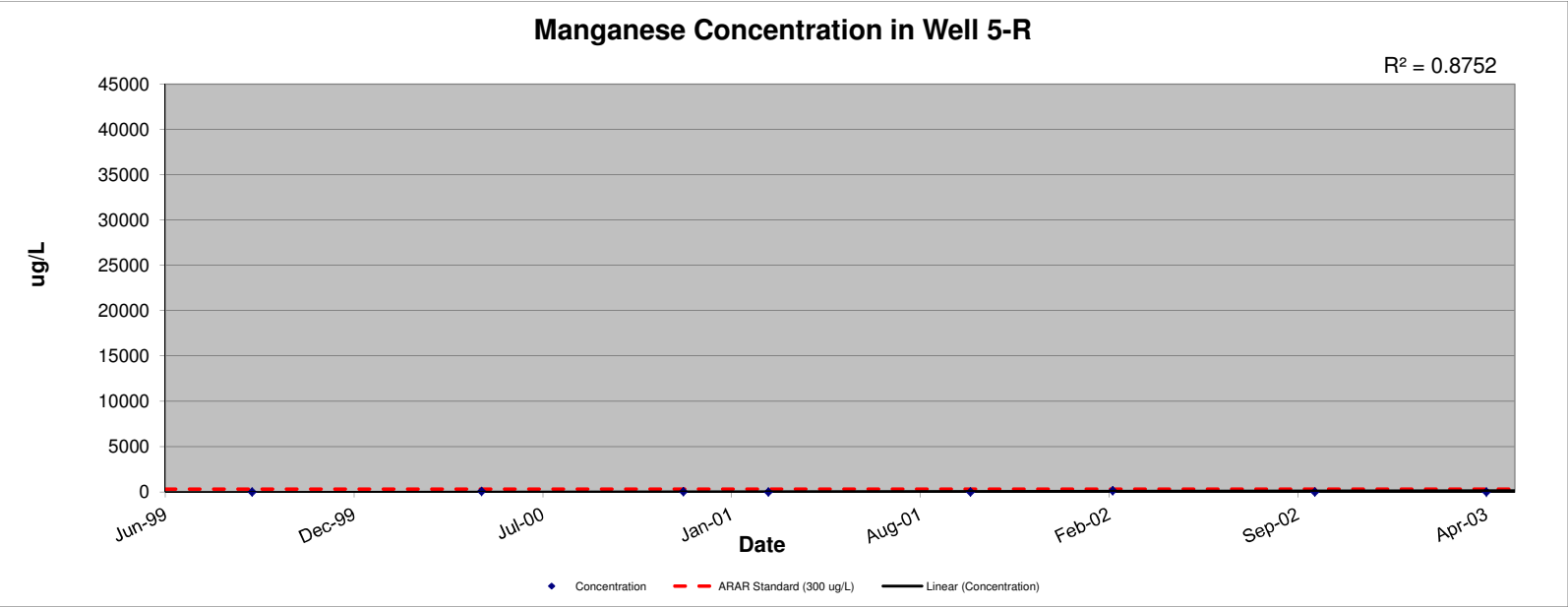
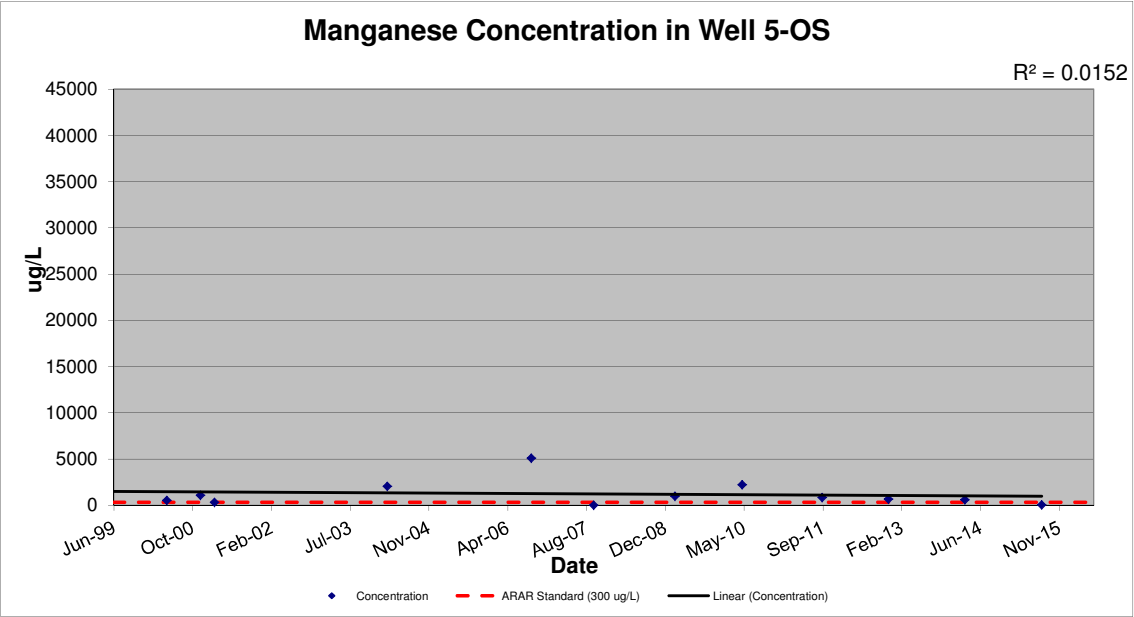
E = Indicates an estimated value because of the possible presence of interference.

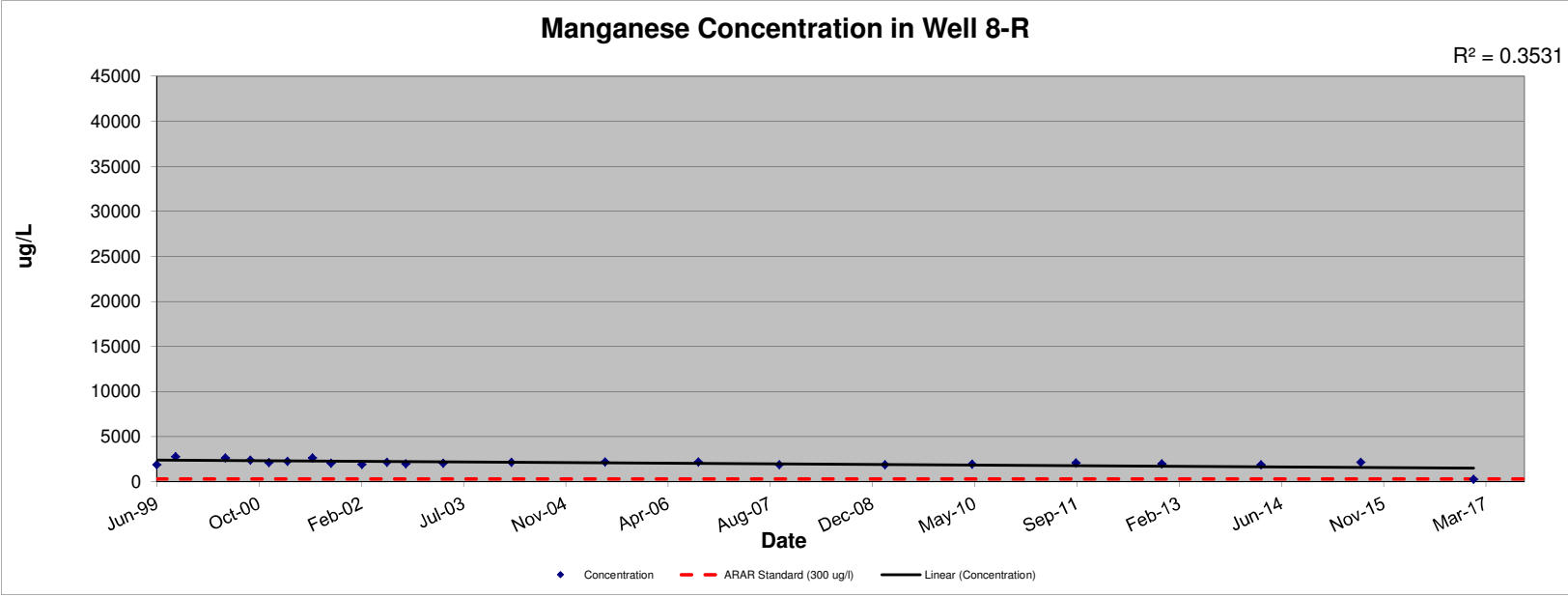
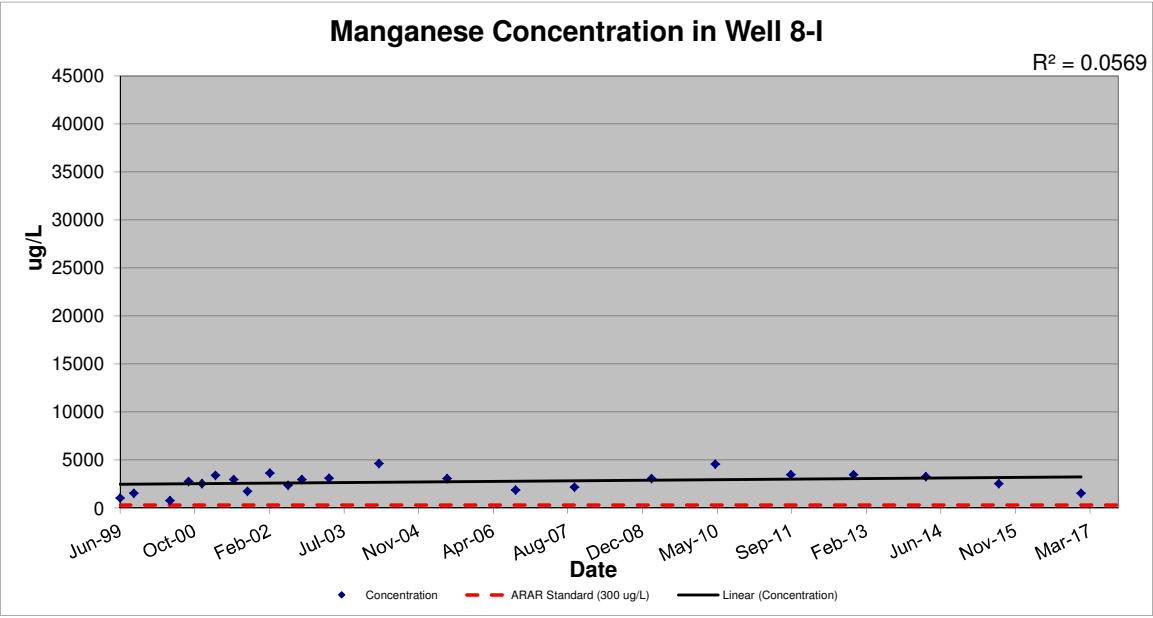
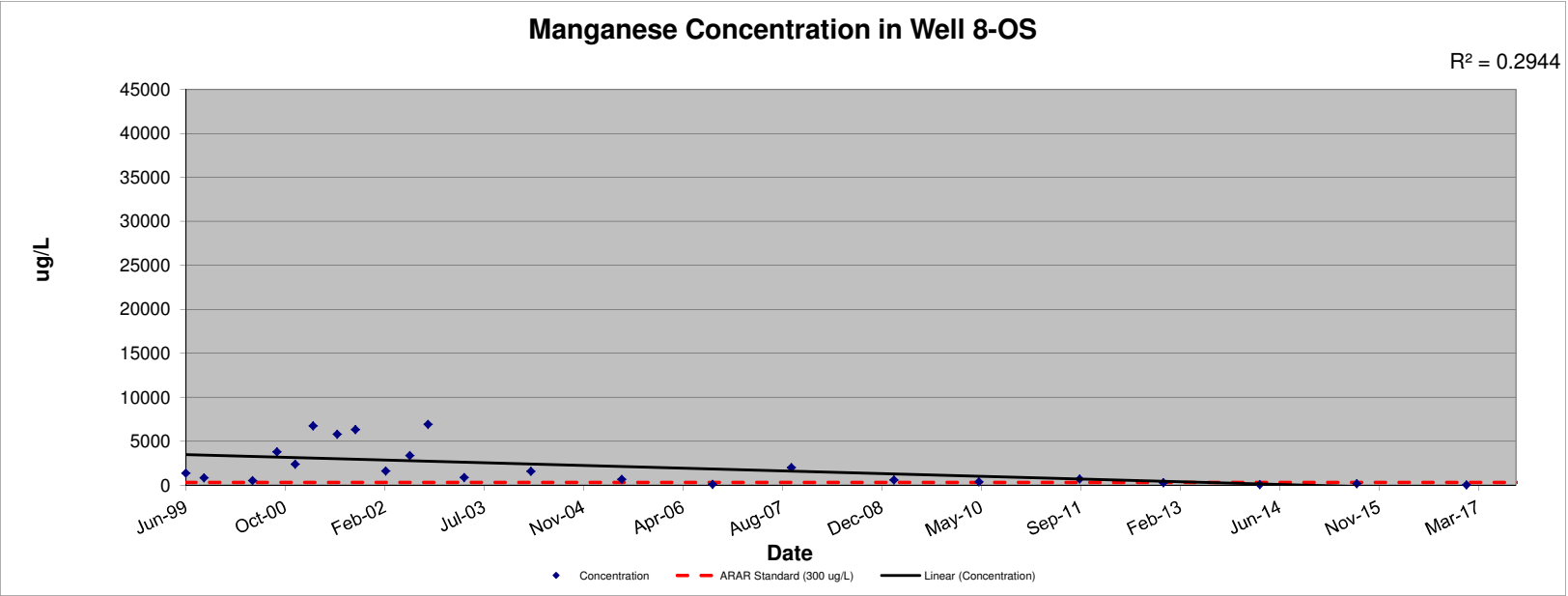
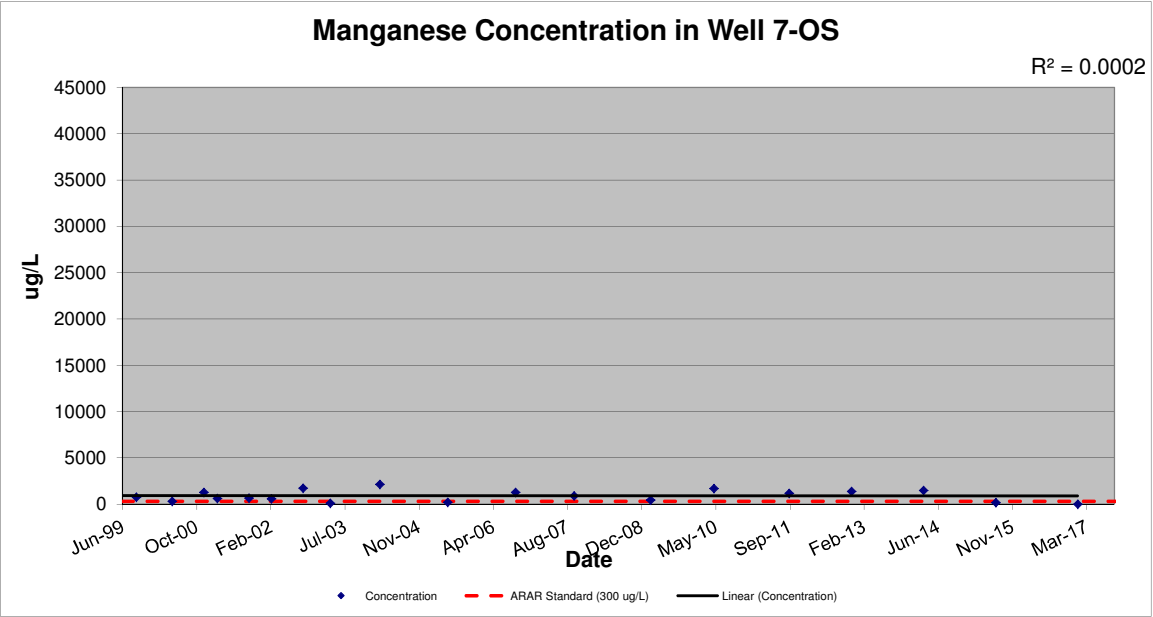
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value

N = Spiked sample recovery not within control limits









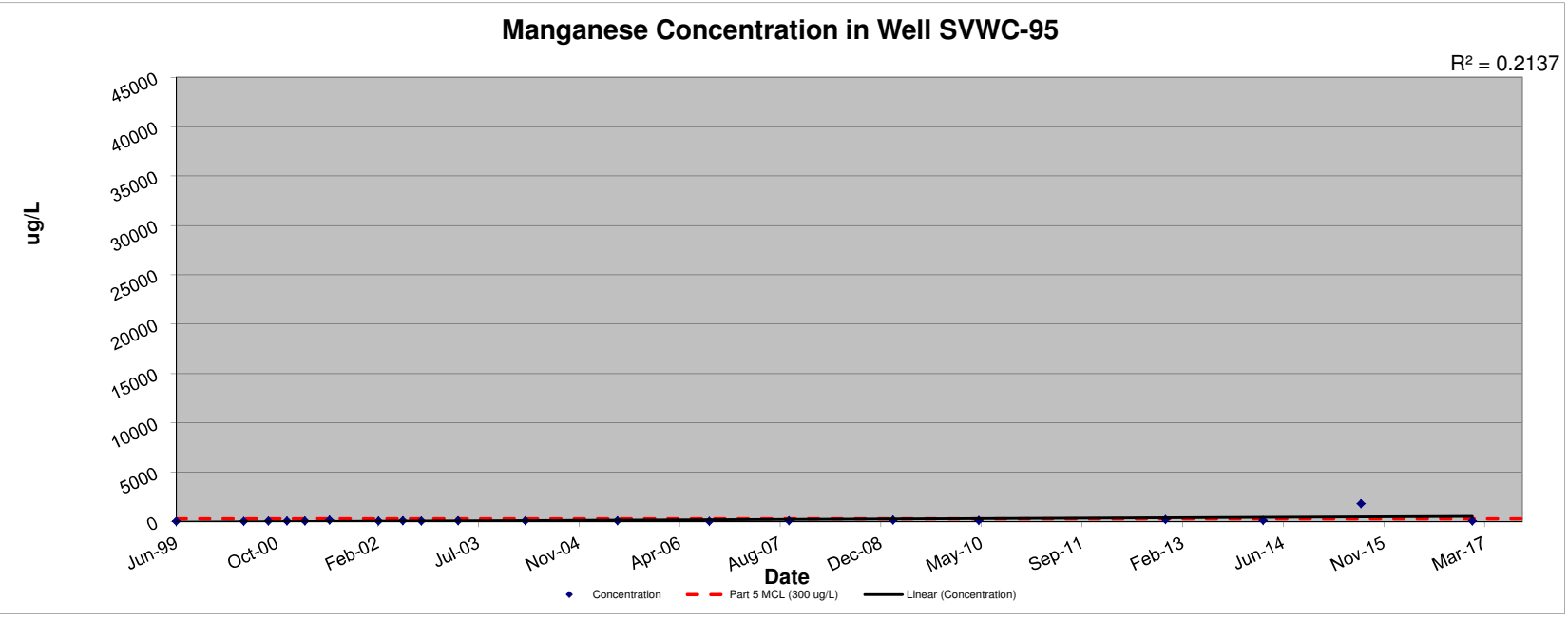
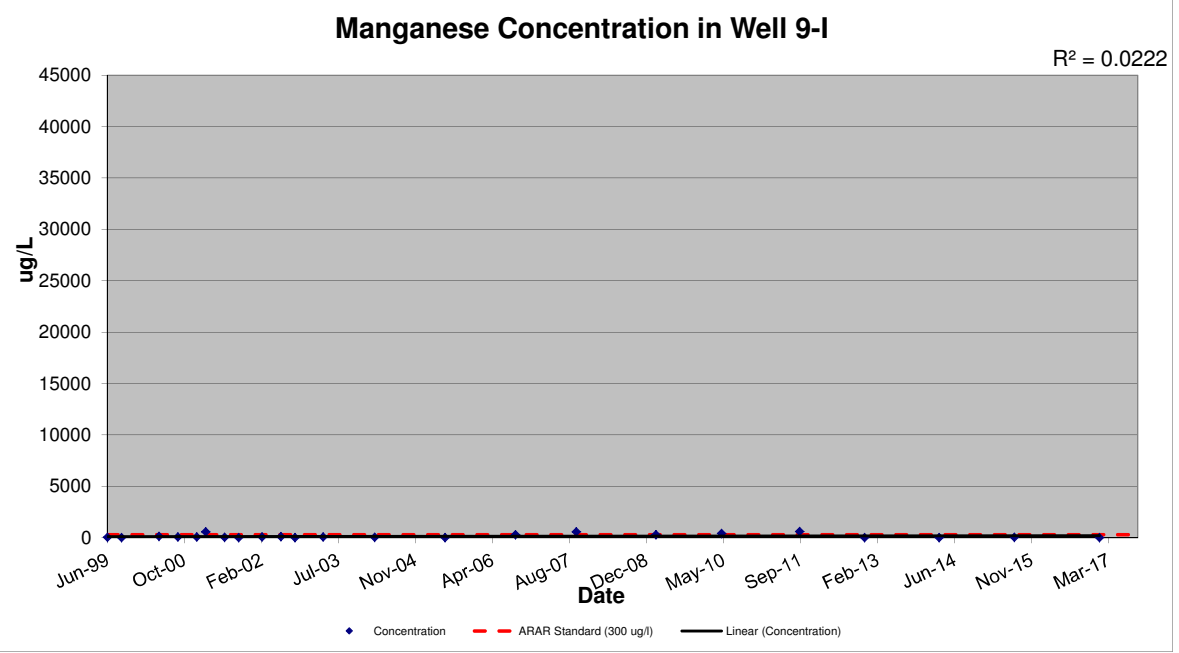
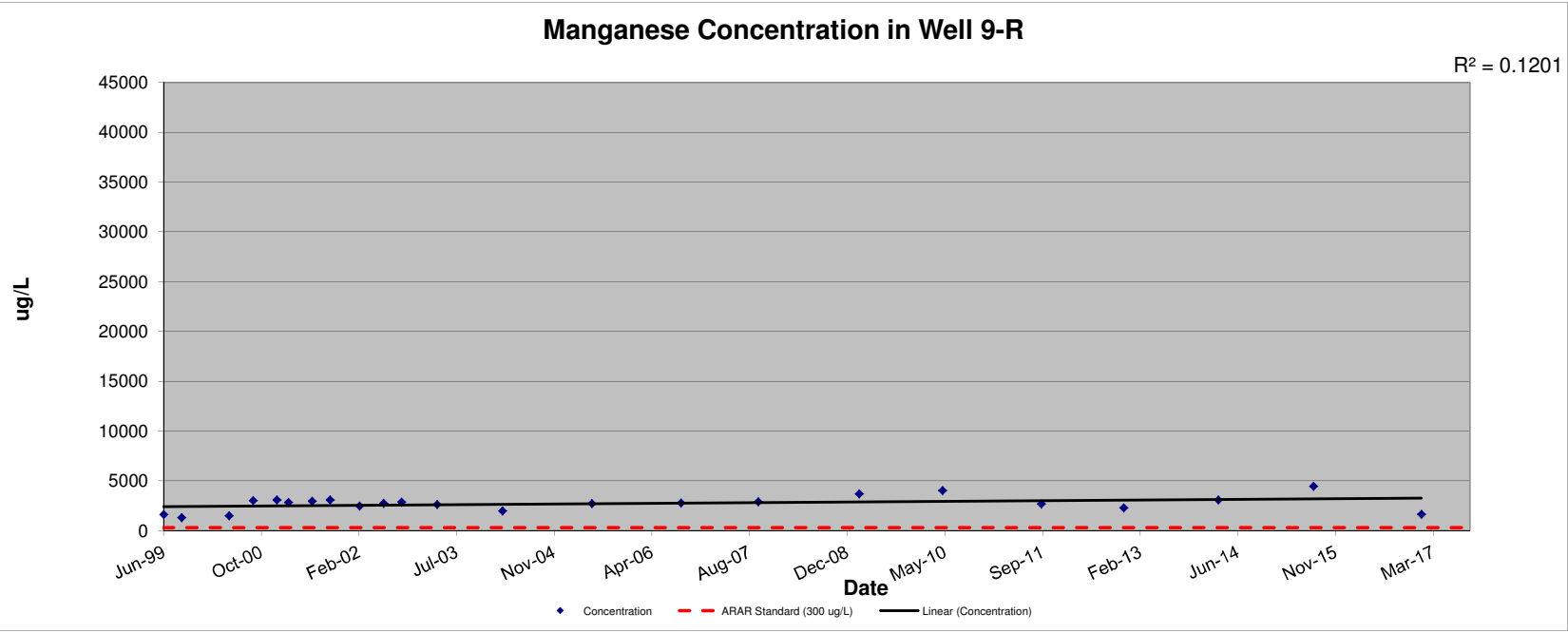
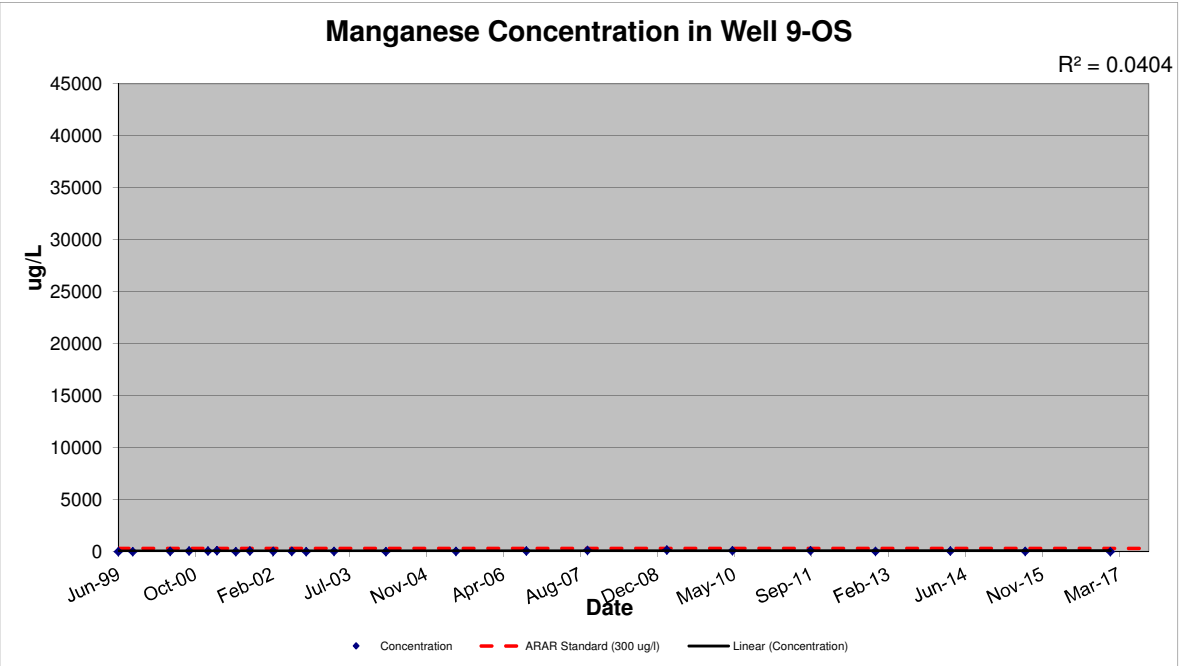


TABLE 17

Summary of Historical Groundwater Quality Results - Nickel (µg/L)
ARAR Standard = 100 µg/L; USEPA MCL = Not Available; and, Part 5 MCL = Not Available
Town of Ramapo Landfill

Well ID	Well 1-OS	Well 1-R	Well 2-OS	Well 2-R	Well 3-OS/I	Well 3-R	Well 4-OS	Well 4-R	Well 5-OS	Well 5-I	Well 5-R	Well 7-OS	Well 7-R	Well 8-OS	Well 8-I	Well 8-R	Well 9-OS	Well 9-I	Well 9-R	Well 10-OS	Well 10-I	Well 10-R	UP-OS	UP-I	UP-R	Well PW-1	Well PW-2	SVWC-93	SVWC-94	SVWC-95	SVWC-96																															
DATE																																																														
Jun-99		NA		NA		NA		NA		NA		NA		NA	1.1		34		15.7		ND	2.2		6.6			NA		NA		NA		NA																													
Sep-99		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA																													
May-00	140		16.2	B	215		4.1	B	156		73.7		22.4	B	1.5	B	35	B		NA	8.2	B	9.4	B	1.9	B	2.2	B	5.9	B	16.2	B	2.4	B	4.6	B	3.7	B		NA		NA		NA		NA		NA														
Sep-00		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA														
Dec-00		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA														
Jan-01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA														
Mar-01	82.4		27.7	B	116		< 1.7		68.7		28.2	B	8.8	B	1.9	B	19.5	B		NA	2.3	B	10.3	B	2.2	B	19.4	B	40.4		22.6	B	4.7	B	18.2	B	5.7	B		NA		NA		NA		NA	< 1.7		< 1.7		< 1.7		< 1.7		< 1.7							
Jul-01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA										
Oct-01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA										
Mar-02	28.8	B	38.2	B	34.9	B	9.5	B	128		8.6	B	5.4	B	< 2.8			NA	5	B	11.7	B	8.6	B	< 2.8		11.1	B	7	B	20.9	B	< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8											
Jul-02		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA										
Oct-02		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA										
Apr-03		NA	2.2	B	108		3.9	B	932		5.1	B	14.8	B	< 1.9			NA	2.7	B	2.1	B	3.5	B		NA	6.8	B	14.3	B	15	B	< 1.9		< 2.7	B	< 1.9			NA		NA		NA		NA	< 1.9		< 1.9		< 1.9		2.9	B	< 1.9							
Mar-04		NA		NA	56.8			NA	434			NA	7.3	B		NA	132	E		NA		NA	41.8			NA	7.9	B	29.4	B	15	B	< 1.7		< 1.7		< 1.7			NA		NA		NA		NA	< 1.7		< 1.7		42.7		< 1.7		1.9	B	< 1.7					
Jun-05	9.2	B		NA	52.1			NA	1460			NA	87.8			NA		NA	< 2.3			NA	< 2.3			NA	61.9		15.6	B	11.5	B	< 2.3		< 2.3		< 2.3			NA		NA		NA		NA	< 2.3		< 2.3		< 2.3		< 2.3		< 2.3							
Sep-06	270			NA	80			NA	1300			NA	40	J		NA	370		NA		NA	26	J		NA	5.8	J	20	J	36	J	6.7	J	18	J	1.8	J		NA		NA		NA		NA	50		< 50		< 50		< 50		1.4	J	< 50						
Oct-07	750			NA	150			NA	730			NA	68			NA	14	J		NA	NA	26	J		NA	14	J	24	J	15	J	34	J	31	J	3.2	J		NA		NA		NA		NA		NA	< 50		7	J	5.5	J	< 50		1.2	J	< 50				
Mar-09	640			NA	490			NA	810			NA	44	J		NA	89		NA		NA	11	J		NA	17	J	18	J	15	J	28	J	19	J	2.5	J		NA		NA		NA		NA	< 50		< 50		< 50			NA	< 50		< 50						
May-10	527			NA	236			NA	492			NA	61.5			NA	147		NA		NA	28.5			NA	10.3		13.7		10.6		13.4		23.4		3.4	J		NA		NA		NA		NA	< 10		< 10		< 10			NA	< 10		7.5	J					
Sep-11	880			NA	410		4.3	J	1600		260		34			NA	56		4.4	J	61		37			NA	28		6	J	10		20		32		2.9	J		NA		NA		NA		NA	< 10		< 10		< 10		< 10			NA		NA				
Nov-12	180			NA	170			NA	650			NA	37			NA	67			NA		NA	29			NA	11		12		10		7.2	J	< 10		2.9	J		NA		NA		NA		NA	< 10		< 10		< 10		< 10		< 10			NA		NA		
Mar-14	440			NA	240			NA	400			NA	42			NA	47			NA		NA	36			NA	5.9	J	13		11		15			ND	2	J		NA		NA		NA		NA		ND		ND		ND		ND		6.7	J					
Nov-14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA								
Jul-15	405.7			NA	152.6			NA	82.5			NA	37.5			NA	12			NA		NA	7.6			NA	12.9		13.8		14.4		3.4		3.6		3.9		3.6		2.2		14.8			NA		NA		NA	0.5	J	0.6	J	0.54	J	0.9	J	4.99		0.158	
Jan-17	622.5			NA	249.7			NA	302.9			NA	59.8			NA		NA		NA		NA	2.8			NA	49		1.6	J	9.8		<0.6		1.9	J	7.6		0.8	J	1.8	J	69.1		1.4	J	1.5	J	2.5		<0.6		0.7	J	2		1.3	J	1.8	J	0.7	J

Notes:

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

Laboratory Qualifier Definitions

B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

E = Indicates an estimated value because of the possible presence of interference.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

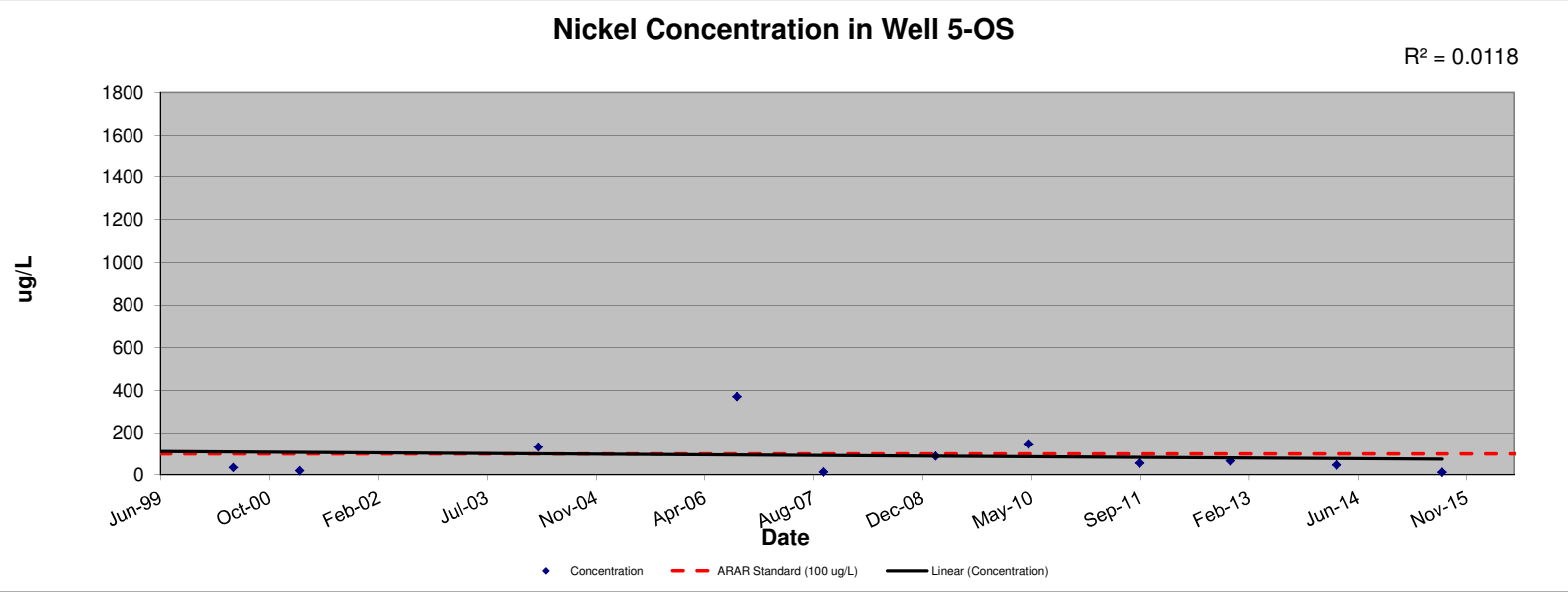
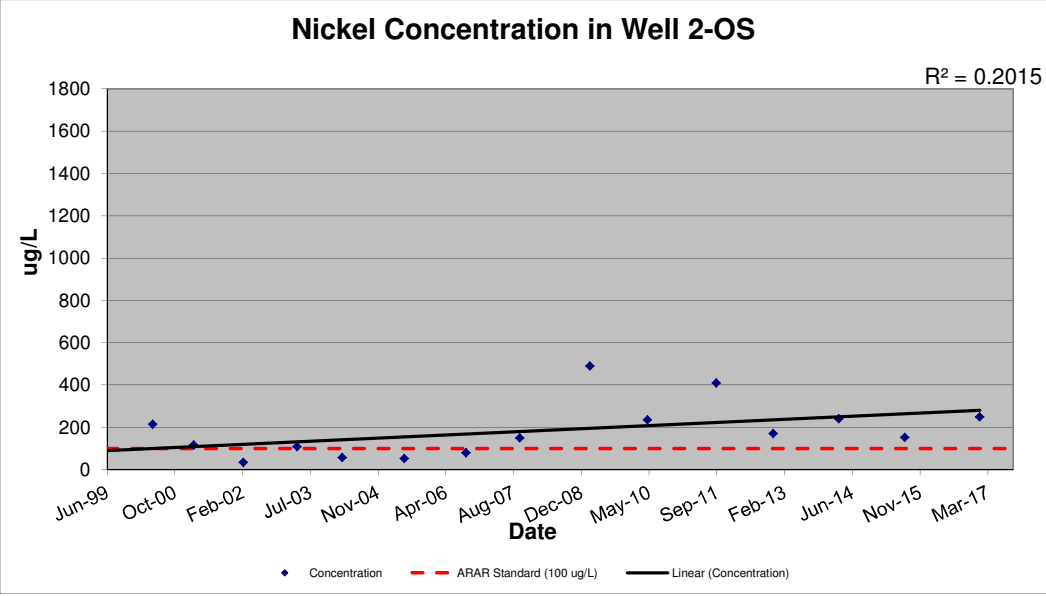
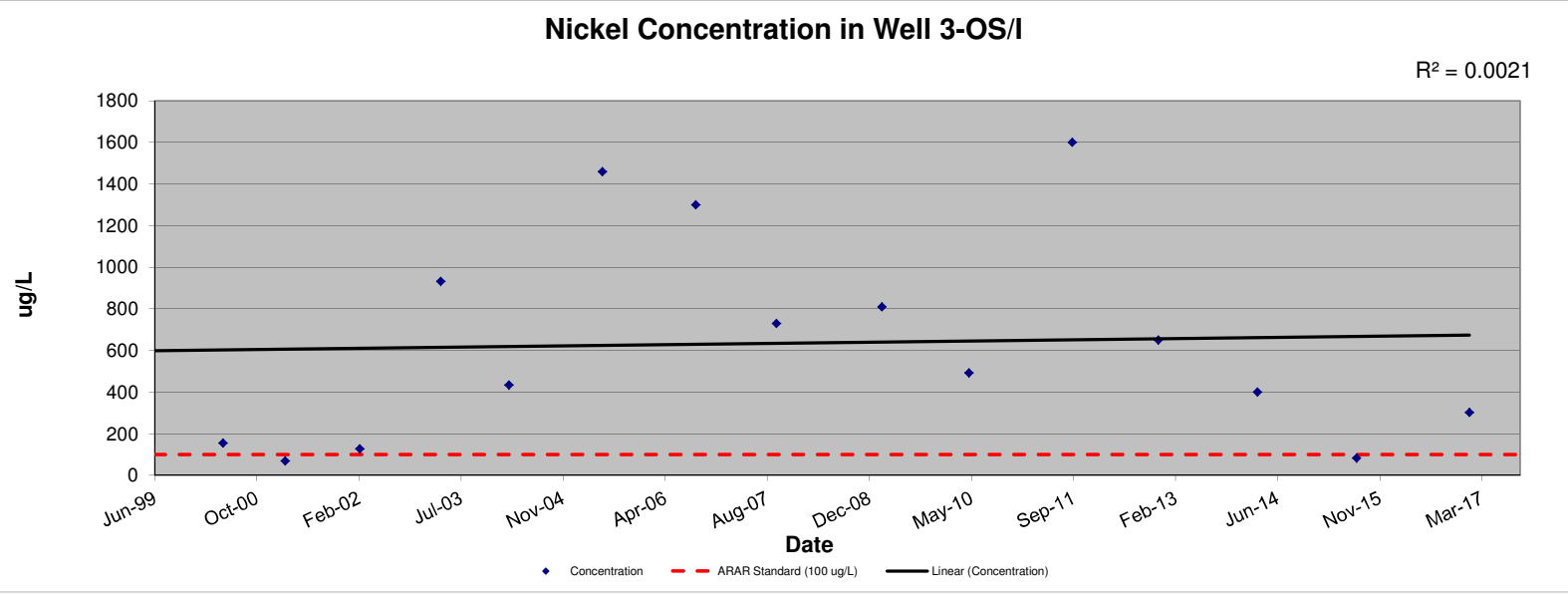
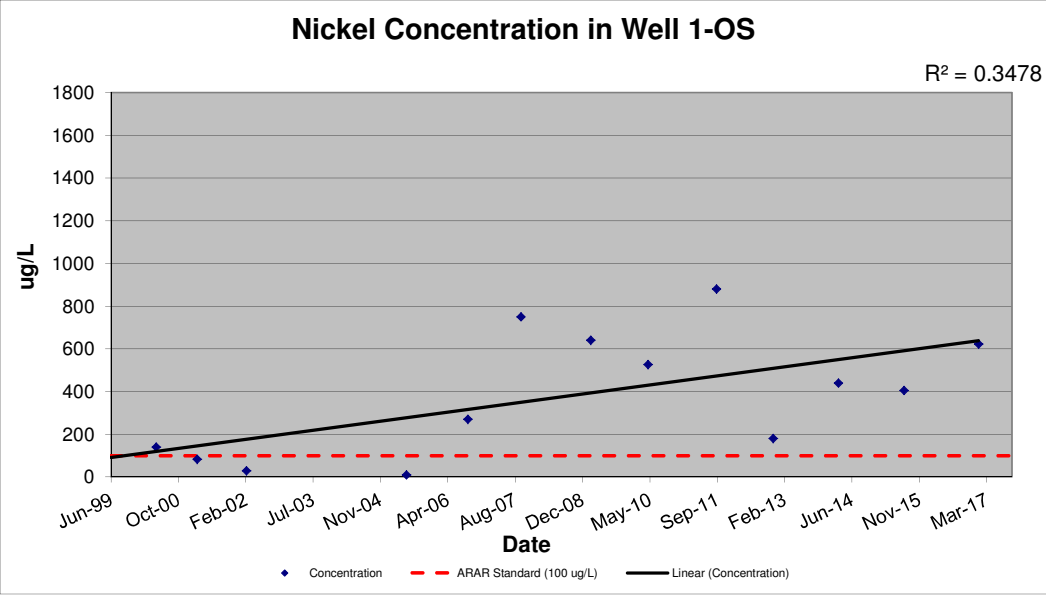


TABLE 18

Summary of Historical Groundwater Quality Results - Sodium (µg/L)

ARAR Standard = 20,000 µg/L; USEPA MCL = Not Available; and, Part 5 MCL = (1)

Town of Ramapo Landfill

Well ID	Well 1-OS	Well 1-R	Well 2-OS	Well 2-R	Well 3-OS/I	Well 3-R	Well 4-OS	Well 4-R	Well 5-OS	Well 5-I	Well 5-R	Well 7-OS	Well 7-R	Well 8-OS	Well 8-I	Well 8-R	Well 9-OS	Well 9-I	Well 9-R	Well 10-OS	Well 10-I	Well 10-R	UP-OS	UP-I	UP-R	Well PW-1	Well PW-2	SVWC-93	SVWC-94	SVWC-95	SVWC-96																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Jun-99		NA		NA		NA		NA		NA		NA		NA		4980		16100		43400		5500		5610		13100		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA

Notes:

⁽¹⁾ While there is no Part 5 MCL for sodium, people on severely restricted diets should consult with the County Health Department for guidance if the reported sodium concentration is higher than 20,000 mg/L.

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

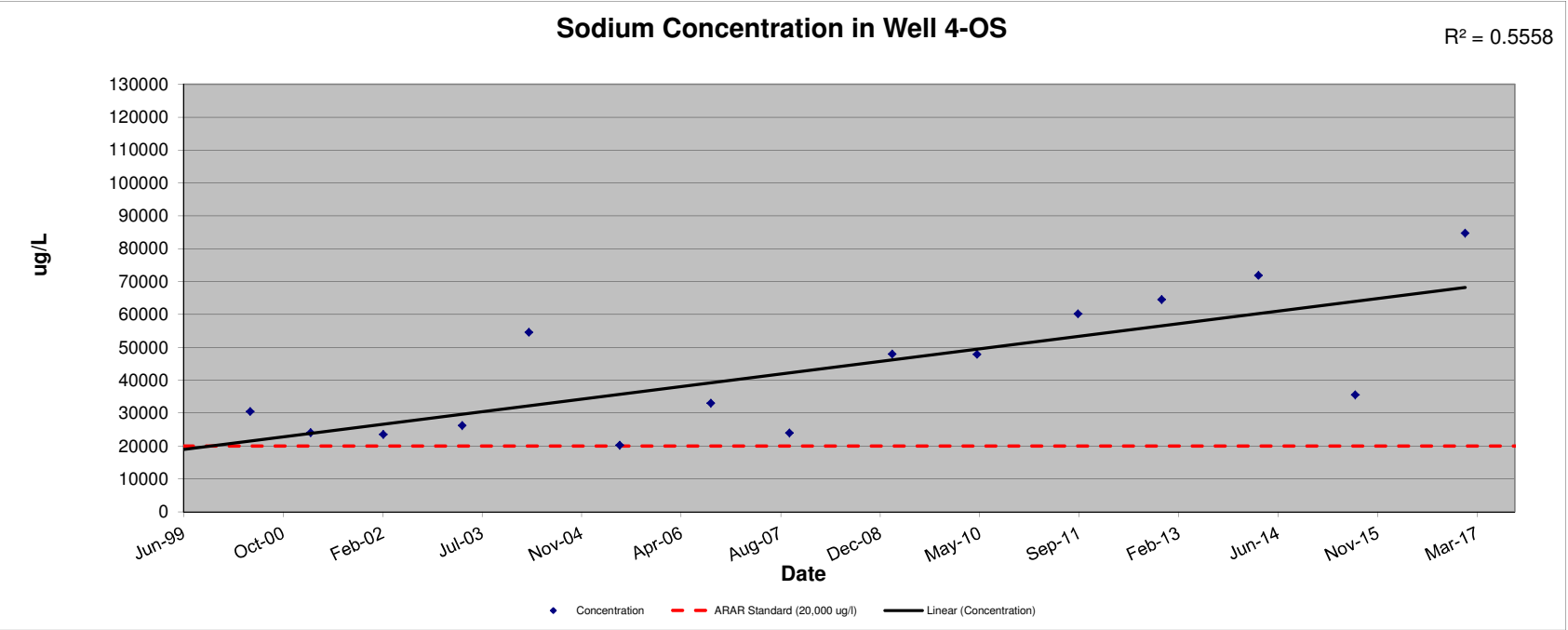
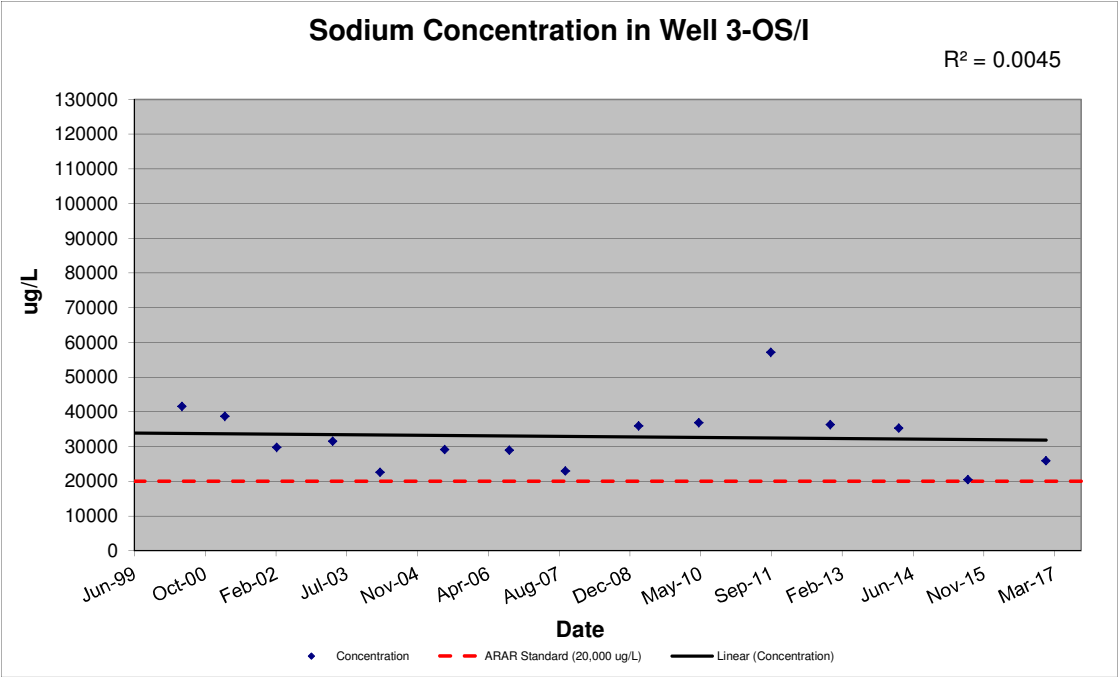
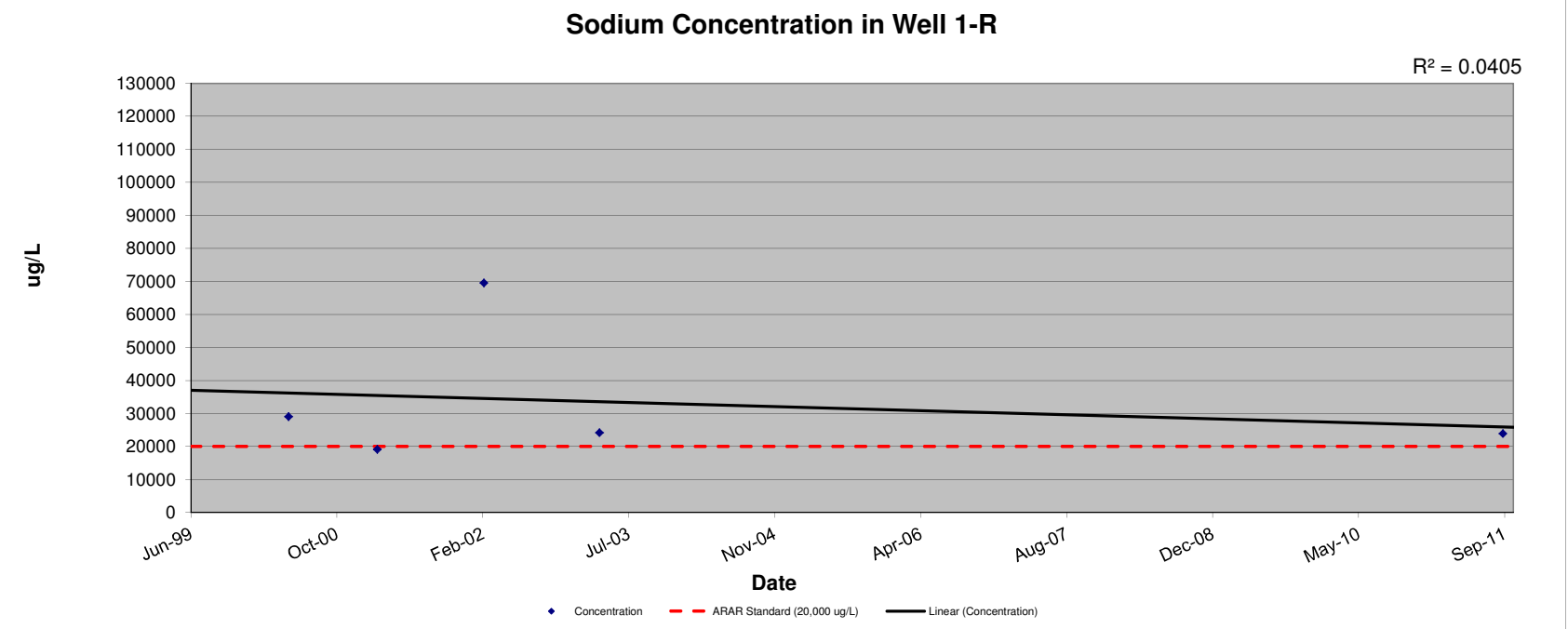
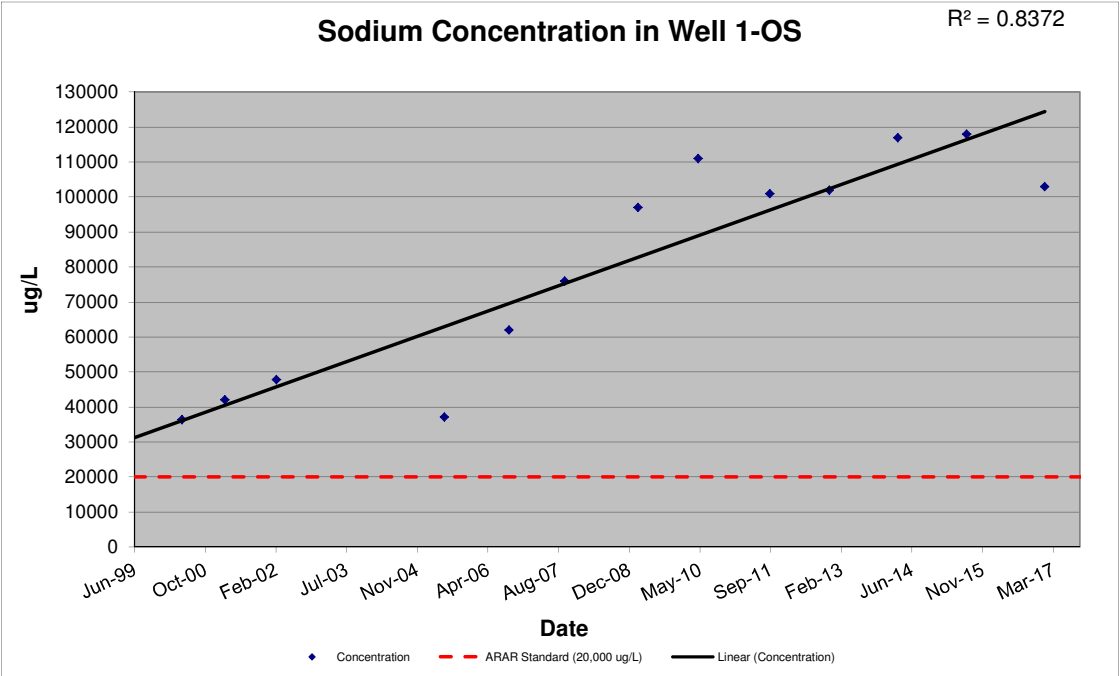
ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

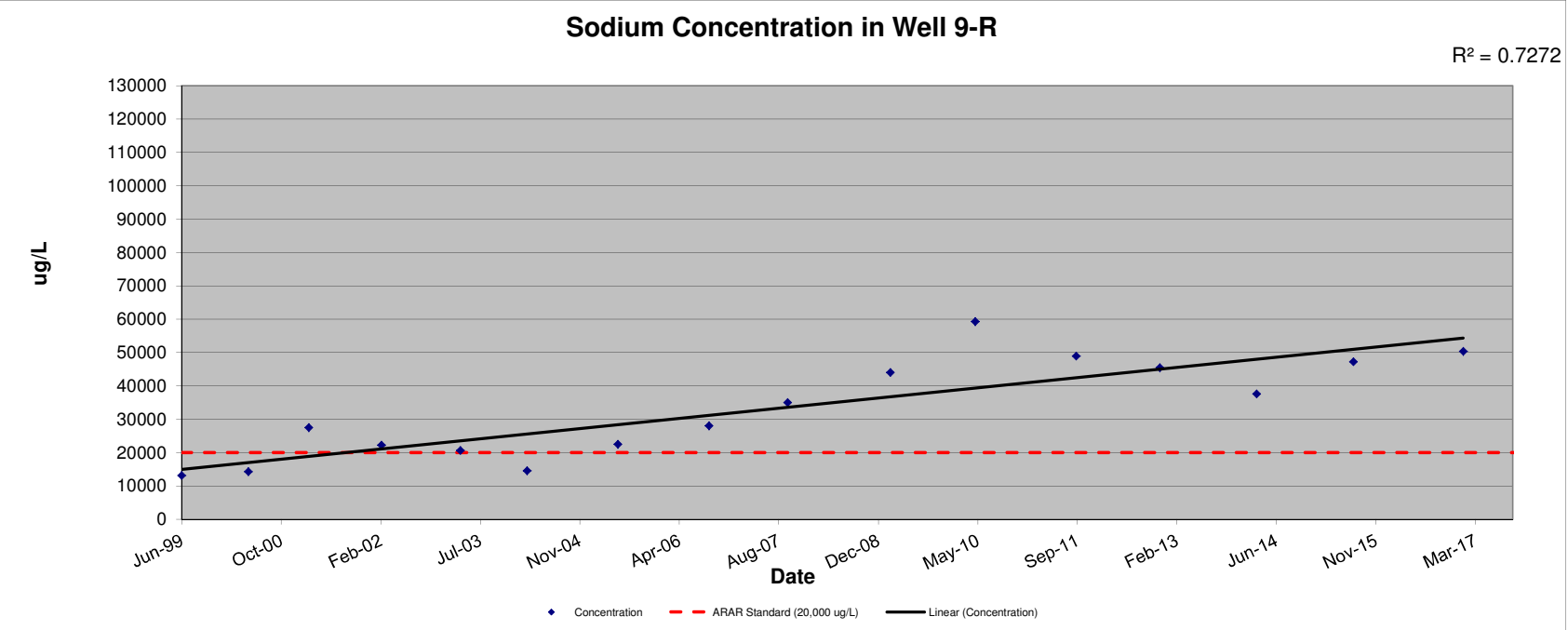
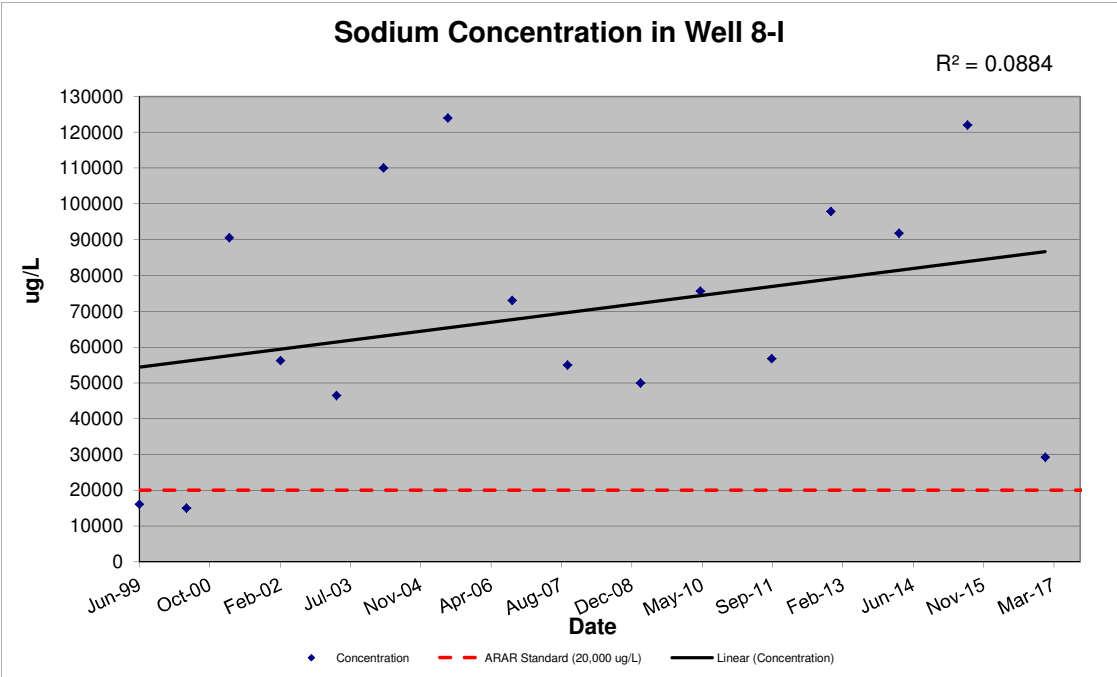
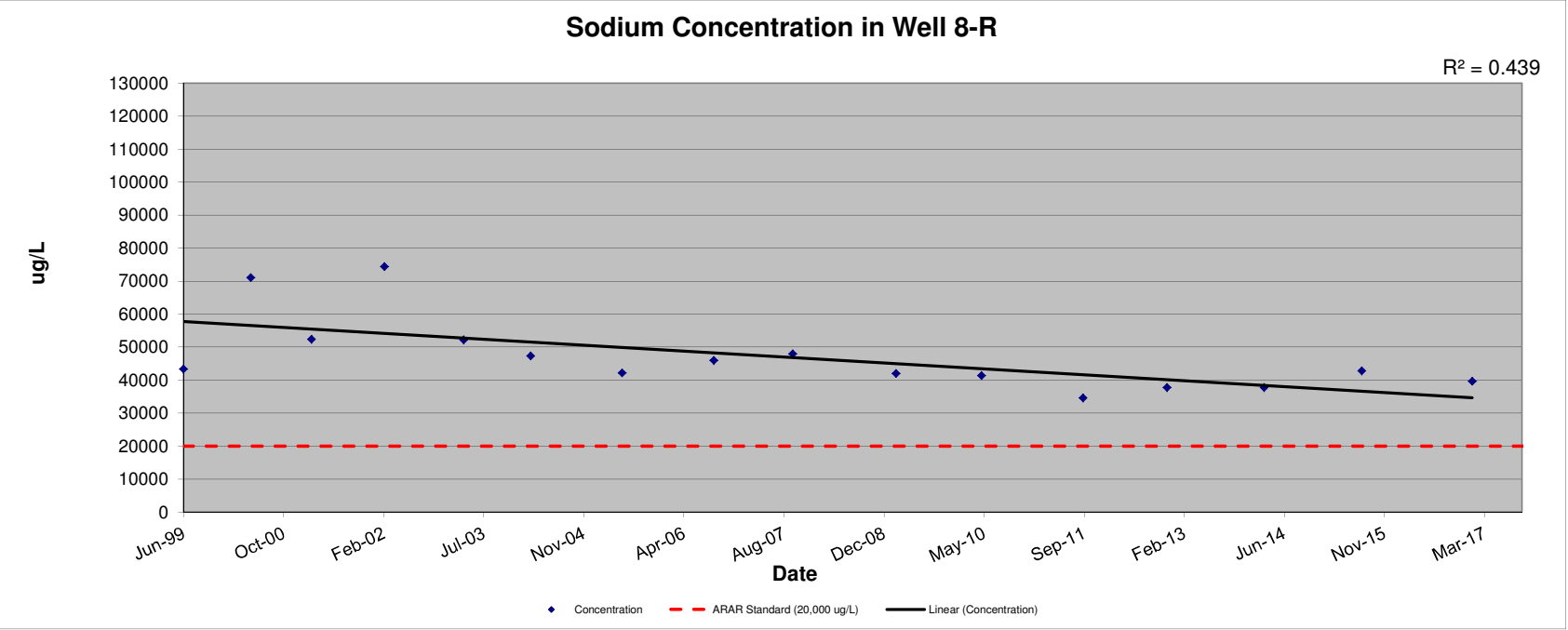
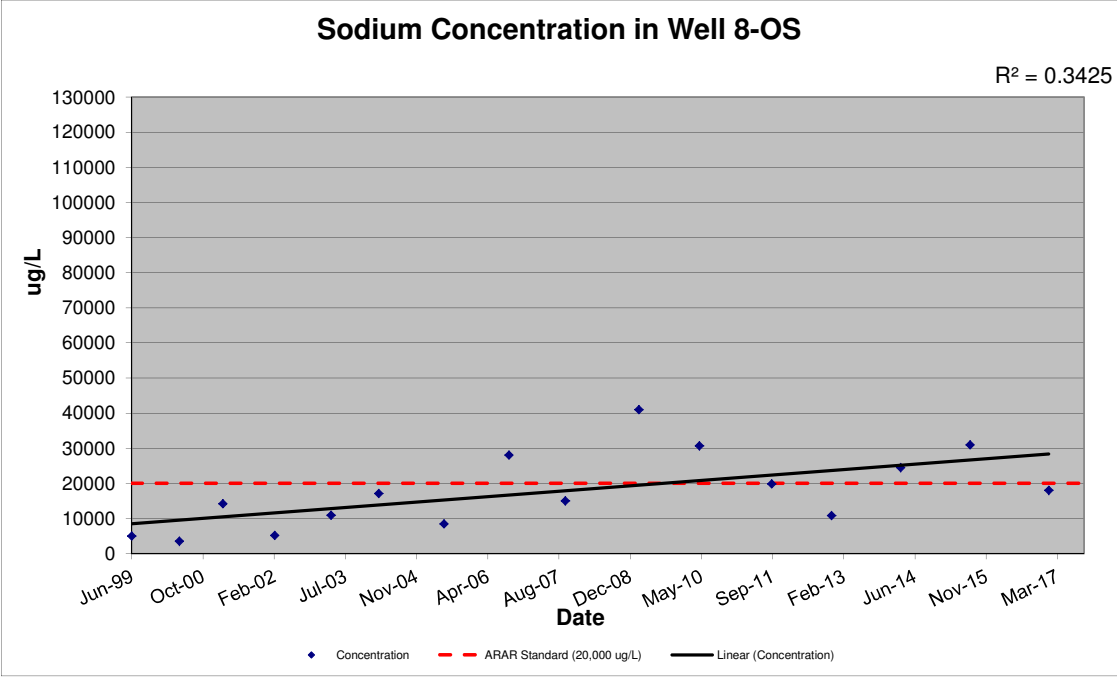
MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

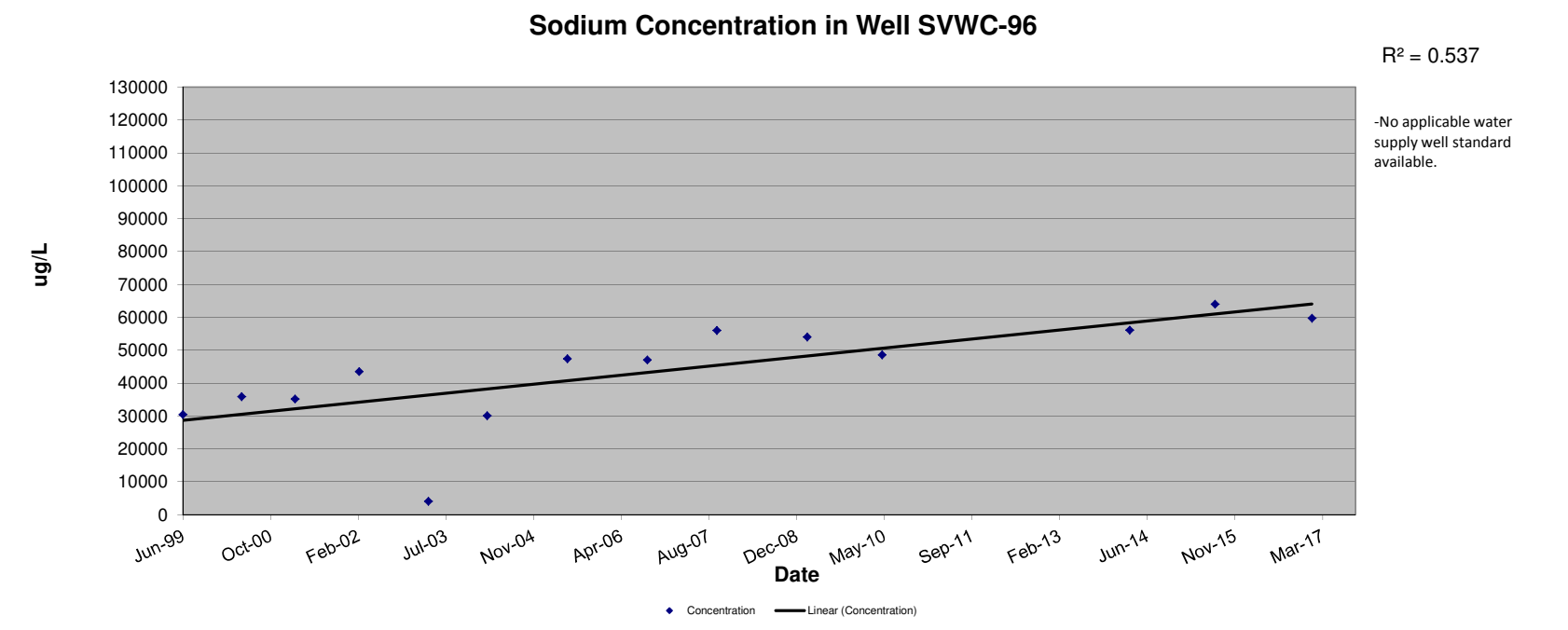
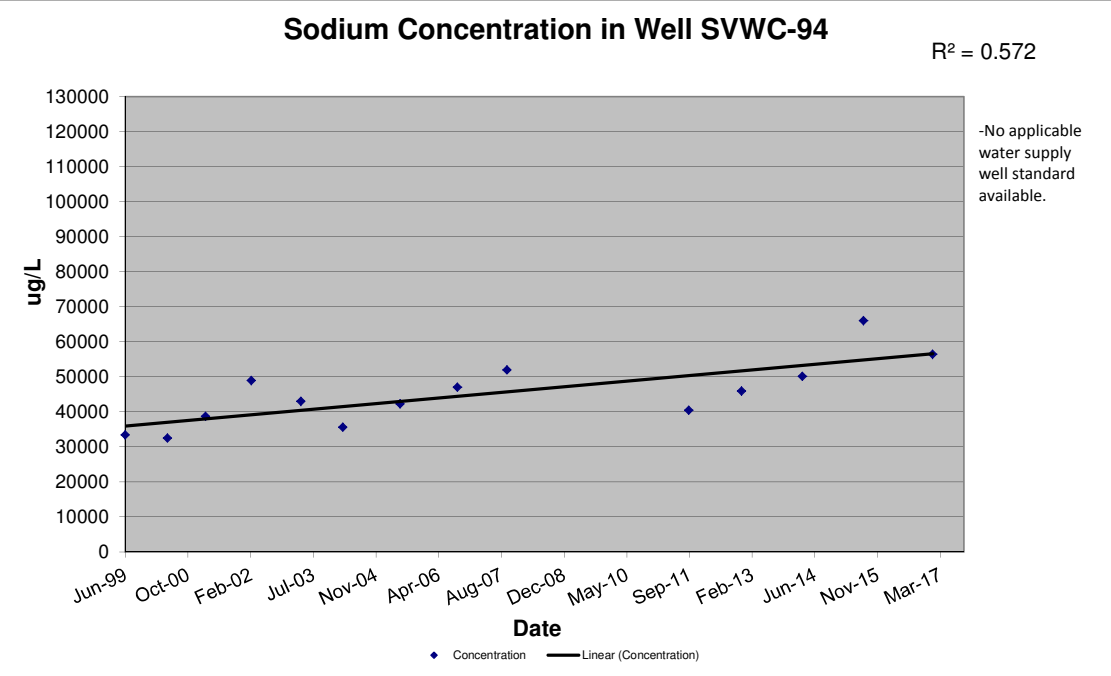
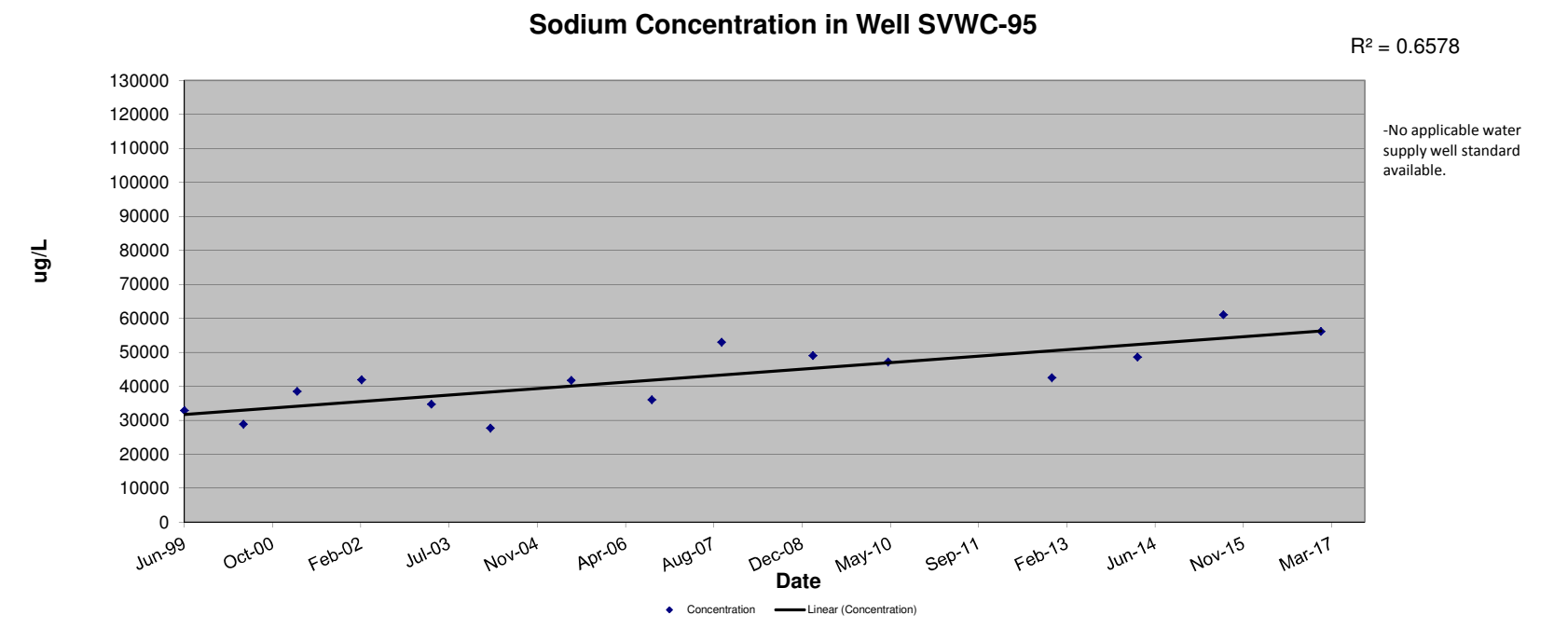
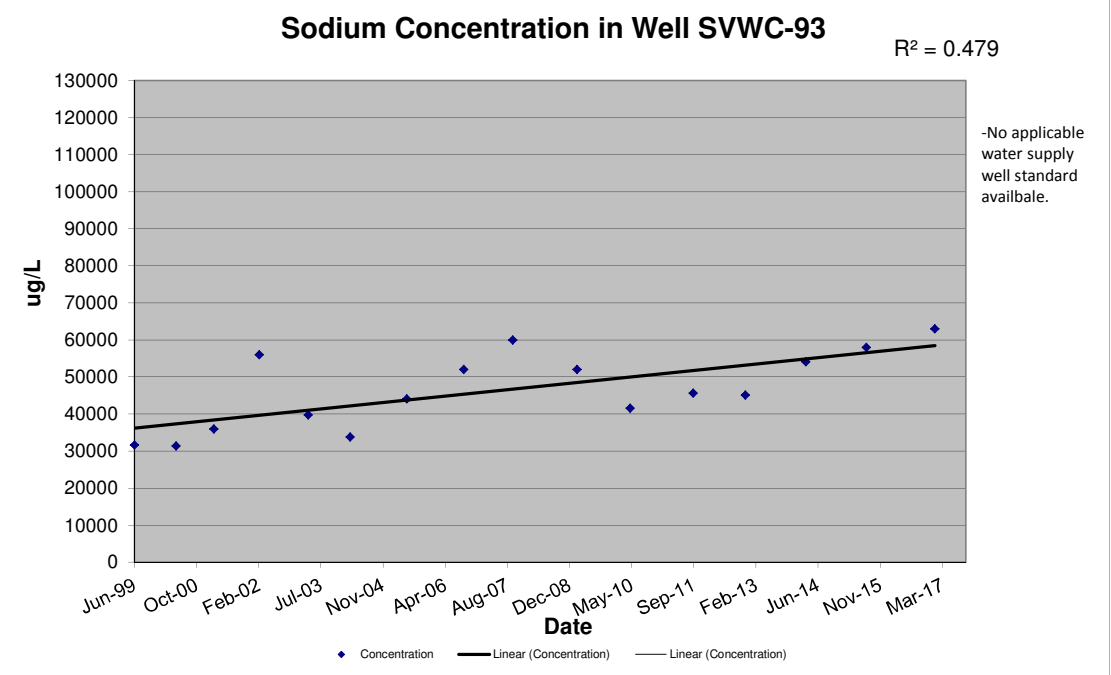
Laboratory Qualifier Definitions

B = Compound was found in the blank and the sample.

E = Indicates an estimated value because of the possible presence of interference.







Summary of Historical Groundwater Quality Results - Thallium (µg/L)
ARAR Standard = 0.5 µg/L; USEPA MCL = 2 µg/L; and, Part 5 MCL = 2 µg/L
Town of Ramapo Landfill

Notes:

Values in **BOLD** indicate the reported concentration is greater than the ARAR for the groundwater monitoring wells or MCL for the private and municipal drinking water wells water quality standard.

NA = Not Analyzed

ND = Not Detected

< = The compound was analyzed for but not detected at the laboratory detection limit listed.

ARAR = Applicable or Relevant and Appropriate Requirement: NYSDEC TOGS 1.1.1 Ambient Water-Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

MCL = Maximum Contaminant Level: USEPA National Primary Drinking Water Regulations.

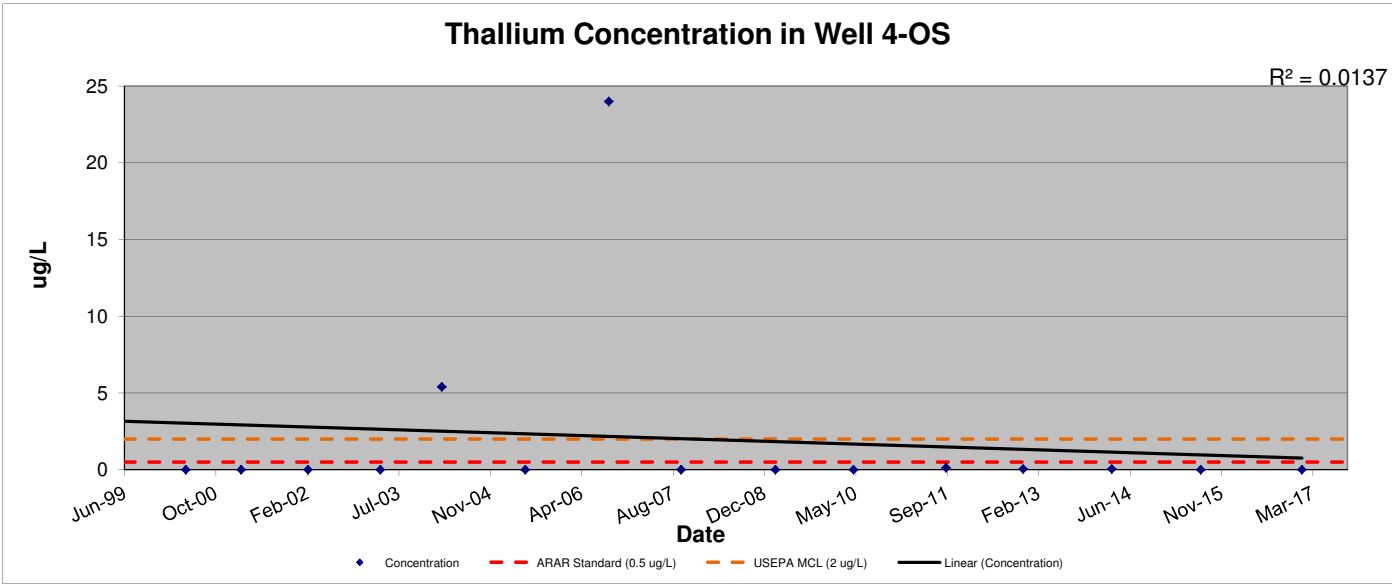
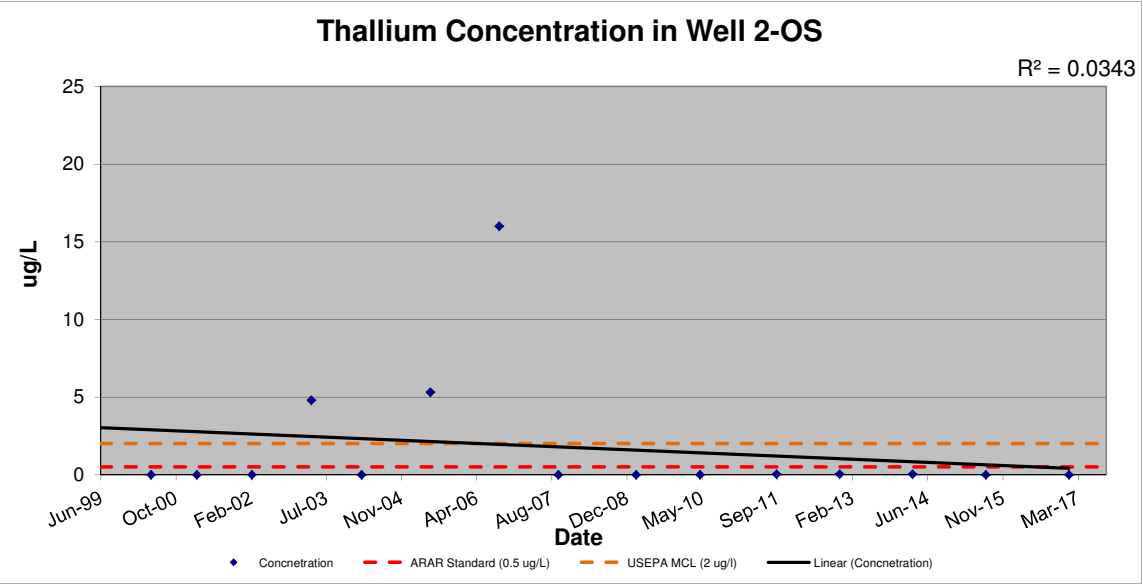
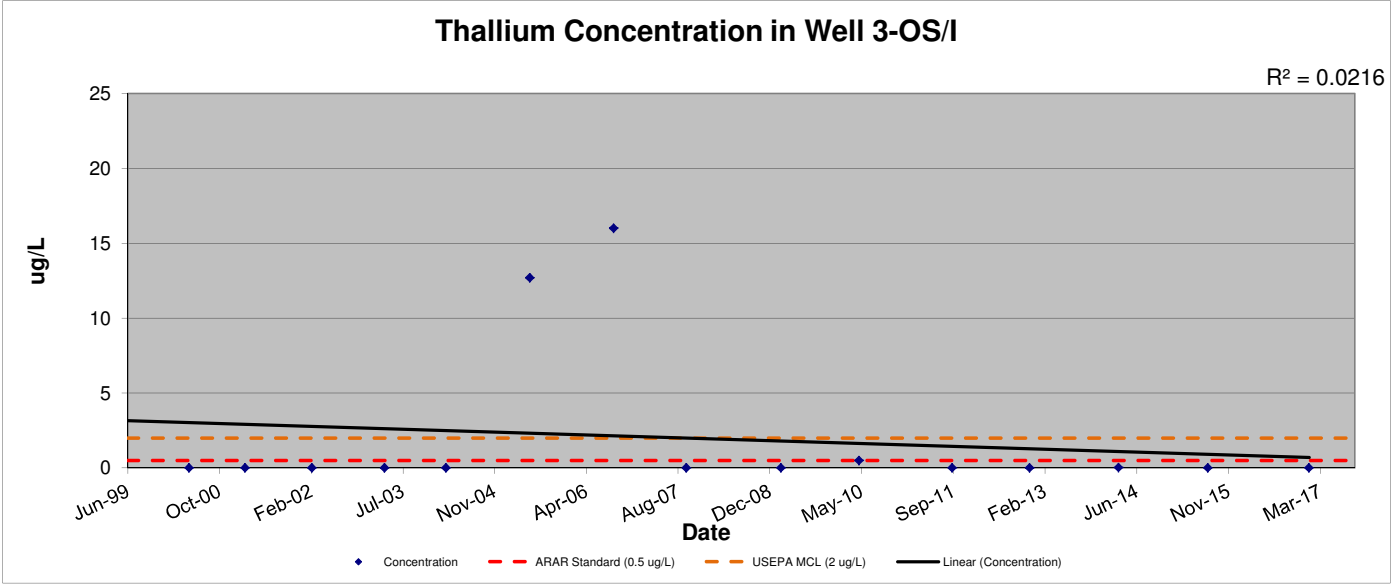
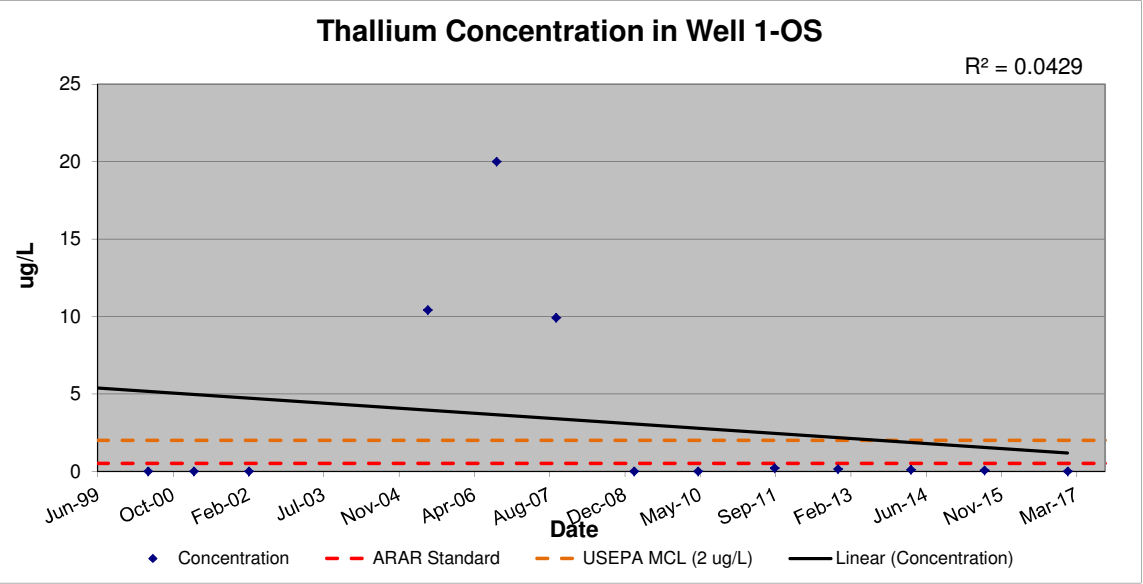
Laboratory Qualifier Definitions

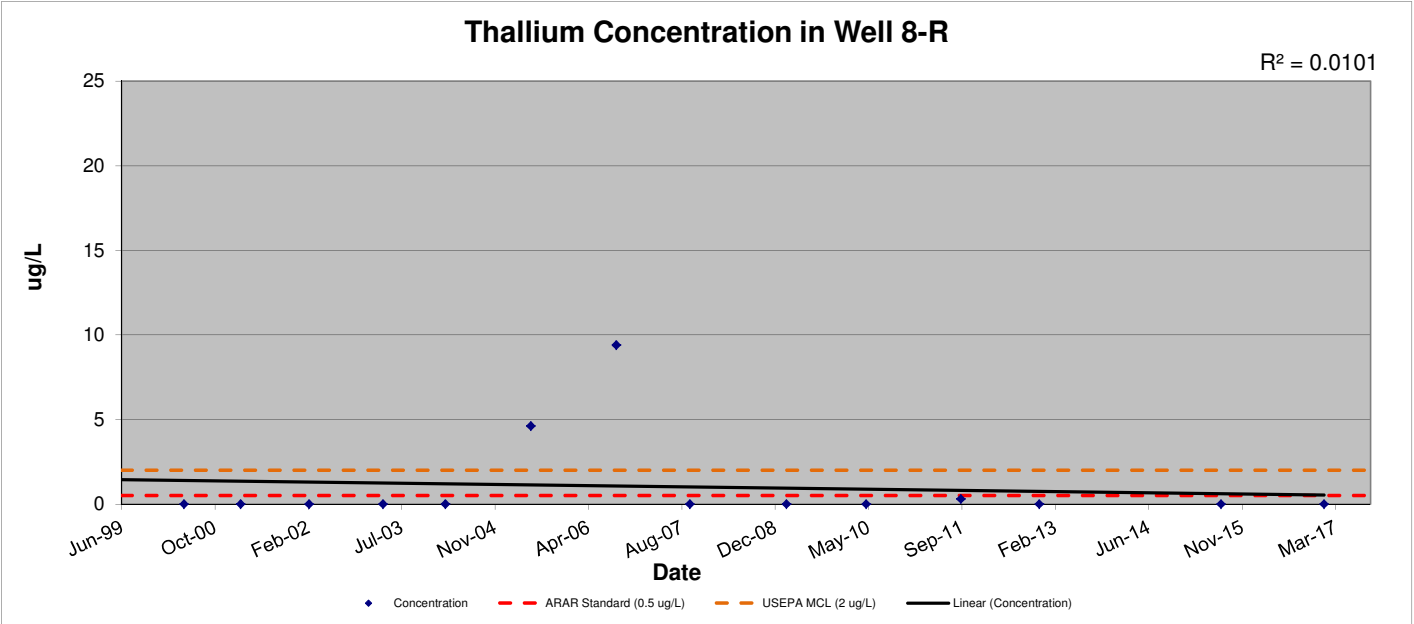
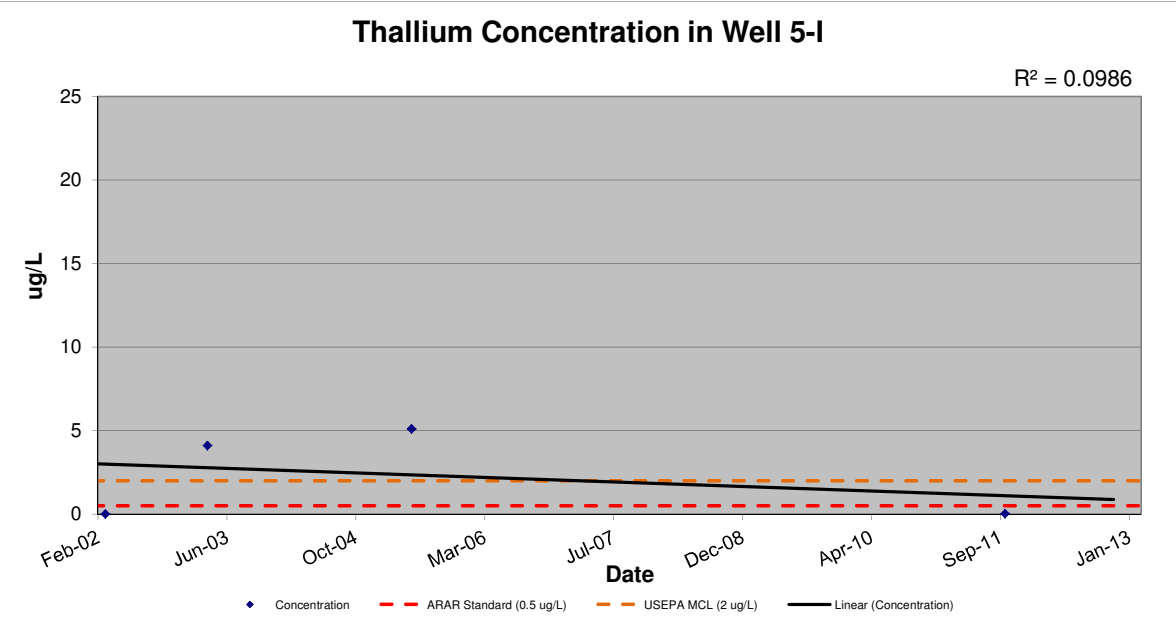
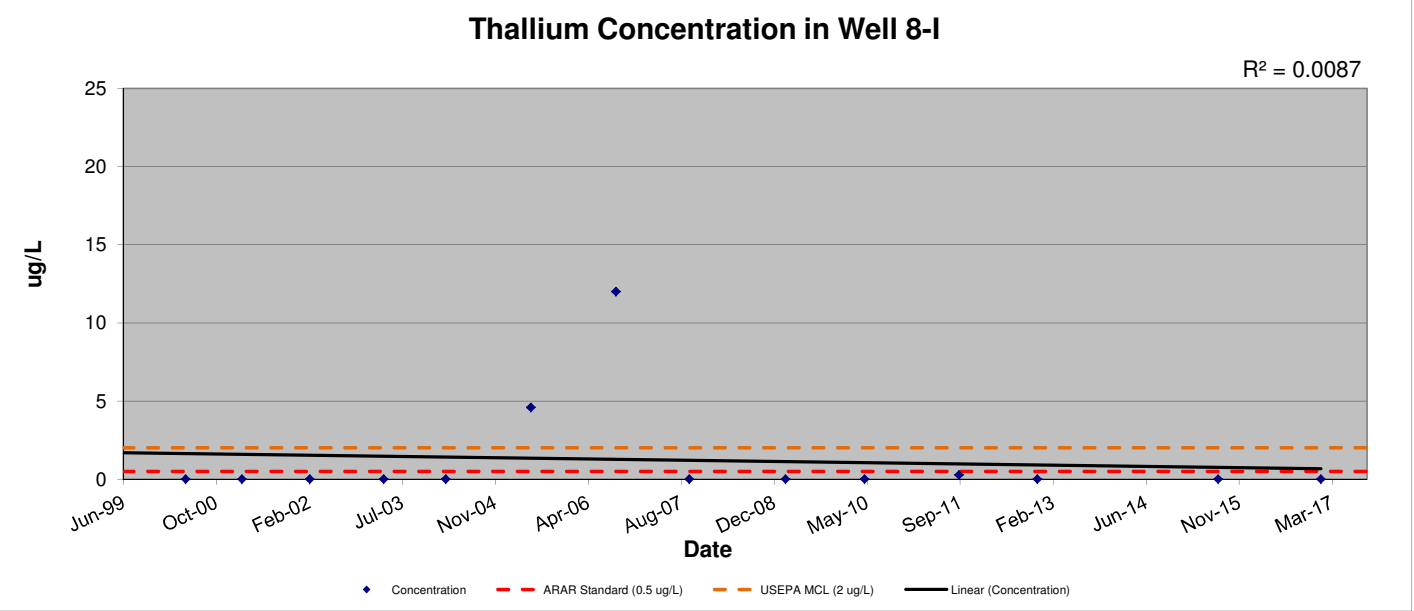
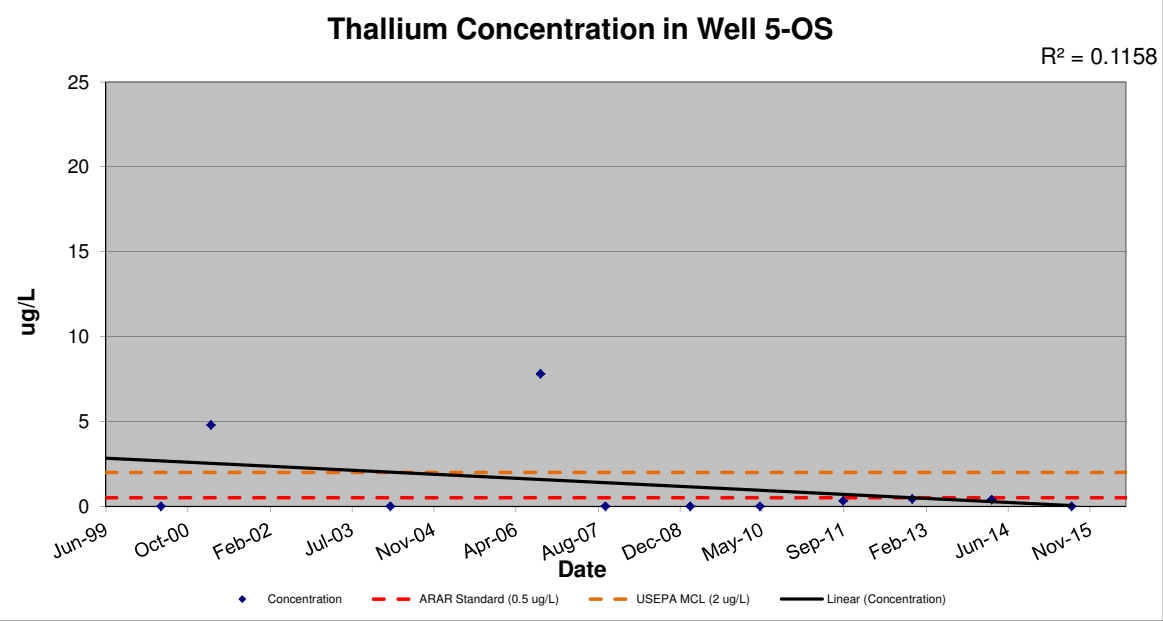
B = The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

D14 = Dilution required due to high concentration of dissolved solids known to cause failure of routine quality control. Analytical method recommends a five-fold dilution for samples that contain greater than 2,000 mg/L of total solids.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

N = Spiked sample recovery not within control limits.





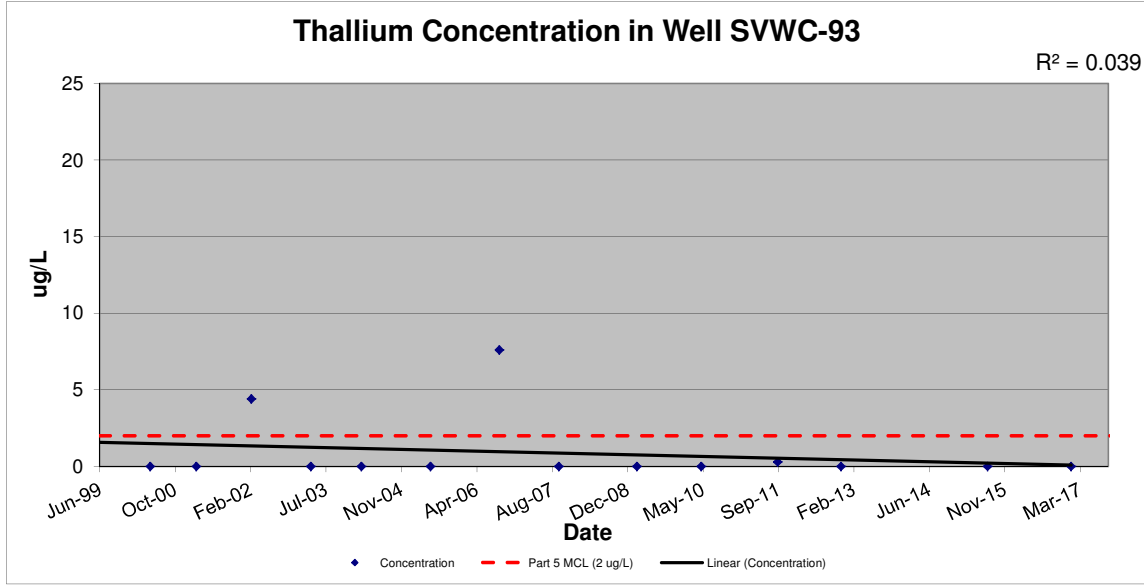


Table 20

**Volume of Leachate/Groundwater Pumped from Landfill Extraction
Wells to RCSD #1 POTW
Town of Ramapo Landfill**

Year	Gallons
1995	20,553,200
1996	21,851,062
1997 ⁽¹⁾	22,888,055
1998 ⁽¹⁾	22,888,055
1999	7,280,848
2000	17,234,622
2001	12,328,217
2002	13,576,560
2003	18,415,267
2004	13,827,647
2005	18,285,355
2006	14,391,820
2007	11,671,388
2008	11,929,369
2009	13,692,046
2010	8,955,114
2011	9,763,081
2012	13,345,000
2013	18,202,000
2014	13,254,000
2015	14,591,000
2016	11,314,000

⁽¹⁾ Flow meter or totalizer did not function - no data available therefore values are based on previous records

Note: The volumes for 1997 and 1998 are estimated. No data was recorded due to malfunctioning equipment.

Table 21

Summary of 2017 and Historical Leachate / Groundwater Analytical Results
Town of Ramapo Landfill / Rockland County Sewer District #1

Sample Location: Manhole Immediately Upstream of Wet Well

Parameter	Maximum Concentration	Units	August 20 & 21, 2009		January 13, 2010		May 19 & 20, 2010		January 26, 2011		July 20, 2011		March 14, 2012		May 17, 2012		August 22, 2012		July 25, 2013		January 23, 2014		May 15, 2014		July 10, 2014		January 14, 2015		April 16, 2015		July 8, 2015		February 24, 2016		June 8, 2016		September 21, 2016	
pH	5-11	S.U.	7.8		7.3		6.8 (5/19), 7.3 (5/20)		6.7		6.8		6.8		6.8		6.5		8.2		7.7		7.1		7.3		7.6		7.5		7.3		7.2		8.2		7.2	
Phosphorous (Total)	-	ppm	0.41	1.32			0.02	u	0.13		0.07		0.185		0.105		0.03	u	0.198		3.74		0.264		0.05	u	0.05	u	0.05	u	0.054		0.05	u	0.601		0.238	
Chlorides	-	ppm	160	180			130		200		257		123		92.6		90.8		148		4010		136		218		97.4		263		201		267		165		294	
Ammonia	-	ppm	520	340			1.8		1	u	2.3		0.645		0.821		2.03		0.1	u	1260		0.1	u	0.1	u	0.7		0.1	u	0.128		0.422		0.1	u	1.72	
BOD	-(1)	ppm	30	100			2		4		6		4		2		2		1		39		2		9		12		3		4		3		2		12	
COD	-	ppm	161	576			35		43		55		52		20		9		---		2600		30		56		47		27		110		62		30		42	
Suspended Solids	-(2)	ppm	24	74			5		2		20		7		3		6		6		72		6		6		4		5		7		16		4		4	
TKN	-	ppm	530	380			2.2		1	u	3.4		1.47		1.59		4.06		1.02		1500		0.64		1.03		2.25		0.35		0.35		1.61		0.41		3.23	
Total Dissolved Solids	-	ppm	2,300	950			480		720		1,500		504		312		366		504		958		511		628		322		694		740		756		624		976	
O&G Non-Polar	25	ppm	1.4	u	1.4	u	1.4	u	5	u	0.6	u	6.30		---		---		---		---		---		---		---		---		---		---		5	u	5	u
Boron	1.0	ppm	0.1		0.11		0.09		0.098		0.111		0.0792	B	0.0966	B	0.0725	B	0.106		0.1		0.068		0.096		0.05	u	0.08		0.08		0.05		0.08		0.11	
Manganese	-	ppm	0.727		0.783		0.744		0.87		0.428		1.35		0.823		1,160		0.508		0.025	u	0.703		0.64		0.572		0.261		0.575		4.73		0.395		0.211	
Antimony	-	ppm	0.005	u	0.005	u	0.005	u	0.015	u	0.0036	J	0.002	u	0.002	u	0.002	u	0.001		0.001	u	0.001		0.001	u	0.001	u	0.001	u	0.001	u	0.001	u	0.001	u	0.001	u
Arsenic	0.25	ppm	0.004	u	0.007		0.004	u	0.01	u	0.0035	u	0.002		0.002		0.002		0.001	u	0.002		0.001		0.004		0.001	u	0.001	u	0.003		0.009		0.001	u	0.001	u
Beryllium	-	ppm	0.001	u	0.001	u	0.001	u	0.005	u	0.0008	u	0.001	u	0.000116	B	0.000106	B	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
Cadmium	0.07	ppm	0.001	u	0.001	u	0.001	u	0.002	u	0.0005	J	0.004	u	0.004		0.008		0.004	u	0.004	u	0.004	u	0.004	u	0.004	u	0.004	u	0.004	u	0.009		0.003	B	0.009	
Chromium	0.6	ppm	0.001	u	0.004		0.001	u	0.005	u	0.0039	J	0.011	u	0.016	B	0.011	u	0.025	u	0.011	u	0.011	u	0.011	u	0.011	u	0.011	u	0.011	u	0.011	u	0.011	u	0.011	u
Copper	1.0	ppm	0.018		0.085		0.002	u	0.025	u	0.158		0.015		0.024		0.01	u	0.010	u	0.067		0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.023		0.01	u
Lead	1.0	ppm	0.002	u	0.002	u	0.002	u	0.01	u	0.0028	u	0.044		0.015	u	0.032	B	0.016	u	0.016	u	0.038	B	0.027	B	0.058		0.059		0.028	B	0.063		0.03	B	0.094	
Mercury	0.05	ppm	0.0002	u	0.008	u	0.0002	u	0.0002	u	0.00007	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	0.001	u
Nickel	1.0	ppm	0.003		0.01		0.002		0.005	u	0.0082		0.016	B	0.038		0.01	u	0.025	u	0.025	u	0.074		0.025	u	0.031		0.047		0.025	u	0.059		0.061		0.07	
Silver	2.3	ppm	0.001	u	0.001		0.001	u	0.01	u	0.0012	u	0.01	u	0.01	u	0.01	u	0.010	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u
Thallium	-	ppm	0.005	u	0.025	u	0.005	u	0.005	u	0.0038		0.05	u	0.033	u	0.033	u	0.033	u	0.039	B	0.075		0.05	u	0.05	u	0.053		0.061		0.042	B	0.05	u	0.05	u
Zinc	3.0	ppm	0.027		0.117		0.003		0.025	u	0.471		0.044		0.109		0.023		0.015		0.093		0.01	u	0.043		0.044		0.011		0.01	u	0.051		0.01		0.01	u
Selenium	0.1	ppm	0.01	u	0.01	u	0.01	u	0.01	u	0.0037	u	0.004		0.004		0.001	u	0.002		0.001		0.002		0.003		0.001	u	0.004		0.001		0.002		0.001	u	0.001	u
Molybdenum	0.14	ppm	0.01	u	0.01	u	0.01	u	0.01	u	0.0047	u	0.0024	B	0.0019	B	0.0027	B	0.00240	B	0.05	u	0.05		0.05	u	0.005	u	0.005	u	0.005	u	0.005	u	0.005	u	0.005	u
Cyanide Total	1.0	ppm	0.02		0.05	u	0.01	u	0.01	u	0.00498	u	0.01	u	0.01	u	0.01	u	0.01	u	0.057		0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u
Cyanide, Free	0.1	ppm	0.01		(3)		0.01	u	0.005		0.00468	u	---		---		---		---		---		---		---		---		---		---		---		---		---	
Cyanide, Amenable	-	ppm	---		---		---		---		---		0.01	u	0.01	u	0.010	u	0.01	u	0.010	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u	0.01	u
Phenol	2.25	ppm	0.03	u	0.015	u	0.015	u	0.015	u	0.015	u	0.05	u	0.05	u	0.05	u	0.01	u	0.067		0.05	u	0.01	u	0.01	u	0.016	B	0.016	B	0.019	B	0.01	u	0.029	B
USEPA Priority Pollutants ⁽⁴⁾	2.13	ppm	0.06	u	0.06	u	0.06	u	0.0206	u	0.028	u	0.085 ⁽⁵⁾		0.087 ⁽⁵⁾		0.089 ⁽⁵⁾		0.57	J	0.0197	J	0.00948	J	0.03611	J	0.00701	J	0.00887	J	0.01294	J	0.00835	J	0.01653	J	0.00781	

- Notes:
- B = Indicates a value that is > than method detection limit (MDL) but < than laboratory quantition limit.
- J = Estimated value due to the compound was detected below the reporting limit.
- u = Reported at concentration less than laboratory reporting limit.
- (1) A surcharge will apply if BOD is > 250 ppm
- (2) A surcharge will apply if Suspended Solids is > 300 ppm
- (3) Could not report free Cyanide due to matrix interference
- (4) Excluding metals, Phenol and Cyanides
- (5) Does not include : Acrolein, Acrylonitrile, Benzidine, Parachlorometa cresol, 1, 2-diphenylhydrazine, 4-chlorophenyl phenyl ether, 4-bromophenyl phenyl ether, Methyl chloride, Methyl bromide, 4, 6 -dinitro-o-cresol

APPENDIX A

INSPECTION CHECKLIST AND INSTITUTIONAL AND ENGINEERING CONTROLS EVALUATION FORM

**TOWN OF RAMAPO LANDFILL
POST-CLOSURE ANNUAL SITE INSPECTION CHECKLIST**

Date: 1/16/17

Inspected By: Cody Sargood & Joseph Spaulding – Sterling Environmental Engineering, P.C.

Landfill Property Item	Condition: (Check applicable items)			Remarks
	Acceptable	Not Acceptable	Not Present	
1. Vegetative Cover	X			Good condition – No problems noted.
2. Surface Water Drainage Structures (Swales, Downchutes, Channels, Plunge Pools, Outfalls to Torne Brook).		X		Overgrown vegetation is present in many of the drainage channels along the perimeter of the Landfill (see Photographs 3, 5, 13, and 15). Landfill Downchutes are in acceptable condition.
a. Sediment Build-Up in Drainage Structures	X			Some minor sediment buildup observed at the northernmost corner drainage swale (see Photograph 4).
b. Pooling or Ponding			X	Three (3) plunge pools (Plunge Pool No.'s 1, 2 and 3) are part of the drainage system, but are not on the Landfill cover (see Figure 4).
c. Slope Integrity	X			Good condition – No problems noted.
d. Overall Adequacy	X			
e. Concrete Lining	X			
f. Gabion Lining	X			
g. Corrugated Metal Pipe (CMP) Lining	X			
3. Access Road	X			Good condition – No problems noted.
4. Landfill Cover System	X			Overall acceptable condition.
a. Erosion Damage	X			Minor erosion observed along the southwestern side slope of the Landfill (see Photographs 10 and 11). The integrity of the slope is acceptable.
b. Leachate Seeps			X	Good condition – No problems noted.
c. Settlement			X	
d. Stone Aprons	X			

Landfill Property Item	Condition: (Check applicable items)			Remarks
	Acceptable	Not Acceptable	Not Present	
5. Gabion Retaining Walls	X			Good condition – No problems noted.
a. Structural	X			
b. Drainage Media Behind Wall	X			
6. Fence and Gates	X			Good condition – No problems noted.
7. Slope Stability	X			Good condition – No problems noted.
a. Landfill	X			
b. Mountain Side	X			
8. Gas Vents*				*Three (3) downed vents were observed across the Landfill (see Photographs 12, 16 and 17 and Figure 4).
a. Are Openings Unobstructed?	X			
b. Pipe Condition	X			
9. Burrow Holes			X	No active burrow holes were observed.

Other	Yes	No
Obtain Groundwater Extraction Well Operation Period Records and Maintenance Records for Current Year	X	

Comments:

Monitoring wells MW-3R, MW-4I and MW-5R have steel protective caps, but do not close properly. MW-3R is locked, but there is no J-Plug over the well's casing to completely shield it from the elements (see Photograph 25). MW-4I does have a PVC cap, however, the monitoring well's steel protective casing cannot be closed and locked (see Photograph 21). MW-5R does have a J-Plug, however, the monitoring well's steel protective cap cannot be closed and locked (see Photograph 20).

Monitoring well MW-7-OS is damaged. The outer steel and inner PVC casings are bent at three (3) feet from the top of the steel casing. STERLING was able to bend the protective steel cap to close and lock. STERLING wrapped the steel cap in duct tape to shield the well from the elements (see Photographs 22, 23 and 24).

INSTITUTIONAL AND ENGINEERING CONTROL EVALUATION FORM

I. Site Background Information

A. Site Name and Location:

Site name as it appears on the Environmental Easement: Ramapo Landfill Site

Name of the current property owner(s): Town of Ramapo

Site Street Address: 198 Torne Valley Road (or 200-300 Torne Valley Road)

Municipality (-ies): Town of Ramapo County (-ies): Rockland

Blocks: 3

Lots: 1

Source information obtained from: Town of Ramapo 2015 Assessment Roll

B. Person responsible for preparing Institutional and Engineering Control Evaluation Form:

Person's Name: Mark P. Millspaugh, P.E.

Person's Title: President

Company Name: Sterling Environmental Engineering, P.C.

Relationship to the Site (check as appropriate): Owner ☐ Operator ☐

Lessee ☐ Person Who Conducted the Cleanup ☐

Other (describe) Environmental Consultant to Owner

Street Address: 24 Wade Road

City: Latham State: New York

Telephone Number: (518) 456 4900

Fax Number: (518) 456 - 3532

E-mail Address: mark.millspaugh@sterlingenvironmental.com

C. Case Specific Information (Complete all that apply)

- Site Name: Ramapo Landfill Site
- Site Registry Number: 344004
- Date of final Remediation Report and/or Certificate of Completion: September 30, 1997
- Name and program of assigned Project Manager at issuance of Environmental Easement:
Robert W. Shick, Director, Division of Environmental Remediation

D. Existing Site Conditions

- Describe the physical characteristics of the site (features, topography, drainage, vegetation, access, etc.). If necessary, attach additional sheets.

See #1 Attached.

- Describe the current site operations/use. If necessary, attach additional sheets.

See #2 Attached.

- Describe visual integrity/condition engineering control. If necessary, attach additional sheets.

See #3 Attached.

II. Protectiveness Evaluation

A. Environmental Easement and Engineering Control Information (Complete below)

- Provide the following information for the recorded Environmental Easement:

Book Number: _____

Page Number: _____

Date the date the Environmental Easement was filed in the office of the county recording officer: June 28, 2012 - Town of Ramapo Supervisor
(accepted by the State of NY July 12, 2012)

- Have any amendments and/or additional filings been recorded that may modify or supersede the Environmental Easement?

Yes ____ No x

If "Yes", provide an explanation. If necessary, attach additional sheets.

B. Evaluation of Institutional and Engineering Controls

1. Zoning or Land Use Changes (Complete below)

- a. Land use at the time the Environmental Easement was filed (check all that apply):

Non-Residential x Residential ____ Agricultural ____ Other ____

- b. Current land use (check all that apply):

Non-Residential x Residential ____ Agricultural ____ Other ____

- c. Has there been an actual or pending zoning or land-use change?

Yes ____ No x

2. Inspections (Complete below)

Have periodic inspections of the site identified any excavation or other disturbance activities that have taken place within the restricted areas?

Yes ____ No x

Date(s) of Disturbance: _____

Duration of Disturbance: Years ____ Months ____ Days ____

Date the NYSDEC was notified: _____

Date Work Plan Approved: _____

Description of the disturbance and methods to address the disturbance. If necessary, attach additional sheets.

Name of Contact Person Relative to the Disturbance:

Title: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone Number: _____

Email Address: _____

3. Changes to Laws and Regulations (Complete below)

- a. Are there any subsequently promulgated or modified environmental laws or regulations, which apply to the site?

Yes _____ No x _____

- b. If "Yes", has the evaluation also determined that the Environmental Easement and engineering control, as applicable, meets the requirements of the new laws and regulations?

Yes _____ No _____

- c. The Environmental Easement and engineering control, as applicable that did not meet the requirements of the new laws and regulations has been addressed in the following manner to bring them into compliance. If necessary, attach additional sheets.

1. The Ramapo Landfill Site encompasses 86.07 acres and is located east of Torne Valley Road and immediately south of Baler Boulevard. The Baler Building, which is actively accepting waste, is located on Baler Boulevard and is adjacent to the Landfill to the northeast. The highest elevation of the site is located on the eastern most edge of the site. The Landfill slopes downward in a westerly direction towards Torne Brook. The lowest elevation of the site is located along the southwestern edge of the property. Stone and concrete drainage ditches are present along the perimeter of the Landfill. Several stone drainage channels and swales are connected to four (4) main stone drainage downchutes that drain into the western perimeter drainage ditch of the Landfill. The site is covered with suitable shallow rooted vegetation with no evidence of erosion. Some deeper rooted vegetation is present in drainage structures across the Landfill. The Landfill is surrounded by perimeter fencing and can only be accessed through an access gate at the northeast edge of the Landfill adjacent to Baler Boulevard.
2. The Landfill stages compost wind rows on the upper east edge of the property, as well as a shooting range for the Town of Ramapo Police Department. The Landfill is mowed regularly to prevent deep rooted vegetation to grow and damage the cover; however, portions of the Landfill are not mowed due to Timber Rattlesnake habitats.
3. The Ramapo Landfill Site was observed to be in good condition during the inspection on January 16 through January 19, 2017. The Landfill cover was observed to be in good condition with no evidence of surface water ponding. De minimus evidence of erosion was observed along the southwestern most side slope of the Landfill. STERLING will continue to monitor in order to ensure substantial erosion does not occur. No evidence of sloughing was observed and the overall physical integrity of the Landfill is in good condition. The majority of the drainage structures onsite are in good working condition. Some deeper rooted vegetation is present within the Landfill drainage structures identified on the Landfill Inspection Form in Appendix A and should be maintained.

APPENDIX B

**NYSDEC INSTITUTIONAL AND ENGINEERING CONTROLS
CERTIFICATION FORM**



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site Details		Box 1	
Site No.	344004		
Site Name Ramapo Town Landfill			
Site Address: Torne Valley Road		Zip Code: 10901	
City/Town: Ramapo			
County: Rockland			
Site Acreage: 80.0			
Reporting Period: January 1, 2016 to March 31, 2017			
		YES	NO
1.	Is the information above correct?	X	
If NO, include handwritten above or on a separate sheet.			
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3.	Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.			
5.	Is the site currently undergoing development?		X

		Box2	
		YES	NO
6.	Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	
7.	Are all ICs/ECs in place and functioning as designed?	X	
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.			
A Corrective Measures Work Plan must be submitted along with this form to address these issues.* *As described in Section 4.2.2 of the Periodic Review Report, seeps have been investigated through work plans approved by NYSDEC pursuant to the Order on Consent			
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date	

Description of Institutional Controls

Parcel	<u>Owner</u>	<u>Institutional Control</u>
39.19-1-3	Town of Ramapo	Monitoring Plan, O&M Plan, Groundwater Use Restriction, Land Use Restriction, Soil Management Plan, Site Management Plan (SMP), and IC/EC Plan
Land Use is restricted to commercial/industrial. Groundwater use is restricted.		
39.19-1-3.1	Rockland County Sewer District #1	Groundwater Use Restriction, SMP
Groundwater wells for drinking water shall not be used or installed on any portion of the Ramapo Landfill Site.		
39.19-1-4	Rockland County Solid Waste Management	Groundwater Use Restriction, SMP
Groundwater wells for drinking water shall not be used or installed on any portion of the Ramapo Landfill Site.		
39.19-1-5	Rockland County Solid Waste Management Authority	Groundwater Use Restriction, SMP
Groundwater wells for drinking water shall not be used or installed on any portion of the Ramapo Landfill Site.		

Box 4

Description of Engineering Controls

Parcel	<u>Engineering Control</u>
39.19-1-3	Landfill Cover System with Gas Venting Leachate Collection System Groundwater Containment System, including extraction wells Monitoring Well Network Perimeter Fencing/Access Control

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

✓ YES

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

~~(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.~~
[Not Applicable]

✓ YES

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 344004

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Edward P. Dzurinko (Town of Ramapo, Director of Public Works)

at

16 Pioneer Avenue, Tallman, NY 10982

print name

print business address

I am certifying as Designated Representative (Owner) for the Site named in the Site Details Section of this form.



Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

4-26-2017

Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Mark P. Millspaugh, P.E. at 24 Wade Road, Latham, NY 12110

print name

print business address

am certifying as a Professional Engineer for the Town of Ramapo (Owner or Remedial Party)



Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification



Stamp
(Required for PE)

4/29/17
Date

APPENDIX C
PHOTOGRAPH LOG



Photograph 1: View of newly installed upgradient monitoring well cluster – UP-OS, UP-I, and UP-R (northwest to southeast).



Photograph 2: View of the Baler Building from Landfill west of upper Landfill gate (west to east).



Photograph 3: Patch of overgrown vegetation observed in perimeter drainage ditch along the eastern portion of the Landfill (south to north).



Photograph 4: Build-up of sediment observed near drainage swale along the northernmost portion of the Landfill (south to north).



Photograph 5: Localized overgrown vegetation observed in drainage swale along the northern most portion of the Landfill.



Photograph 6: Landfill vegetative cover is well established (northeast to southwest).



Photograph 7: Perimeter drainage ditch along the northern portion of the Landfill is in good condition and operating as designed (east to west).



Photograph 8: Drainage structure Downchute 3 is in good condition and operating as designed (northwest to southeast).



Photograph 9: View of scalehouse along the western portion of the Landfill (east to west).



Photograph 10: Lightly vegetated Landfill cover was observed along southwestern sideslope of the Landfill (west to east).



Photograph 11: Another view of the minor stressed vegetation due to erosion observed along the southwestern side slope of the Landfill (south to north).



Photograph 12: Downed vent observed on the southwestern sideslope of the Landfill.



Photograph 13: Overgrown vegetation observed along the southeastern perimeter drainage ditch (southwest to northeast).



Photograph 14: View of southern portion of Landfill (southwest to northeast).



Photograph 15: View of overgrown vegetation in Plunge Pool 2 along the central portion of the Landfill (west to east).



Photograph 16: Downed vent observed in mid-northern portion of the Landfill. STERLING propped vent up but could not fasten dislodged section of vent.



Photograph 17: Downed vent observed in central portion of Landfill.



Photograph 18: Town of Ramapo Police shooting range located on easternmost portion of the Landfill (northwest to southeast).



Photograph 19: Ruts observed on the access road to the compost piles. Landfill cover is not compromised (northeast to southwest).



Photograph 20: Monitoring well 5-R (utilized for depth to water measurements only) is not able to close and lock (west to east).



Photograph 21: Monitoring well 4-I (utilized for depth to water measurements only) is not able to close and lock (north to south).



Photograph 22: Monitoring well 7-OS is damaged approximately three (3) feet below the top of the outer steel protective casing (southwest to northeast).



Photograph 23: Top view of damaged monitoring well 7-OS.



Photograph 24: Monitoring well 7-OS was wrapped with duct tape to temporarily keep the internal portion of the monitoring well secure (north to south).



Photograph 25: Monitoring well 3-R (utilized for depth to water measurements only) is locked, NOTE: top flap of protective casing is not tight with the locking hasp (southeast to northwest).

APPENDIX D

LABORATORY ANALYTICAL RESULTS - GROUNDWATER



ANALYTICAL REPORT

Lab Number:	L1701491
Client:	Sterling Environmental Eng 24 Wade Road Latham, NY 12110
ATTN:	Cody Sargood
Phone:	(518) 456-4900
Project Name:	RAMAPO LANDFILL
Project Number:	20010
Report Date:	01/24/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1701491-01	SVWC-93	WATER	RAMAPO, NEW YORK	01/16/17 11:20	01/16/17
L1701491-02	SVWC-94	WATER	RAMAPO, NEW YORK	01/16/17 10:15	01/16/17
L1701491-03	SVWC-95	WATER	RAMAPO, NEW YORK	01/16/17 10:58	01/16/17
L1701491-04	SVWC-96	WATER	RAMAPO, NEW YORK	01/16/17 10:40	01/16/17
L1701491-05	PW-1	WATER	RAMAPO, NEW YORK	01/16/17 12:10	01/16/17
L1701491-06	PW-2	WATER	RAMAPO, NEW YORK	01/16/17 11:45	01/16/17
L1701491-07	TRIP BLANK	WATER	RAMAPO, NEW YORK	01/16/17 00:00	01/16/17
L1701491-08	UP-OS	WATER	RAMAPO, NEW YORK	01/17/17 09:35	01/17/17
L1701491-09	UP-I	WATER	RAMAPO, NEW YORK	01/17/17 10:45	01/17/17
L1701491-10	UP-R	WATER	RAMAPO, NEW YORK	01/17/17 12:20	01/17/17
L1701491-11	10-OS	WATER	RAMAPO, NEW YORK	01/17/17 14:20	01/17/17
L1701491-12	10-R	WATER	RAMAPO, NEW YORK	01/17/17 16:00	01/17/17
L1701491-13	10-I	WATER	RAMAPO, NEW YORK	01/17/17 15:15	01/17/17
L1701491-14	TRIP BLANK	WATER	RAMAPO, NEW YORK	01/16/17 16:00	01/17/17

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics by Method 624

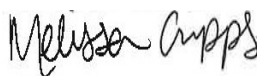
L1701491-12 and -14: The pH of the sample was less than two. It should be noted that 2-Chloroethylvinyl ether breaks down under acidic conditions.

Metals

The WG970682-4 Laboratory Duplicate RPD, performed on L1701491-01, is outside the acceptance criteria for manganese (36%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Melissa Cripps

Title: Technical Director/Representative

Date: 01/24/17

ORGANICS

VOLATILES

Project Name: RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17**SAMPLE RESULTS**

Lab ID: L1701491-01
Client ID: SVWC-93
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 12:51
Analyst: GT

Date Collected: 01/16/17 11:20
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17**SAMPLE RESULTS**

Lab ID: L1701491-02
Client ID: SVWC-94
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 13:57
Analyst: GT

Date Collected: 01/16/17 10:15
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	106		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-03
Client ID: SVWC-95
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 15:03
Analyst: GT

Date Collected: 01/16/17 10:58
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17**SAMPLE RESULTS**

Lab ID: L1701491-04
Client ID: SVWC-96
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 15:36
Analyst: GT

Date Collected: 01/16/17 10:40
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	103		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-05
Client ID: PW-1
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 16:09
Analyst: GT

Date Collected: 01/16/17 12:10
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	106		80-120
Fluorobenzene	103		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-06
Client ID: PW-2
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 16:42
Analyst: GT

Date Collected: 01/16/17 11:45
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-07
Client ID: TRIP BLANK
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/17/17 12:18
Analyst: GT

Date Collected: 01/16/17 00:00
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	103		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17**SAMPLE RESULTS**

Lab ID: L1701491-08
Client ID: UP-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 16:31
Analyst: GT

Date Collected: 01/17/17 09:35
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	107		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-09
Client ID: UP-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 17:04
Analyst: GT

Date Collected: 01/17/17 10:45
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	106		80-120
Fluorobenzene	103		80-120
4-Bromofluorobenzene	102		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-10
Client ID: UP-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 17:37
Analyst: GT

Date Collected: 01/17/17 12:20
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	106		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-11
Client ID: 10-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 18:10
Analyst: GT

Date Collected: 01/17/17 14:20
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	106		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-12
Client ID: 10-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 18:43
Analyst: GT

Date Collected: 01/17/17 16:00
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	107		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-13
Client ID: 10-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 19:16
Analyst: GT

Date Collected: 01/17/17 15:15
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	109		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-14
Client ID: TRIP BLANK
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/18/17 19:49
Analyst: GT

Date Collected: 01/16/17 16:00
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	107		80-120
Fluorobenzene	102		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 01/18/17 11:33

Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08-14 Batch: WG970689-10					
1,1-Dichloroethane	ND		ug/l	1.5	0.29
Chlorobenzene	ND		ug/l	3.5	0.30
Benzene	ND		ug/l	1.0	0.23
Vinyl chloride	ND		ug/l	1.0	0.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	107		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 01/17/17 11:44

Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG970689-4					
1,1-Dichloroethane	ND		ug/l	1.5	0.29
Chlorobenzene	ND		ug/l	3.5	0.30
Benzene	ND		ug/l	1.0	0.23
Vinyl chloride	ND		ug/l	1.0	0.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	98		80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG970689-3								
Methylene chloride	105		-		70-111	-		30
1,1-Dichloroethane	105		-		78-116	-		30
Chloroform	105		-		86-111	-		30
Carbon tetrachloride	95		-		60-112	-		30
1,2-Dichloropropane	100		-		83-113	-		30
Dibromochloromethane	90		-		58-129	-		30
1,1,2-Trichloroethane	100		-		80-118	-		30
2-Chloroethylvinyl ether	75		-		69-124	-		30
Tetrachloroethene	110		-		80-126	-		30
Chlorobenzene	90		-		80-126	-		30
Trichlorofluoromethane	115		-		83-128	-		30
1,2-Dichloroethane	100		-		82-110	-		30
1,1,1-Trichloroethane	100		-		72-109	-		30
Bromodichloromethane	95		-		71-120	-		30
trans-1,3-Dichloropropene	85		-		73-106	-		30
cis-1,3-Dichloropropene	90		-		78-111	-		30
Bromoform	85		-		45-131	-		30
1,1,2,2-Tetrachloroethane	100		-		81-122	-		30
Benzene	105		-		84-116	-		30
Toluene	100		-		83-121	-		30
Ethylbenzene	90		-		84-123	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG970689-3								
Chloromethane	90		-		70-144	-		30
Bromomethane	90		-		63-141	-		30
Vinyl chloride	105		-		56-118	-		30
Chloroethane	105		-		74-130	-		30
1,1-Dichloroethene	110		-		77-116	-		30
trans-1,2-Dichloroethene	105		-		81-121	-		30
cis-1,2-Dichloroethene ¹	110		-		85-110	-		30
Trichloroethene	105		-		84-118	-		30
1,2-Dichlorobenzene	105		-		78-128	-		30
1,3-Dichlorobenzene	100		-		77-125	-		30
1,4-Dichlorobenzene	100		-		77-125	-		30
p/m-Xylene ¹	100		-		81-121	-		30
o-Xylene ¹	95		-		81-124	-		30
Styrene ¹	95		-		84-133	-		30
Acetone ¹	104		-		40-160	-		30
Carbon disulfide ¹	95		-		54-134	-		30
2-Butanone ¹	106		-		57-116	-		30
Vinyl acetate ¹	105		-		40-160	-		30
4-Methyl-2-pentanone ¹	110		-		79-125	-		30
2-Hexanone ¹	108		-		78-120	-		30
Acrolein ¹	125		-		40-160	-		30

Lab Control Sample Analysis**Batch Quality Control****Project Name:** RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG970689-3								
Acrylonitrile ¹	110		-		66-123	-		30
Dibromomethane ¹	110		-		65-126	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	104				80-120
Fluorobenzene	103				80-120
4-Bromofluorobenzene	99				80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08-14 Batch: WG970689-9								
Methylene chloride	105		-		70-111	-		30
1,1-Dichloroethane	105		-		78-116	-		30
Chloroform	105		-		86-111	-		30
Carbon tetrachloride	100		-		60-112	-		30
1,2-Dichloropropane	100		-		83-113	-		30
Dibromochloromethane	95		-		58-129	-		30
1,1,2-Trichloroethane	100		-		80-118	-		30
2-Chloroethylvinyl ether	70		-		69-124	-		30
Tetrachloroethene	110		-		80-126	-		30
Chlorobenzene	95		-		80-126	-		30
Trichlorofluoromethane	115		-		83-128	-		30
1,2-Dichloroethane	100		-		82-110	-		30
1,1,1-Trichloroethane	100		-		72-109	-		30
Bromodichloromethane	95		-		71-120	-		30
trans-1,3-Dichloropropene	85		-		73-106	-		30
cis-1,3-Dichloropropene	90		-		78-111	-		30
Bromoform	85		-		45-131	-		30
1,1,2,2-Tetrachloroethane	95		-		81-122	-		30
Benzene	105		-		84-116	-		30
Toluene	100		-		83-121	-		30
Ethylbenzene	95		-		84-123	-		30

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08-14 Batch: WG970689-9								
Chloromethane	90		-		70-144	-		30
Bromomethane	90		-		63-141	-		30
Vinyl chloride	105		-		56-118	-		30
Chloroethane	100		-		74-130	-		30
1,1-Dichloroethene	110		-		77-116	-		30
trans-1,2-Dichloroethene	105		-		81-121	-		30
cis-1,2-Dichloroethene ¹	110		-		85-110	-		30
Trichloroethene	110		-		84-118	-		30
1,2-Dichlorobenzene	100		-		78-128	-		30
1,3-Dichlorobenzene	100		-		77-125	-		30
1,4-Dichlorobenzene	100		-		77-125	-		30
p/m-Xylene ¹	100		-		81-121	-		30
o-Xylene ¹	95		-		81-124	-		30
Styrene ¹	95		-		84-133	-		30
Acetone ¹	108		-		40-160	-		30
Carbon disulfide ¹	95		-		54-134	-		30
2-Butanone ¹	114		-		57-116	-		30
Vinyl acetate ¹	115		-		40-160	-		30
4-Methyl-2-pentanone ¹	110		-		79-125	-		30
2-Hexanone ¹	110		-		78-120	-		30
Acrolein ¹	130		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08-14 Batch: WG970689-9								
Acrylonitrile ¹	112		-		66-123	-		30
Dibromomethane ¹	105		-		65-126	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	106				80-120
Fluorobenzene	103				80-120
4-Bromofluorobenzene	100				80-120

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG970689-6 QC Sample: L1701491-02 Client ID: SVWC-94												
Methylene chloride	ND	20	20	100		-	-		70-111	-		30
1,1-Dichloroethane	ND	20	21	105		-	-		78-116	-		30
Chloroform	ND	20	21	105		-	-		86-111	-		30
Carbon tetrachloride	ND	20	21	105		-	-		60-112	-		30
1,2-Dichloropropane	ND	20	20	100		-	-		83-113	-		30
Dibromochloromethane	ND	20	20	100		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	20	19	95		-	-		80-118	-		30
Tetrachloroethene	ND	20	21	105		-	-		80-126	-		30
Chlorobenzene	ND	20	19	95		-	-		80-126	-		30
Trichlorofluoromethane	ND	20	23	115		-	-		83-128	-		30
1,2-Dichloroethane	ND	20	20	100		-	-		82-110	-		30
1,1,1-Trichloroethane	ND	20	20	100		-	-		72-109	-		30
Bromodichloromethane	ND	20	20	100		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	20	17	85		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	20	18	90		-	-		78-111	-		30
Bromoform	ND	20	19	95		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	20	19	95		-	-		81-122	-		30
Benzene	ND	20	20	100		-	-		84-116	-		30
Toluene	ND	20	20	100		-	-		83-121	-		30
Ethylbenzene	ND	20	19	95		-	-		84-123	-		30
Chloromethane	ND	20	18	90		-	-		70-144	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG970689-6 QC Sample: L1701491-02 Client ID: SVWC-94												
Bromomethane	ND	20	18	90		-	-		63-141	-		30
Vinyl chloride	ND	20	21	105		-	-		56-118	-		30
Chloroethane	ND	20	20	100		-	-		74-130	-		30
1,1-Dichloroethene	ND	20	22	110		-	-		77-116	-		30
trans-1,2-Dichloroethene	ND	20	21	105		-	-		81-121	-		30
cis-1,2-Dichloroethene ¹	ND	20	22	110		-	-		85-110	-		30
Trichloroethene	ND	20	21	105		-	-		84-118	-		30
1,2-Dichlorobenzene	ND	20	19	95		-	-		78-128	-		30
1,3-Dichlorobenzene	ND	20	19	95		-	-		77-125	-		30
1,4-Dichlorobenzene	ND	20	19	95		-	-		77-125	-		30
p/m-Xylene ¹	ND	40	42	105		-	-		81-121	-		30
o-Xylene ¹	ND	20	20	100		-	-		81-124	-		30
Styrene ¹	ND	20	20	100		-	-		84-133	-		30
Acetone ¹	ND	50	51	102		-	-		40-160	-		30
Carbon disulfide ¹	ND	20	20	100		-	-		54-134	-		30
2-Butanone ¹	ND	50	54	108		-	-		57-116	-		30
Vinyl acetate ¹	ND	40	47	118		-	-		40-160	-		30
4-Methyl-2-pentanone ¹	ND	50	52	104		-	-		79-125	-		30
2-Hexanone ¹	ND	50	53	106		-	-		78-120	-		30
Acrolein ¹	ND	40	56	140		-	-		40-160	-		30
Acrylonitrile ¹	ND	40	44	110		-	-		66-123	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG970689-6 QC Sample: L1701491-02 Client ID: SVWC-94												
Dibromomethane ¹	ND	20	22	110		-	-		65-126	-		30

<i>Surrogate</i>	<i>MS % Recovery</i>	<i>Qualifier</i>	<i>MSD % Recovery</i>	<i>Qualifier</i>	<i>Acceptance Criteria</i>
4-Bromofluorobenzene	100				80-120
Fluorobenzene	102				80-120
Pentafluorobenzene	103				80-120

Lab Duplicate Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG970689-5 QC Sample: L1701491-01 Client ID: SVWC-93						
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30
Vinyl chloride	ND	ND	ug/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		104		80-120
Fluorobenzene	104		102		80-120
4-Bromofluorobenzene	98		99		80-120

METALS

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-01
 Client ID: SVWC-93
 Sample Location: RAMAPO, NEW YORK
 Matrix: Water

Date Collected: 01/16/17 11:20
 Date Received: 01/16/17
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.010		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Antimony, Total	0.0007	J	mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Barium, Total	0.0131		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Calcium, Total	30.7		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Chromium, Total	0.0013		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Copper, Total	0.0098		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Iron, Total	0.034	J	mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Magnesium, Total	7.24		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Manganese, Total	0.0010		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:50	EPA 7470A	1,7470A	EA
Nickel, Total	0.002		mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Potassium, Total	2.25		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Sodium, Total	63.0		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Zinc, Total	0.0201		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	106.4		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 11:40	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-02
 Client ID: SVWC-94
 Sample Location: RAMAPO, NEW YORK
 Matrix: Water

Date Collected: 01/16/17 10:15
 Date Received: 01/16/17
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Barium, Total	0.0156		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Calcium, Total	25.0		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Chromium, Total	0.0013		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Copper, Total	0.0049		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Iron, Total	0.047	J	mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Magnesium, Total	6.38		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Manganese, Total	0.0005	J	mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:51	EPA 7470A	1,7470A	EA
Nickel, Total	0.0013	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Potassium, Total	1.70		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Sodium, Total	56.4		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Zinc, Total	0.0141		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	88.79		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 11:50	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-03
 Client ID: SVWC-95
 Sample Location: RAMAPO, NEW YORK
 Matrix: Water

Date Collected: 01/16/17 10:58
 Date Received: 01/16/17
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Barium, Total	0.0130		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Calcium, Total	25.1		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Chromium, Total	0.0004	J	mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Copper, Total	0.0053		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Iron, Total	0.104		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Magnesium, Total	6.62		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Manganese, Total	0.0675		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:53	EPA 7470A	1,7470A	EA
Nickel, Total	0.0018	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Potassium, Total	1.98		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Sodium, Total	56.1		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Zinc, Total	0.0190		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	89.89		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 11:53	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-04

Date Collected: 01/16/17 10:40

Client ID: SVWC-96

Date Received: 01/16/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.004	J	mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Barium, Total	0.0124		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Calcium, Total	29.2		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Chromium, Total	0.0004	J	mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Copper, Total	0.0070		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Iron, Total	0.076		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Lead, Total	0.0004	J	mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Magnesium, Total	7.21		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Manganese, Total	ND		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:55	EPA 7470A	1,7470A	EA
Nickel, Total	0.0007	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Potassium, Total	1.56		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Sodium, Total	59.7		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Zinc, Total	0.0084	J	mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	102.5		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 11:56	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-05

Date Collected: 01/16/17 12:10

Client ID: PW-1

Date Received: 01/16/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Barium, Total	0.0073		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Calcium, Total	9.36		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Chromium, Total	0.0004	J	mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Copper, Total	0.0918		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Iron, Total	0.048	J	mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Lead, Total	0.0042		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Magnesium, Total	2.39		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Manganese, Total	0.0011		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:57	EPA 7470A	1,7470A	EA
Nickel, Total	ND		mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Potassium, Total	1.13		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Sodium, Total	19.8		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Zinc, Total	0.0119		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	33.23		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:00	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-06

Date Collected: 01/16/17 11:45

Client ID: PW-2

Date Received: 01/16/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.003	J	mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Barium, Total	0.0023		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Calcium, Total	23.9		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Chromium, Total	0.0003	J	mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Copper, Total	0.0556		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Iron, Total	0.066		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Lead, Total	0.0009	J	mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Magnesium, Total	2.58		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Manganese, Total	0.00096	J	mg/l	0.00100	0.00044	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:59	EPA 7470A	1,7470A	EA
Nickel, Total	0.0007	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Potassium, Total	0.918		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Sodium, Total	6.41		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Zinc, Total	0.0453		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	70.33		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:03	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-08
 Client ID: UP-OS
 Sample Location: RAMAPO, NEW YORK
 Matrix: Water

Date Collected: 01/17/17 09:35
 Date Received: 01/17/17
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.159		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0003	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Barium, Total	0.0099		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Calcium, Total	26.7		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Chromium, Total	0.0020		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Copper, Total	0.0134		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Iron, Total	0.219		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Magnesium, Total	6.77		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Manganese, Total	0.0154		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:44	EPA 7470A	1,7470A	EA
Nickel, Total	0.0014	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Potassium, Total	0.816		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Sodium, Total	3.58		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	94.59		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:06	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-09

Date Collected: 01/17/17 10:45

Client ID: UP-I

Date Received: 01/17/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.120		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Arsenic, Total	0.00047	J	mg/l	0.00050	0.00017	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Barium, Total	0.0082		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Calcium, Total	21.1		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Chromium, Total	0.0020		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Copper, Total	0.0038		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Iron, Total	0.165		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Magnesium, Total	4.43		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Manganese, Total	0.0109		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:54	EPA 7470A	1,7470A	EA
Nickel, Total	0.0015	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Potassium, Total	0.693		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Sodium, Total	3.82		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Vanadium, Total	0.0028	J	mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	70.85		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:10	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-10

Date Collected: 01/17/17 12:20

Client ID: UP-R

Date Received: 01/17/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.131		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Barium, Total	0.0036		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Calcium, Total	11.8		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Chromium, Total	0.0033		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Copper, Total	0.0031		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Iron, Total	0.463		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Magnesium, Total	3.39		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Manganese, Total	0.0045		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:56	EPA 7470A	1,7470A	EA
Nickel, Total	0.0025		mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Potassium, Total	0.554		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Sodium, Total	4.03		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Zinc, Total	0.0105		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	43.34		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:25	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-11

Date Collected: 01/17/17 14:20

Client ID: 10-OS

Date Received: 01/17/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.390		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0004	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Barium, Total	0.0089		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Beryllium, Total	0.0001	J	mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Cadmium, Total	0.0001	J	mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Calcium, Total	3.33		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Chromium, Total	0.0004	J	mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0003	J	mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Copper, Total	0.0015		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Iron, Total	0.186		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Magnesium, Total	0.618		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Manganese, Total	0.0223		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:58	EPA 7470A	1,7470A	EA
Nickel, Total	0.0008	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Potassium, Total	0.345		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Selenium, Total	0.002	J	mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Sodium, Total	2.23		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	10.86		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:29	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-12

Date Collected: 01/17/17 16:00

Client ID: 10-R

Date Received: 01/17/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.040		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Antimony, Total	0.0007	J	mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Barium, Total	0.0043		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Calcium, Total	10.1		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Chromium, Total	0.0052		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0015		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Copper, Total	0.0029		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Iron, Total	0.111		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Lead, Total	0.0005	J	mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Magnesium, Total	1.87		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Manganese, Total	0.0162		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:59	EPA 7470A	1,7470A	EA
Nickel, Total	0.0691		mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Potassium, Total	0.785		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Sodium, Total	5.52		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	33.02		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:32	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-13

Date Collected: 01/17/17 15:15

Client ID: 10-I

Date Received: 01/17/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.012		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Barium, Total	0.0015		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Calcium, Total	9.01		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Chromium, Total	0.0019		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Copper, Total	0.00096	J	mg/l	0.00100	0.00038	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Iron, Total	0.022	J	mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Magnesium, Total	2.50		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Manganese, Total	0.0013		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 22:01	EPA 7470A	1,7470A	EA
Nickel, Total	0.0018	J	mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Potassium, Total	0.886		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Sodium, Total	3.78		mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	32.81		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 12:35	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG970341-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/17/17 14:45	01/18/17 21:33	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 08-13 Batch: WG970611-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/18/17 10:42	01/20/17 21:41	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06,08-13 Batch: WG970682-1										
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Barium, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Calcium, Total	ND		mg/l	0.100	0.039	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Chromium, Total	ND		mg/l	0.0010	0.0002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Copper, Total	ND		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Iron, Total	ND		mg/l	0.050	0.019	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Magnesium, Total	ND		mg/l	0.070	0.024	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Manganese, Total	ND		mg/l	0.0010	0.0004	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Nickel, Total	ND		mg/l	0.0020	0.0006	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Potassium, Total	ND		mg/l	0.100	0.031	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Method Blank Analysis Batch Quality Control

Selenium, Total	ND	mg/l	0.005	0.002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Silver, Total	ND	mg/l	0.0004	0.0002	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Sodium, Total	ND	mg/l	0.100	0.029	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Thallium, Total	ND	mg/l	0.0005	0.0001	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Vanadium, Total	ND	mg/l	0.0050	0.0016	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV
Zinc, Total	ND	mg/l	0.0100	0.0034	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 01-06,08-13 Batch: WG970682-1										
Hardness	ND		mg/l	0.5400	0.5400	1	01/18/17 14:24	01/20/17 10:59	1,6020A	BV

Prep Information

Digestion Method: EPA 3005A



Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG970341-2								
Mercury, Total	110		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 08-13 Batch: WG970611-2								
Mercury, Total	102		-		80-120	-		

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 Batch: WG970682-2					
Aluminum, Total	96	-	80-120	-	
Antimony, Total	90	-	80-120	-	
Arsenic, Total	96	-	80-120	-	
Barium, Total	95	-	80-120	-	
Beryllium, Total	91	-	80-120	-	
Cadmium, Total	98	-	80-120	-	
Calcium, Total	107	-	80-120	-	
Chromium, Total	97	-	80-120	-	
Cobalt, Total	97	-	80-120	-	
Copper, Total	98	-	80-120	-	
Iron, Total	91	-	80-120	-	
Lead, Total	96	-	80-120	-	
Magnesium, Total	100	-	80-120	-	
Manganese, Total	97	-	80-120	-	
Nickel, Total	101	-	80-120	-	
Potassium, Total	98	-	80-120	-	
Selenium, Total	91	-	80-120	-	
Silver, Total	93	-	80-120	-	
Sodium, Total	98	-	80-120	-	
Thallium, Total	93	-	80-120	-	
Vanadium, Total	99	-	80-120	-	

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 Batch: WG970682-2					
Zinc, Total	95	-	80-120	-	
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-06,08-13 Batch: WG970682-2					
Hardness	102	-	80-120	-	

Matrix Spike Analysis **Batch Quality Control**

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06			QC Batch ID: WG970341-3			QC Sample: L1701412-01			Client ID: MS Sample			
Mercury, Total	ND	0.005	0.00566	113		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 08-13			QC Batch ID: WG970611-3			QC Sample: L1701491-08			Client ID: UP-OS			
Mercury, Total	ND	0.005	0.00499	100		-	-		75-125	-		20

Matrix Spike Analysis **Batch Quality Control**

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-3 QC Sample: L1701491-01 Client ID: SVWC-93									
Aluminum, Total	0.010	2	1.79	89	-	-	75-125	-	20
Antimony, Total	0.0007J	0.5	0.4472	89	-	-	75-125	-	20
Arsenic, Total	ND	0.12	0.1167	97	-	-	75-125	-	20
Barium, Total	0.0131	2	1.817	90	-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.0462	92	-	-	75-125	-	20
Cadmium, Total	ND	0.051	0.0469	92	-	-	75-125	-	20
Calcium, Total	30.7	10	38.6	79	-	-	75-125	-	20
Chromium, Total	0.0013	0.2	0.1824	90	-	-	75-125	-	20
Cobalt, Total	ND	0.5	0.4568	91	-	-	75-125	-	20
Copper, Total	0.0098	0.25	0.2482	95	-	-	75-125	-	20
Iron, Total	0.034J	1	0.932	93	-	-	75-125	-	20
Lead, Total	ND	0.51	0.4788	94	-	-	75-125	-	20
Magnesium, Total	7.24	10	15.9	87	-	-	75-125	-	20
Manganese, Total	0.0010	0.5	0.4687	94	-	-	75-125	-	20
Nickel, Total	0.002	0.5	0.4849	96	-	-	75-125	-	20
Potassium, Total	2.25	10	12.0	98	-	-	75-125	-	20
Selenium, Total	ND	0.12	0.104	87	-	-	75-125	-	20
Silver, Total	ND	0.05	0.0441	88	-	-	75-125	-	20
Sodium, Total	63.0	10	73.7	107	-	-	75-125	-	20
Thallium, Total	ND	0.12	0.1086	90	-	-	75-125	-	20
Vanadium, Total	ND	0.5	0.4604	92	-	-	75-125	-	20

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-3 QC Sample: L1701491-01 Client ID: SVWC-93									
Zinc, Total	0.0201	0.5	0.4654	89	-	-	75-125	-	20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-3 QC Sample: L1701491-01 Client ID: SVWC-93									
Hardness	106.4	66.2	161.7	84	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG970341-4 QC Sample: L1701412-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 08-13 QC Batch ID: WG970611-4 QC Sample: L1701491-08 Client ID: UP-OS						
Mercury, Total	ND	ND	mg/l	NC		20

Lab Duplicate Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-4 QC Sample: L1701491-01 Client ID: SVWC-93					
Aluminum, Total	0.010	0.009J	mg/l	NC	20
Antimony, Total	0.0007J	0.0006J	mg/l	NC	20
Arsenic, Total	ND	ND	mg/l	NC	20
Barium, Total	0.0131	0.0137	mg/l	5	20
Beryllium, Total	ND	ND	mg/l	NC	20
Cadmium, Total	ND	ND	mg/l	NC	20
Calcium, Total	30.7	31.3	mg/l	2	20
Chromium, Total	0.0013	0.0012	mg/l	4	20
Cobalt, Total	ND	0.0002J	mg/l	NC	20
Copper, Total	0.0098	0.0097	mg/l	1	20
Iron, Total	0.034J	0.037J	mg/l	NC	20
Lead, Total	ND	ND	mg/l	NC	20
Magnesium, Total	7.24	7.42	mg/l	2	20
Manganese, Total	0.0010	0.0015	mg/l	36	Q 20
Nickel, Total	0.002	0.0022	mg/l	9	20
Potassium, Total	2.25	2.20	mg/l	2	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Sodium, Total	63.0	65.7	mg/l	4	20

Lab Duplicate Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-4 QC Sample: L1701491-01 Client ID: SVWC-93					
Thallium, Total	ND	ND	mg/l	NC	20
Vanadium, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.0201	0.0207	mg/l	3	20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970682-4 QC Sample: L1701491-01 Client ID: SVWC-93					
Hardness	106.4	108.8	mg/l	2	20

INORGANICS & MISCELLANEOUS

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-01
Client ID: SVWC-93
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 11:20
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	60.2		mg CaCO ₃ /L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.093	J	mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:04	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	5.8	J	mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:40	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-02
Client ID: SVWC-94
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 10:15
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	56.6		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.302		mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:09	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	10.		mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:40	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-03
Client ID: SVWC-95
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 10:58
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	51.7		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.196	J	mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:10	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	10.		mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-04
Client ID: SVWC-96
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 10:40
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	58.1		mg CaCO ₃ /L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.252	J	mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:11	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	5.8	J	mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-05
Client ID: PW-1
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 12:10
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	25.4		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.108	J	mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:11	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	ND		mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-06
Client ID: PW-2
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/16/17 11:45
Date Received: 01/16/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	53.6		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.209	J	mg/l	0.300	0.066	1	01/18/17 00:30	01/18/17 11:12	4,351.3/.1 (M)	JO
Chemical Oxygen Demand	5.8	J	mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-08
Client ID: UP-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 09:35
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	98.1		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.095	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:27	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	8.2	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-09
Client ID: UP-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 10:45
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	69.6		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.256	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:30	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-10
Client ID: UP-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 12:20
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	41.0		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.182	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:33	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	ND		mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-11
Client ID: 10-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 14:20
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	3.40		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.155	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:34	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-12
Client ID: 10-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 16:00
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	30.4		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.170	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:35	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	5.8	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:41	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

SAMPLE RESULTS

Lab ID: L1701491-13
Client ID: 10-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/17/17 15:15
Date Received: 01/17/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	25.1		mg CaCO ₃ /L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
Nitrogen, Total Kjeldahl	0.144	J	mg/l	0.300	0.066	1	01/18/17 23:00	01/19/17 21:36	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:42	44,410.4	TL



Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG970422-1										
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/17/17 19:00	01/17/17 21:39	44,410.4	TL
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG970466-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	0.022	1	01/18/17 00:30	01/18/17 10:50	4,351.3/1 (M)	JO
General Chemistry - Westborough Lab for sample(s): 01-06,08-13 Batch: WG970588-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	01/18/17 09:33	121,2320B	BR
General Chemistry - Westborough Lab for sample(s): 08-13 Batch: WG970759-1										
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/18/17 17:50	01/18/17 20:39	44,410.4	TL
General Chemistry - Westborough Lab for sample(s): 08-13 Batch: WG970820-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	0.022	1	01/18/17 23:00	01/19/17 21:25	4,351.3/1 (M)	AT



Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG970422-2								
Chemical Oxygen Demand	102		-		95-105	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG970466-2								
Nitrogen, Total Kjeldahl	94		-		78-122	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-13 Batch: WG970588-2								
Alkalinity, Total	102		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 08-13 Batch: WG970759-2								
Chemical Oxygen Demand	98		-		95-105	-		
General Chemistry - Westborough Lab Associated sample(s): 08-13 Batch: WG970820-2								
Nitrogen, Total Kjeldahl	93		-		78-122	-		

Matrix Spike Analysis **Batch Quality Control**

Project Name: RAMAPO LANDFILL

Lab Number: L1701491

Project Number: 20010

Report Date: 01/24/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970422-3 QC Sample: L1701491-03 Client ID: SVWC-95												
Chemical Oxygen Demand	10.	47.6	53	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970466-4 QC Sample: L1701491-01 Client ID: SVWC-93												
Nitrogen, Total Kjeldahl	0.093J	8	7.50	94		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970588-4 QC Sample: L1701491-03 Client ID: SVWC-95												
Alkalinity, Total	51.7	100	156	104		-	-		86-116	-		10
General Chemistry - Westborough Lab Associated sample(s): 08-13 QC Batch ID: WG970759-3 QC Sample: L1701491-09 Client ID: UP-I												
Chemical Oxygen Demand	3.4J	47.6	53	111		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 08-13 QC Batch ID: WG970820-4 QC Sample: L1701491-08 Client ID: UP-OS												
Nitrogen, Total Kjeldahl	0.095J	8	8.42	105		-	-		77-111	-		24

Lab Duplicate Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970422-4 QC Sample: L1701491-03 Client ID: SVWC-95						
Chemical Oxygen Demand	10.	5.8J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970466-3 QC Sample: L1701491-01 Client ID: SVWC-93						
Nitrogen, Total Kjeldahl	0.093J	1.46	mg/l	NC		24
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-13 QC Batch ID: WG970588-3 QC Sample: L1701491-01 Client ID: SVWC-93						
Alkalinity, Total	60.2	59.8	mg CaCO3/L	1		10
General Chemistry - Westborough Lab Associated sample(s): 08-13 QC Batch ID: WG970759-4 QC Sample: L1701491-09 Client ID: UP-I						
Chemical Oxygen Demand	3.4J	5.8J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 08-13 QC Batch ID: WG970820-3 QC Sample: L1701491-08 Client ID: UP-OS						
Nitrogen, Total Kjeldahl	0.095J	0.118J	mg/l	NC		24

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler

A Absent

A1 Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701491-01A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-01B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-01C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-01D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-01E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-01F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-02A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-02B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-02C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-02D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-02E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-02F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-03A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-03B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701491-03C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-03D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-03E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-03F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-04A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-04B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-04C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-04D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-04E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-04F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-05A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-05B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-05C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-05D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701491-05E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-05F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-06A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-06B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-06C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-06D	Plastic 250ml HNO3 preserved	A	<2	3.2	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-06E	Plastic 250ml H2SO4 preserved	A	<2	3.2	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-06F	Plastic 120ml unpreserved w/No H	A	N/A	3.2	Y	Absent	ALK-T-2320(14)
L1701491-07A	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-07B	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-07C	Vial HCl preserved	A	N/A	3.2	Y	Absent	624(14)
L1701491-08A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-08B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-08C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-08D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-08E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-08F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-09A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-09B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-09C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701491-09D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-09E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-09F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-10A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-10B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-10C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-10D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-10E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-10F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-11A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-11B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-11C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-11D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-11E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701491

Report Date: 01/24/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701491-11F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-12A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-12B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-12C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-12D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-12E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-12F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-13A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-13B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-13C	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-13D	Plastic 250ml HNO3 preserved	A1	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701491-13E	Plastic 250ml H2SO4 preserved	A1	<2	2.1	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701491-13F	Plastic 120ml unpreserved w/No H	A1	N/A	2.1	Y	Absent	ALK-T-2320(14)
L1701491-14A	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)
L1701491-14B	Vial HCl preserved	A1	N/A	2.1	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers



Project Name: RAMAPO LANDFILL**Lab Number:** L1701491**Project Number:** 20010**Report Date:** 01/24/17**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701491
Report Date: 01/24/17

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

**NEW YORK
CHAIN OF
CUSTODY**

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1
of 1

Date Rec'd
in Lab 1/17/17

ALPHA Job # 61701491

Client Information

Client: Sterling Environmental Eng., P.C.
Address: 24 Wade Road
Latham, NY 12110
Phone: 518-456-4900
Fax:
Email: cody.sargood@sterlingenvironme

Project Information

Project Name: Ramapo Landfill
Project Location: Ramapo, New York
Project #: 20010
(Use Project name as Project #) ☐
Project Manager: Mark Williams
ALPHAQuote #:
Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☒ ASP-A ☐ ASP-B
☐ EQUIS (1 File) ☐ EQUIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☒ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
mark.williams@sterlingenvironmental.com * i, l-Dichloroethane, Benzene, Chlorobenzene, and Vinyl chloride only

Please specify Metals or TAL.

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS				Sample Filtration	Sample Specific Comments
		Date	Time			TKN/COD	Alkalinity	TAL Metals / Hardness	VOCs(Site Specific)*		
01491-08	UP-OS	1/17/17	935	GW	CD	X	X	X	X	☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)	
01491-09	UP-I		1045		CD						
01491-10	UP-R		1220		CD						
01491-11	10-OS		1420		CD						
01491-12	10-R		1600		CD						
01491-13	10-I		1515	*	CD						
01491-14	Trip Blank		1600	water	CD				X		

Preservative Code:
A = None
B = HCl
C = HNO₃
D = H₂SO₄
E = NaOH
F = MeOH
G = NaHSO₄
H = Na₂S₂O₃
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type

P P P V

Preservative

D A C B

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S [TERMS & CONDITIONS](#).

Relinquished By:	Date/Time	Received By:	Date/Time
Paul Mayella	1/17/17 1645	Paul Mayella	1/17/17 1645
Tom Tosen	1/17/17 1750	Tom Tosen	1/17/17 1800
Tom Tosen	1/17/17 2220	Tom Tosen	1/17/17 2220

Form No: 01-25 (rev. 30-Sept-2013)



ANALYTICAL REPORT

Lab Number:	L1701799
Client:	Sterling Environmental Eng 24 Wade Road Latham, NY 12110
ATTN:	Cody Sargood
Phone:	(518) 456-4900
Project Name:	RAMAPO LANDFILL
Project Number:	20010
Report Date:	01/25/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1701799-01	9-OS	WATER	RAMAPO, NEW YORK	01/18/17 09:30	01/18/17
L1701799-02	9-I	WATER	RAMAPO, NEW YORK	01/18/17 10:30	01/18/17
L1701799-03	9-R	WATER	RAMAPO, NEW YORK	01/18/17 11:25	01/18/17
L1701799-04	4-OS	WATER	RAMAPO, NEW YORK	01/18/17 12:45	01/18/17
L1701799-05	2-OS	WATER	RAMAPO, NEW YORK	01/18/17 14:10	01/18/17
L1701799-06	1-OS	WATER	RAMAPO, NEW YORK	01/18/17 15:50	01/18/17
L1701799-07	TRIP BLANK	WATER	RAMAPO, NEW YORK	01/18/17 00:00	01/18/17
L1701799-08	3-OS/I	WATER	RAMAPO, NEW YORK	01/19/17 08:30	01/19/17
L1701799-09	8-I	WATER	RAMAPO, NEW YORK	01/19/17 10:25	01/19/17
L1701799-10	8-R	WATER	RAMAPO, NEW YORK	01/19/17 11:40	01/19/17
L1701799-11	8-OS	WATER	RAMAPO, NEW YORK	01/19/17 12:20	01/19/17
L1701799-12	7-OS	WATER	RAMAPO, NEW YORK	01/19/17 13:05	01/19/17
L1701799-13	TRIP BLANK	WATER	RAMAPO, NEW YORK	01/17/17 00:00	01/19/17
L1701799-14	DUPLICATE	WATER	RAMAPO, NEW YORK	01/19/17 00:00	01/19/17

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1701799-06: The sample ID was specified by the client.

Volatile Organics by Method 624

The WG971582-6 MS recovery for benzene (120%), performed on L1701799-10, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Metals

The WG971698-3/-4 MS/MSD recoveries for calcium (70%/50%), performed on L1701799-10, do not apply because the sample concentration is greater than four times the spike amount added.

Alkalinity, Total

The WG971297-4 MS recovery (85%), performed on L1701799-10, is outside the acceptance criteria; however, the associated LCS recoveries are within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 01/25/17

ORGANICS

VOLATILES

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-01
Client ID: 9-0S
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 16:04
Analyst: BD

Date Collected: 01/18/17 09:30
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	118		80-120
Fluorobenzene	108		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-02
Client ID: 9-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 16:37
Analyst: BD

Date Collected: 01/18/17 10:30
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	116		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-03
Client ID: 9-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 17:09
Analyst: BD

Date Collected: 01/18/17 11:25
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	115		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	97		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-04
Client ID: 4-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 17:42
Analyst: BD

Date Collected: 01/18/17 12:45
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	115		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-05
Client ID: 2-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 18:14
Analyst: BD

Date Collected: 01/18/17 14:10
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	113		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-06
Client ID: 1-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 18:46
Analyst: BD

Date Collected: 01/18/17 15:50
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	113		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-07
Client ID: TRIP BLANK
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 13:22
Analyst: BD

Date Collected: 01/18/17 00:00
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	119		80-120
Fluorobenzene	109		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-08
Client ID: 3-OS/I
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 19:19
Analyst: BD

Date Collected: 01/19/17 08:30
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	114		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-09
Client ID: 8-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 19:51
Analyst: BD

Date Collected: 01/19/17 10:25
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	113		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-10
Client ID: 8-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 14:27
Analyst: BD

Date Collected: 01/19/17 11:40
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	119		80-120
Fluorobenzene	108		80-120
4-Bromofluorobenzene	97		80-120

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-11
Client ID: 8-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/21/17 16:55
Analyst: BD

Date Collected: 01/19/17 12:20
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	114		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	98		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-12
Client ID: 7-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/21/17 17:27
Analyst: BD

Date Collected: 01/19/17 13:05
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	114		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	102		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-13
Client ID: TRIP BLANK
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/20/17 13:55
Analyst: BD

Date Collected: 01/17/17 00:00
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	119		80-120
Fluorobenzene	108		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**SAMPLE RESULTS**

Lab ID: L1701799-14
Client ID: DUPLICATE
Sample Location: RAMAPO, NEW YORK
Matrix: Water
Analytical Method: 5,624
Analytical Date: 01/21/17 18:00
Analyst: BD

Date Collected: 01/19/17 00:00
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Benzene	ND		ug/l	1.0	0.23	1
Vinyl chloride	ND		ug/l	1.0	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	112		80-120
Fluorobenzene	106		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 01/20/17 10:43

Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10,13 Batch: WG971582-4					
1,1-Dichloroethane	ND		ug/l	1.5	0.29
Chlorobenzene	ND		ug/l	3.5	0.30
Benzene	ND		ug/l	1.0	0.23
Vinyl chloride	ND		ug/l	1.0	0.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	114		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	100		80-120

Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 01/21/17 13:10

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11-12,14 Batch: WG971628-4					
1,1-Dichloroethane	ND		ug/l	1.5	0.29
Chlorobenzene	ND		ug/l	3.5	0.30
Benzene	ND		ug/l	1.0	0.23
Vinyl chloride	ND		ug/l	1.0	0.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	113		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	96		80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 Batch: WG971582-3								
Methylene chloride	100		-		70-111	-		30
1,1-Dichloroethane	105		-		78-116	-		30
Chloroform	110		-		86-111	-		30
Carbon tetrachloride	115	Q	-		60-112	-		30
1,2-Dichloropropane	105		-		83-113	-		30
Dibromochloromethane	100		-		58-129	-		30
1,1,2-Trichloroethane	100		-		80-118	-		30
2-Chloroethylvinyl ether	115		-		69-124	-		30
Tetrachloroethene	105		-		80-126	-		30
Chlorobenzene	95		-		80-126	-		30
Trichlorofluoromethane	105		-		83-128	-		30
1,2-Dichloroethane	110		-		82-110	-		30
1,1,1-Trichloroethane	115	Q	-		72-109	-		30
Bromodichloromethane	100		-		71-120	-		30
trans-1,3-Dichloropropene	100		-		73-106	-		30
cis-1,3-Dichloropropene	100		-		78-111	-		30
Bromoform	90		-		45-131	-		30
1,1,2,2-Tetrachloroethane	100		-		81-122	-		30
Benzene	110		-		84-116	-		30
Toluene	105		-		83-121	-		30
Ethylbenzene	100		-		84-123	-		30

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 Batch: WG971582-3								
Chloromethane	75		-		70-144	-		30
Bromomethane	80		-		63-141	-		30
Vinyl chloride	85		-		56-118	-		30
Chloroethane	95		-		74-130	-		30
1,1-Dichloroethene	100		-		77-116	-		30
trans-1,2-Dichloroethene	105		-		81-121	-		30
cis-1,2-Dichloroethene ¹	105		-		85-110	-		30
Trichloroethene	110		-		84-118	-		30
1,2-Dichlorobenzene	105		-		78-128	-		30
1,3-Dichlorobenzene	100		-		77-125	-		30
1,4-Dichlorobenzene	100		-		77-125	-		30
p/m-Xylene ¹	102		-		81-121	-		30
o-Xylene ¹	100		-		81-124	-		30
Styrene ¹	100		-		84-133	-		30
Acetone ¹	116		-		40-160	-		30
Carbon disulfide ¹	85		-		54-134	-		30
2-Butanone ¹	114		-		57-116	-		30
Vinyl acetate ¹	98		-		40-160	-		30
4-Methyl-2-pentanone ¹	120		-		79-125	-		30
2-Hexanone ¹	128	Q	-		78-120	-		30
Acrolein ¹	98		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 Batch: WG971582-3								
Acrylonitrile ¹	105		-		66-123	-		30
Dibromomethane ¹	110		-		65-126	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	114				80-120
Fluorobenzene	105				80-120
4-Bromofluorobenzene	98				80-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 Batch: WG971628-3								
Methylene chloride	110		-		70-111	-		30
1,1-Dichloroethane	115		-		78-116	-		30
Chloroform	120	Q	-		86-111	-		30
Carbon tetrachloride	130	Q	-		60-112	-		30
1,2-Dichloropropane	120	Q	-		83-113	-		30
Dibromochloromethane	110		-		58-129	-		30
1,1,2-Trichloroethane	110		-		80-118	-		30
2-Chloroethylvinyl ether	110		-		69-124	-		30
Tetrachloroethene	115		-		80-126	-		30
Chlorobenzene	105		-		80-126	-		30
Trichlorofluoromethane	125		-		83-128	-		30
1,2-Dichloroethane	125	Q	-		82-110	-		30
1,1,1-Trichloroethane	130	Q	-		72-109	-		30
Bromodichloromethane	110		-		71-120	-		30
trans-1,3-Dichloropropene	110	Q	-		73-106	-		30
cis-1,3-Dichloropropene	110		-		78-111	-		30
Bromoform	100		-		45-131	-		30
1,1,2,2-Tetrachloroethane	105		-		81-122	-		30
Benzene	120	Q	-		84-116	-		30
Toluene	115		-		83-121	-		30
Ethylbenzene	110		-		84-123	-		30

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 Batch: WG971628-3								
Chloromethane	100		-		70-144	-		30
Bromomethane	95		-		63-141	-		30
Vinyl chloride	110		-		56-118	-		30
Chloroethane	110		-		74-130	-		30
1,1-Dichloroethene	115		-		77-116	-		30
trans-1,2-Dichloroethene	115		-		81-121	-		30
cis-1,2-Dichloroethene ¹	105		-		85-110	-		30
Trichloroethene	125	Q	-		84-118	-		30
1,2-Dichlorobenzene	110		-		78-128	-		30
1,3-Dichlorobenzene	105		-		77-125	-		30
1,4-Dichlorobenzene	110		-		77-125	-		30
p/m-Xylene ¹	100		-		81-121	-		30
o-Xylene ¹	100		-		81-124	-		30
Styrene ¹	100		-		84-133	-		30
Acetone ¹	122		-		40-160	-		30
Carbon disulfide ¹	85		-		54-134	-		30
2-Butanone ¹	128	Q	-		57-116	-		30
Vinyl acetate ¹	98		-		40-160	-		30
4-Methyl-2-pentanone ¹	122		-		79-125	-		30
2-Hexanone ¹	130	Q	-		78-120	-		30
Acrolein ¹	112		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 Batch: WG971628-3								
Acrylonitrile ¹	105		-		66-123	-		30
Methyl tert butyl ether ¹	105		-		57-126	-		30
Dibromomethane ¹	110		-		65-126	-		30
1,4-Dioxane ¹	190	Q	-		74-121	-		30
tert-Butyl Alcohol ¹	200	Q	-		52-114	-		30
Tertiary-Amyl Methyl Ether ¹	110		-		66-111	-		30
Dichlorodifluoromethane ¹	115		-		70-130	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	116				80-120
Fluorobenzene	106				80-120
4-Bromofluorobenzene	98				80-120

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 QC Batch ID: WG971582-5 WG971582-6 QC Sample: L1701799-10 Client ID: 8-R												
Methylene chloride	ND	20	19	95		22	110		70-111	15		30
1,1-Dichloroethane	ND	20	21	105		23	115		78-116	9		30
Chloroform	ND	20	21	105		24	120	Q	86-111	13		30
Carbon tetrachloride	ND	20	23	115	Q	27	135	Q	60-112	16		30
1,2-Dichloropropane	ND	20	21	105		24	120	Q	83-113	13		30
Dibromochloromethane	ND	20	19	95		22	110		58-129	15		30
1,1,2-Trichloroethane	ND	20	19	95		22	110		80-118	15		30
Tetrachloroethene	ND	20	21	105		23	115		80-126	9		30
Chlorobenzene	ND	20	19	95		21	105		80-126	10		30
Trichlorofluoromethane	ND	20	23	115		26	130	Q	83-128	12		30
1,2-Dichloroethane	ND	20	22	110		24	120	Q	82-110	9		30
1,1,1-Trichloroethane	ND	20	23	115	Q	26	130	Q	72-109	12		30
Bromodichloromethane	ND	20	19	95		22	110		71-120	15		30
trans-1,3-Dichloropropene	ND	20	19	95		22	110	Q	73-106	15		30
cis-1,3-Dichloropropene	ND	20	19	95		22	110		78-111	15		30
Bromoform	ND	20	17	85		20	100		45-131	16		30
1,1,2,2-Tetrachloroethane	ND	20	18	90		21	105		81-122	15		30
Benzene	ND	20	22	110		24	120	Q	84-116	9		30
Toluene	ND	20	21	105		24	120		83-121	13		30
Ethylbenzene	ND	20	20	100		22	110		84-123	10		30
Chloromethane	ND	20	18	90		20	100		70-144	11		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 QC Batch ID: WG971582-5 WG971582-6 QC Sample: L1701799-10 Client ID: 8-R												
Bromomethane	ND	20	15	75		19	95		63-141	24		30
Vinyl chloride	ND	20	20	100		22	110		56-118	10		30
Chloroethane	ND	20	20	100		23	115		74-130	14		30
1,1-Dichloroethene	ND	20	21	105		24	120	Q	77-116	13		30
trans-1,2-Dichloroethene	ND	20	21	105		23	115		81-121	9		30
cis-1,2-Dichloroethene ¹	ND	20	19	95		23	115	Q	85-110	19		30
Trichloroethene	ND	20	23	115		25	125	Q	84-118	8		30
1,2-Dichlorobenzene	ND	20	19	95		22	110		78-128	15		30
1,3-Dichlorobenzene	ND	20	19	95		22	110		77-125	15		30
1,4-Dichlorobenzene	ND	20	19	95		22	110		77-125	15		30
p/m-Xylene ¹	ND	40	35	88		42	105		81-121	18		30
o-xylene ¹	ND	20	17	85		21	105		81-124	21		30
Styrene ¹	ND	20	18	90		21	105		84-133	15		30
Acetone ¹	ND	50	49	98		57	114		40-160	15		30
Carbon disulfide ¹	ND	20	15	75		18	90		54-134	18		30
2-Butanone ¹	ND	50	52	104		62	124	Q	57-116	18		30
Vinyl acetate ¹	ND	40	32	80		38	95		40-160	17		30
4-Methyl-2-pentanone ¹	ND	50	50	100		60	120		79-125	18		30
2-Hexanone ¹	ND	50	55	110		65	130	Q	78-120	17		30
Acrolein ¹	ND	40	38	95		43	108		40-160	12		30
Acrylonitrile ¹	ND	40	35	88		42	105		66-123	18		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10,13 QC Batch ID: WG971582-5 WG971582-6 QC Sample: L1701799-10 Client ID: 8-R												
Dibromomethane ¹	ND	20	19	95		23	115		65-126	19		30

<i>Surrogate</i>	<i>MS % Recovery</i>	<i>Qualifier</i>	<i>MSD % Recovery</i>	<i>Qualifier</i>	<i>Acceptance Criteria</i>
4-Bromofluorobenzene	99		98		80-120
Fluorobenzene	108		106		80-120
Pentafluorobenzene	118		117		80-120

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-6 QC Sample: L1702062-02 Client ID: MS Sample												
Methylene chloride	9.7J	200	230	115	Q	-	-		70-111	-		30
1,1-Dichloroethane	ND	200	230	115		-	-		78-116	-		30
Chloroform	ND	200	240	120	Q	-	-		86-111	-		30
Carbon tetrachloride	ND	200	270	135	Q	-	-		60-112	-		30
1,2-Dichloropropane	ND	200	230	115	Q	-	-		83-113	-		30
Dibromochloromethane	ND	200	200	100		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	200	210	105		-	-		80-118	-		30
2-Chloroethylvinyl ether	ND	200	200	100		-	-		69-124	-		30
Tetrachloroethene	ND	200	230	115		-	-		80-126	-		30
Chlorobenzene	ND	200	200	100		-	-		80-126	-		30
Trichlorofluoromethane	ND	200	260	130	Q	-	-		83-128	-		30
1,2-Dichloroethane	ND	200	240	120	Q	-	-		82-110	-		30
1,1,1-Trichloroethane	ND	200	260	130	Q	-	-		72-109	-		30
Bromodichloromethane	ND	200	210	105		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	200	190	95		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	200	180	90		-	-		78-111	-		30
Bromoform	ND	200	180	90		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	200	200	100		-	-		81-122	-		30
Benzene	ND	200	240	120	Q	-	-		84-116	-		30
Toluene	ND	200	220	110		-	-		83-121	-		30
Ethylbenzene	ND	200	220	110		-	-		84-123	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-6 QC Sample: L1702062-02 Client ID: MS Sample												
Chloromethane	ND	200	200	100		-	-		70-144	-		30
Bromomethane	ND	200	160	80		-	-		63-141	-		30
Vinyl chloride	ND	200	220	110		-	-		56-118	-		30
Chloroethane	ND	200	230	115		-	-		74-130	-		30
1,1-Dichloroethene	ND	200	240	120	Q	-	-		77-116	-		30
trans-1,2-Dichloroethene	ND	200	240	120		-	-		81-121	-		30
cis-1,2-Dichloroethene ¹	ND	200	200	100		-	-		85-110	-		30
Trichloroethene	ND	200	250	125	Q	-	-		84-118	-		30
1,2-Dichlorobenzene	ND	200	210	105		-	-		78-128	-		30
1,3-Dichlorobenzene	ND	200	200	100		-	-		77-125	-		30
1,4-Dichlorobenzene	ND	200	210	105		-	-		77-125	-		30
p/m-Xylene ¹	ND	400	400	100		-	-		81-121	-		30
o-Xylene ¹	ND	200	190	95		-	-		81-124	-		30
Styrene ¹	ND	200	200	100		-	-		84-133	-		30
Acetone ¹	210	500	770	112		-	-		40-160	-		30
Carbon disulfide ¹	ND	200	160	80		-	-		54-134	-		30
2-Butanone ¹	ND	500	530	106		-	-		57-116	-		30
Vinyl acetate ¹	ND	400	78J	0	Q	-	-		40-160	-		30
4-Methyl-2-pentanone ¹	ND	500	510	102		-	-		79-125	-		30
2-Hexanone ¹	ND	500	520	104		-	-		78-120	-		30
Acrolein ¹	ND	400	220	55		-	-		40-160	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-6 QC Sample: L1702062-02 Client ID: MS Sample												
Acrylonitrile ¹	ND	400	380	95		-	-		66-123	-		30
Dibromomethane ¹	ND	200	210	105		-	-		65-126	-		30

<i>Surrogate</i>	<i>MS % Recovery</i>	<i>Qualifier</i>	<i>MSD % Recovery</i>	<i>Qualifier</i>	<i>Acceptance Criteria</i>
4-Bromofluorobenzene	99				80-120
Fluorobenzene	108				80-120
Pentafluorobenzene	116				80-120

Lab Duplicate Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-5 QC Sample: L1702062-02 Client ID: DUP Sample						
Methylene chloride	9.7J	9.7J	ug/l	NC		30
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chloroform	ND	ND	ug/l	NC		30
Carbon tetrachloride	ND	ND	ug/l	NC		30
1,2-Dichloropropane	ND	ND	ug/l	NC		30
Dibromochloromethane	ND	ND	ug/l	NC		30
1,1,2-Trichloroethane	ND	ND	ug/l	NC		30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC		30
Tetrachloroethene	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Trichlorofluoromethane	ND	ND	ug/l	NC		30
1,2-Dichloroethane	ND	ND	ug/l	NC		30
1,1,1-Trichloroethane	ND	ND	ug/l	NC		30
Bromodichloromethane	ND	ND	ug/l	NC		30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC		30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC		30
Bromoform	ND	ND	ug/l	NC		30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-5 QC Sample: L1702062-02 Client ID: DUP Sample					
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene ¹	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene ¹	ND	ND	ug/l	NC	30
o-Xylene ¹	ND	ND	ug/l	NC	30
Xylene (Total) ¹	ND	ND	ug/l	NC	30
Styrene ¹	ND	ND	ug/l	NC	30
Acetone ¹	210	200	ug/l	5	30
Carbon disulfide ¹	ND	ND	ug/l	NC	30

Lab Duplicate Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,14 QC Batch ID: WG971628-5 QC Sample: L1702062-02 Client ID: DUP Sample					
2-Butanone ¹	ND	ND	ug/l	NC	30
Vinyl acetate ¹	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone ¹	ND	ND	ug/l	NC	30
2-Hexanone ¹	ND	ND	ug/l	NC	30
Acrolein ¹	ND	ND	ug/l	NC	30
Acrylonitrile ¹	ND	ND	ug/l	NC	30
Dibromomethane ¹	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	113		112		80-120
Fluorobenzene	105		105		80-120
4-Bromofluorobenzene	100		102		80-120

METALS

Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-01

Date Collected: 01/18/17 09:30

Client ID: 9-0S

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.009	J	mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Barium, Total	0.0055		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Cadmium, Total	0.00018	J	mg/l	0.00020	0.00006	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Calcium, Total	8.20		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Chromium, Total	0.0037		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Copper, Total	0.0005	J	mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Iron, Total	0.042	J	mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0005	0.0003	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Magnesium, Total	2.07		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Manganese, Total	0.0017		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:00	EPA 7470A	1,7470A	EA
Nickel, Total	ND		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Potassium, Total	0.866		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Sodium, Total	5.81		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	28.98		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 10:35	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-02

Date Collected: 01/18/17 10:30

Client ID: 9-I

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.015		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Barium, Total	0.0086		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Cadmium, Total	0.00018	J	mg/l	0.00020	0.00006	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Calcium, Total	6.12		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Chromium, Total	0.0368		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Copper, Total	0.0008	J	mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Iron, Total	0.241		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0005	0.0003	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Magnesium, Total	1.53		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Manganese, Total	0.0023		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:02	EPA 7470A	1,7470A	EA
Nickel, Total	0.00190	J	mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Potassium, Total	0.740		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Sodium, Total	19.3		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	21.60		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 10:39	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-03

Date Collected: 01/18/17 11:25

Client ID: 9-R

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.011		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0006		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Barium, Total	0.0220		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Cadmium, Total	0.0006		mg/l	0.0002	0.0001	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Calcium, Total	47.8		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Chromium, Total	0.0130		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0018		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Copper, Total	0.0017		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Iron, Total	0.968		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0005	0.0003	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Magnesium, Total	13.2		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Manganese, Total	1.659		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:04	EPA 7470A	1,7470A	EA
Nickel, Total	0.0076		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Potassium, Total	10.2		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Sodium, Total	50.4		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Zinc, Total	0.0037	J	mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	173.7		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 10:42	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-04

Date Collected: 01/18/17 12:45

Client ID: 4-OS

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.038		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Barium, Total	0.0299		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Calcium, Total	45.5		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Chromium, Total	0.2100		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0003	J	mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Copper, Total	0.0009	J	mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Iron, Total	1.16		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Magnesium, Total	18.6		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Manganese, Total	0.0239		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:05	EPA 7470A	1,7470A	EA
Nickel, Total	0.0598		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Potassium, Total	0.990		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Sodium, Total	84.7		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Zinc, Total	0.0039	J	mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	190.3		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 11:09	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-05

Date Collected: 01/18/17 14:10

Client ID: 2-OS

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.131		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Antimony, Total	0.0006	J	mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0010		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Barium, Total	0.0486		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Calcium, Total	116		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Chromium, Total	0.2292		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0026		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Copper, Total	0.0119		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Iron, Total	3.67		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Lead, Total	0.0006	J	mg/l	0.0010	0.0003	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Magnesium, Total	17.6		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Manganese, Total	0.0868		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:07	EPA 7470A	1,7470A	EA
Nickel, Total	0.2497		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Potassium, Total	13.9		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Sodium, Total	14.0		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Vanadium, Total	0.0017	J	mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Zinc, Total	0.0093	J	mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	361.5		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 11:12	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-06

Date Collected: 01/18/17 15:50

Client ID: 1-OS

Date Received: 01/18/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.915		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Antimony, Total	0.0023	J	mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Arsenic, Total	0.0031		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Barium, Total	0.0943		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Cadmium, Total	0.0003		mg/l	0.0002	0.0001	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Calcium, Total	52.3		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Chromium, Total	1.259		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Cobalt, Total	0.0732		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Copper, Total	0.0429		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Iron, Total	10.4		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Lead, Total	0.0026		mg/l	0.0010	0.0003	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Magnesium, Total	11.1		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Manganese, Total	2.479		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 20:09	EPA 7470A	1,7470A	EA
Nickel, Total	0.6225		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Potassium, Total	4.62		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Selenium, Total	0.003	J	mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Sodium, Total	103		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Vanadium, Total	0.0081		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Zinc, Total	0.0135		mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV
Total Hardness (by calculation) - Mansfield Lab											
Hardness	176.3		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 11:15	EPA 3005A	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-08

Date Collected: 01/19/17 08:30

Client ID: 3-OS/I

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.013		mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Antimony, Total	0.0006	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Barium, Total	0.0169		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Calcium, Total	102		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Chromium, Total	0.5949		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0037		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Copper, Total	0.0054		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Iron, Total	8.56		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Magnesium, Total	12.4		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Manganese, Total	0.5200		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:37	EPA 7470A	1,7470A	EA
Nickel, Total	0.3029		mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Potassium, Total	2.64		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Sodium, Total	25.9		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	306.5		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:36	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-09

Date Collected: 01/19/17 10:25

Client ID: 8-I

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.009	J	mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Antimony, Total	0.0012	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Arsenic, Total	0.0038		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Barium, Total	0.0228		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Calcium, Total	28.1		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Chromium, Total	0.0027		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0005		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Copper, Total	0.0006	J	mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Iron, Total	9.52		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Magnesium, Total	5.12		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Manganese, Total	1.558		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:43	EPA 7470A	1,7470A	EA
Nickel, Total	0.0016	J	mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Potassium, Total	2.38		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Sodium, Total	29.2		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	91.14		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:45	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-10

Date Collected: 01/19/17 11:40

Client ID: 8-R

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.011		mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Antimony, Total	0.0009	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Arsenic, Total	0.0006		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Barium, Total	0.0084		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Cadmium, Total	0.0001	J	mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Calcium, Total	165		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Chromium, Total	0.0192		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0033		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Copper, Total	0.0021		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Iron, Total	0.373		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Lead, Total	0.0005	J	mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Magnesium, Total	47.4		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Manganese, Total	0.2629		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:32	EPA 7470A	1,7470A	EA
Nickel, Total	0.0098		mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Potassium, Total	3.29		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Sodium, Total	39.7		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	607.8		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:33	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-11

Date Collected: 01/19/17 12:20

Client ID: 8-OS

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.017		mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Antimony, Total	0.0007	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Arsenic, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Barium, Total	0.0068		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Calcium, Total	21.9		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Chromium, Total	0.2967		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0006		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Copper, Total	0.0038		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Iron, Total	2.14		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Magnesium, Total	4.98		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Manganese, Total	0.0656		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:45	EPA 7470A	1,7470A	EA
Nickel, Total	0.0490		mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Potassium, Total	1.23		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Sodium, Total	18.0		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	75.25		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:48	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-12

Date Collected: 01/19/17 13:05

Client ID: 7-OS

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.029		mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Antimony, Total	0.0005	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Arsenic, Total	0.0002	J	mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Barium, Total	0.0193		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Calcium, Total	47.5		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Chromium, Total	0.1315		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0018		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Copper, Total	0.0023		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Iron, Total	0.806		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Magnesium, Total	9.98		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Manganese, Total	0.0190		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:47	EPA 7470A	1,7470A	EA
Nickel, Total	0.0028		mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Potassium, Total	3.68		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Sodium, Total	14.6		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	159.7		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:51	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-14

Date Collected: 01/19/17 00:00

Client ID: DUPLICATE

Date Received: 01/19/17

Sample Location: RAMAPO, NEW YORK

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.009	J	mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Antimony, Total	0.0006	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Arsenic, Total	0.0035		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Barium, Total	0.0177		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Calcium, Total	26.9		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Chromium, Total	0.0021		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Cobalt, Total	0.0004	J	mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Copper, Total	0.0008	J	mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Iron, Total	9.27		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Magnesium, Total	4.96		mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Manganese, Total	0.9755		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:48	EPA 7470A	1,7470A	EA
Nickel, Total	0.0015	J	mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Potassium, Total	2.28		mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Selenium, Total	ND		mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Sodium, Total	30.0		mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB
Total Hardness (by calculation) - Mansfield Lab											
Hardness	87.68		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:54	EPA 3005A	1,6020A	DB



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG971024-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/19/17 14:53	01/20/17 19:28	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG971177-1										
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Antimony, Total	ND		mg/l	0.0040	0.0004	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Barium, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Calcium, Total	ND		mg/l	0.100	0.039	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Chromium, Total	ND		mg/l	0.0010	0.0002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Copper, Total	ND		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Iron, Total	ND		mg/l	0.050	0.019	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Lead, Total	ND		mg/l	0.0005	0.0003	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Magnesium, Total	ND		mg/l	0.070	0.024	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Manganese, Total	ND		mg/l	0.0010	0.0004	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Nickel, Total	ND		mg/l	0.0020	0.0006	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Potassium, Total	ND		mg/l	0.100	0.031	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Selenium, Total	ND		mg/l	0.005	0.002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Silver, Total	ND		mg/l	0.0004	0.0002	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Sodium, Total	ND		mg/l	0.100	0.029	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Thallium, Total	ND		mg/l	0.0005	0.0001	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV
Zinc, Total	ND		mg/l	0.0100	0.0034	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 01-06 Batch: WG971177-1										
Hardness	ND		mg/l	0.5400	0.5400	1	01/20/17 05:40	01/20/17 09:34	1,6020A	BV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 08-12,14 Batch: WG971257-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	01/20/17 10:18	01/20/17 20:28	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 08-12,14 Batch: WG971698-1										
Aluminum, Total	ND		mg/l	0.010	0.003	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Antimony, Total	0.0007	J	mg/l	0.0040	0.0004	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Barium, Total	ND		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Calcium, Total	ND		mg/l	0.100	0.039	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Chromium, Total	ND		mg/l	0.0010	0.0002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Copper, Total	ND		mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Iron, Total	ND		mg/l	0.050	0.019	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Lead, Total	ND		mg/l	0.0010	0.0003	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Magnesium, Total	ND	mg/l	0.070	0.024	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Manganese, Total	ND	mg/l	0.0010	0.0004	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Nickel, Total	ND	mg/l	0.0020	0.0006	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Potassium, Total	ND	mg/l	0.100	0.031	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Selenium, Total	ND	mg/l	0.005	0.002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Silver, Total	ND	mg/l	0.0004	0.0002	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Sodium, Total	ND	mg/l	0.100	0.029	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Thallium, Total	ND	mg/l	0.0005	0.0001	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Vanadium, Total	ND	mg/l	0.0050	0.0016	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB
Zinc, Total	ND	mg/l	0.0100	0.0034	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 08-12,14 Batch: WG971698-1										
Hardness	ND		mg/l	0.5400	0.5400	1	01/23/17 08:00	01/23/17 16:15	1,6020A	DB

Prep Information

Digestion Method: EPA 3005A



Lab Control Sample Analysis
Batch Quality Control**Project Name:** RAMAPO LANDFILL**Project Number:** 20010**Lab Number:** L1701799**Report Date:** 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG971024-2								
Mercury, Total	106		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG971177-2					
Aluminum, Total	90	-	80-120	-	
Antimony, Total	88	-	80-120	-	
Arsenic, Total	97	-	80-120	-	
Barium, Total	95	-	80-120	-	
Beryllium, Total	95	-	80-120	-	
Cadmium, Total	93	-	80-120	-	
Calcium, Total	103	-	80-120	-	
Chromium, Total	93	-	80-120	-	
Cobalt, Total	91	-	80-120	-	
Copper, Total	94	-	80-120	-	
Iron, Total	90	-	80-120	-	
Lead, Total	100	-	80-120	-	
Magnesium, Total	93	-	80-120	-	
Manganese, Total	92	-	80-120	-	
Nickel, Total	95	-	80-120	-	
Potassium, Total	91	-	80-120	-	
Selenium, Total	87	-	80-120	-	
Silver, Total	90	-	80-120	-	
Sodium, Total	94	-	80-120	-	
Thallium, Total	96	-	80-120	-	
Vanadium, Total	94	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG971177-2					
Zinc, Total	89	-	80-120	-	
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-06 Batch: WG971177-2					
Hardness	96	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 Batch: WG971257-2					
Mercury, Total	98	-	80-120	-	

Lab Control Sample Analysis Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 Batch: WG971698-2					
Aluminum, Total	106	-	80-120	-	
Antimony, Total	99	-	80-120	-	
Arsenic, Total	108	-	80-120	-	
Barium, Total	100	-	80-120	-	
Beryllium, Total	101	-	80-120	-	
Cadmium, Total	107	-	80-120	-	
Calcium, Total	107	-	80-120	-	
Chromium, Total	100	-	80-120	-	
Cobalt, Total	99	-	80-120	-	
Copper, Total	104	-	80-120	-	
Iron, Total	96	-	80-120	-	
Lead, Total	106	-	80-120	-	
Magnesium, Total	114	-	80-120	-	
Manganese, Total	100	-	80-120	-	
Nickel, Total	106	-	80-120	-	
Potassium, Total	105	-	80-120	-	
Selenium, Total	119	-	80-120	-	
Silver, Total	102	-	80-120	-	
Sodium, Total	111	-	80-120	-	
Thallium, Total	104	-	80-120	-	
Vanadium, Total	103	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 Batch: WG971698-2					
Zinc, Total	101	-	80-120	-	
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 08-12,14 Batch: WG971698-2					
Hardness	117	-	80-120	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06			QC Batch ID: WG971024-3			QC Sample: L1701726-01			Client ID: MS Sample			
Mercury, Total	ND	0.005	0.00548	110		-	-		75-125	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06			QC Batch ID: WG971177-3		QC Sample: L1701911-01		Client ID: MS Sample		
Aluminum, Total	0.066	2	1.79	86	-	-	75-125	-	20
Antimony, Total	0.0007J	0.5	0.4710	94	-	-	75-125	-	20
Arsenic, Total	0.0015	0.12	0.1075	88	-	-	75-125	-	20
Barium, Total	0.1482	2	1.991	92	-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.0462	92	-	-	75-125	-	20
Cadmium, Total	ND	0.051	0.0488	96	-	-	75-125	-	20
Calcium, Total	84.1	10	85.6	15	Q	-	75-125	-	20
Chromium, Total	0.0008J	0.2	0.1807	90	-	-	75-125	-	20
Cobalt, Total	0.0004J	0.5	0.4491	90	-	-	75-125	-	20
Copper, Total	0.003	0.25	0.2303	91	-	-	75-125	-	20
Iron, Total	0.551	1	1.42	87	-	-	75-125	-	20
Lead, Total	ND	0.51	0.4794	94	-	-	75-125	-	20
Magnesium, Total	12.0	10	20.5	85	-	-	75-125	-	20
Manganese, Total	0.1936	0.5	0.6284	87	-	-	75-125	-	20
Nickel, Total	0.0012J	0.5	0.4722	94	-	-	75-125	-	20
Potassium, Total	12.9	10	20.3	74	Q	-	75-125	-	20
Selenium, Total	ND	0.12	0.100	83	-	-	75-125	-	20
Silver, Total	ND	0.05	0.0448	90	-	-	75-125	-	20
Sodium, Total	269.	10	284	150	Q	-	75-125	-	20
Thallium, Total	ND	0.12	0.1094	91	-	-	75-125	-	20
Vanadium, Total	ND	0.5	0.4621	92	-	-	75-125	-	20

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG971177-3 QC Sample: L1701911-01 Client ID: MS Sample									
Zinc, Total	ND	0.5	0.4368	87	-	-	75-125	-	20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG971177-3 QC Sample: L1701911-01 Client ID: MS Sample									
Hardness	259.2	66.2	298.4	59	Q	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 QC Batch ID: WG971257-3 WG971257-4 QC Sample: L1701799-10 Client ID: 8-R									
Mercury, Total	ND	0.005	0.00421	84	0.00408	82	75-125	3	20

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 QC Batch ID: WG971698-3 WG971698-4 QC Sample: L1701799-10 Client ID: 8-R									
Aluminum, Total	0.011	2	2.17	108	2.05	102	75-125	6	20
Antimony, Total	0.0009J	0.5	0.5885	118	0.5654	113	75-125	4	20
Arsenic, Total	0.0006	0.12	0.1257	104	0.1254	104	75-125	0	20
Barium, Total	0.0084	2	2.068	103	1.957	97	75-125	6	20
Beryllium, Total	ND	0.05	0.0531	106	0.0512	102	75-125	4	20
Cadmium, Total	0.0001J	0.051	0.0534	105	0.0519	102	75-125	3	20
Calcium, Total	165.	10	172	70	Q 170	50	Q 75-125	1	20
Chromium, Total	0.0192	0.2	0.2233	102	0.2133	97	75-125	5	20
Cobalt, Total	0.0033	0.5	0.5054	100	0.4892	97	75-125	3	20
Copper, Total	0.0021	0.25	0.2608	103	0.2516	100	75-125	4	20
Iron, Total	0.373	1	1.40	103	1.28	91	75-125	9	20
Lead, Total	0.0005J	0.51	0.5521	108	0.5323	104	75-125	4	20
Magnesium, Total	47.4	10	57.1	97	56.7	93	75-125	1	20
Manganese, Total	0.2629	0.5	0.7705	102	0.7430	96	75-125	4	20
Nickel, Total	0.0098	0.5	0.5300	104	0.5099	100	75-125	4	20
Potassium, Total	3.29	10	14.4	111	13.4	101	75-125	7	20
Selenium, Total	ND	0.12	0.123	102	0.128	107	75-125	4	20
Silver, Total	ND	0.05	0.0514	103	0.0511	102	75-125	1	20
Sodium, Total	39.7	10	51.1	114	51.5	118	75-125	1	20
Thallium, Total	ND	0.12	0.1241	103	0.1226	102	75-125	1	20
Vanadium, Total	ND	0.5	0.5406	108	0.4931	99	75-125	9	20

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-12,14 QC Batch ID: WG971698-3 WG971698-4 QC Sample: L1701799-10 Client ID: 8-R									
Zinc, Total	ND	0.5	0.4983	100	0.4869	97	75-125	2	20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 08-12,14 QC Batch ID: WG971698-3 WG971698-4 QC Sample: L1701799-10 Client ID: 8-R									
Hardness	607.8	66.2	663.4	84	657.2	75	75-125	1	20

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1701799
Report Date: 01/25/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG971024-4 QC Sample: L1701726-01 Client ID: DUP Sample						
Mercury, Total	ND	0.00007J	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG971177-4 QC Sample: L1701911-01 Client ID: DUP Sample						
Antimony, Total	0.0007J	0.001J	mg/l	NC		20
Arsenic, Total	0.0015	0.0016	mg/l	4		20
Chromium, Total	0.0008J	0.0008J	mg/l	NC		20
Copper, Total	0.003	0.0026	mg/l	15		20
Lead, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS

Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-01
Client ID: 9-0S
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 09:30
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	14.0		mg CaCO ₃ /L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.067	J	mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:46	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	8.2	J	mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-02
Client ID: 9-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 10:30
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	22.7		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:49	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	15.		mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-03
Client ID: 9-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 11:25
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	114.		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.368		mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:50	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	15.		mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-04
Client ID: 4-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 12:45
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	40.6		mg CaCO ₃ /L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.176	J	mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:53	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	25.		mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-05
Client ID: 2-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 14:10
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	330.		mg CaCO ₃ /L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.473		mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:54	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	20.		mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-06
Client ID: 1-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/18/17 15:50
Date Received: 01/18/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	201.		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	1.12		mg/l	0.300	0.066	1	01/19/17 09:10	01/19/17 22:55	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	44.		mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:07	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-08
Client ID: 3-OS/I
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 08:30
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	274.		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.217	J	mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:56	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	13.		mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:53	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-09
Client ID: 8-I
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 10:25
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	92.5		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	6.88		mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:47	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	8.2	J	mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:53	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-10
Client ID: 8-R
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 11:40
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	496.		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.317		mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:48	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	30.		mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:53	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-11
Client ID: 8-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 12:20
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	34.6		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.096	J	mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:50	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	8.2	J	mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:54	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-12
Client ID: 7-OS
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 13:05
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	143.		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.162	J	mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:54	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	10.		mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:54	44,410.4	TL



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

SAMPLE RESULTS

Lab ID: L1701799-14
Client ID: DUPLICATE
Sample Location: RAMAPO, NEW YORK
Matrix: Water

Date Collected: 01/19/17 00:00
Date Received: 01/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	92.3		mg CaCO3/L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
Nitrogen, Total Kjeldahl	0.379		mg/l	0.300	0.066	1	01/20/17 09:59	01/23/17 22:55	4,351.3/.1 (M)	AT
Chemical Oxygen Demand	15.		mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:54	44,410.4	TL



Project Name: RAMAPO LANDFILL

Lab Number: L1701799

Project Number: 20010

Report Date: 01/25/17

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG970948-1										
Nitrogen, Total Kjeldahl	0.088	J	mg/l	0.300	0.022	1	01/19/17 09:10	01/19/17 22:43	4,351.3/1 (M)	AT
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG971061-1										
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/19/17 17:45	01/19/17 20:05	44,410.4	TL
General Chemistry - Westborough Lab for sample(s): 08-12,14 Batch: WG971292-1										
Nitrogen, Total Kjeldahl	0.067	J	mg/l	0.300	0.022	1	01/20/17 09:59	01/23/17 22:32	4,351.3/1 (M)	AT
General Chemistry - Westborough Lab for sample(s): 01-06,08-12,14 Batch: WG971297-1										
Alkalinity, Total	ND		mg CaCO ₃ /L	2.00	NA	1	-	01/20/17 13:15	121,2320B	BR
General Chemistry - Westborough Lab for sample(s): 08-12,14 Batch: WG972199-1										
Chemical Oxygen Demand	3.4	J	mg/l	10	2.7	1	01/24/17 18:15	01/24/17 20:52	44,410.4	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG970948-2								
Nitrogen, Total Kjeldahl	88		-		78-122	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG971061-2								
Chemical Oxygen Demand	102		-		95-105	-		
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 Batch: WG971292-2								
Nitrogen, Total Kjeldahl	88		-		78-122	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-12,14 Batch: WG971297-2								
Alkalinity, Total	102		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 Batch: WG972199-2								
Chemical Oxygen Demand	102		-		95-105	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970948-4 QC Sample: L1701799-01 Client ID: 9-0S												
Nitrogen, Total Kjeldahl	0.067J	8	6.51	81		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG971061-3 QC Sample: L1701799-02 Client ID: 9-I												
Chemical Oxygen Demand	15.	47.6	65	105		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 QC Batch ID: WG971292-4 QC Sample: L1701799-10 Client ID: 8-R												
Nitrogen, Total Kjeldahl	0.317	8	8.01	96		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-12,14 QC Batch ID: WG971297-4 QC Sample: L1701799-10 Client ID: 8-R												
Alkalinity, Total	496.	200	666	85	Q	-	-		86-116	-		10
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 QC Batch ID: WG972199-3 QC Sample: L1701799-10 Client ID: 8-R												
Chemical Oxygen Demand	30.	47.6	73	90		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG970948-3 QC Sample: L1701799-01 Client ID: 9-OS						
Nitrogen, Total Kjeldahl	0.067J	0.124J	mg/l	NC		24
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG971061-4 QC Sample: L1701799-02 Client ID: 9-I						
Chemical Oxygen Demand	15.	20	mg/l	29	Q	20
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 QC Batch ID: WG971292-3 QC Sample: L1701799-10 Client ID: 8-R						
Nitrogen, Total Kjeldahl	0.317	0.353	mg/l	11		24
General Chemistry - Westborough Lab Associated sample(s): 01-06,08-12,14 QC Batch ID: WG971297-3 QC Sample: L1701799-10 Client ID: 8-R						
Alkalinity, Total	496.	492	mg CaCO3/L	1		10
General Chemistry - Westborough Lab Associated sample(s): 08-12,14 QC Batch ID: WG972199-4 QC Sample: L1701799-10 Client ID: 8-R						
Chemical Oxygen Demand	30.	27	mg/l	11		20

Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler

A Absent

A1 Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-01A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-01B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-01C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-01D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-01E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-01F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-02A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-02B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-02C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-02D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-02E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-02F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-03A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-03B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-03C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-03D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-03E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-03F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-04A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-04B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-04C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-04D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-04E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-04F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-05A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-05B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-05C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-05D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-05E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-05F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-06A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-06B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-06C	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-06D	Plastic 250ml HNO3 preserved	A	<2	2.4	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-06E	Plastic 250ml H2SO4 preserved	A	<2	2.4	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-06F	Plastic 120ml unpreserved w/No H	A	N/A	2.4	Y	Absent	ALK-T-2320(14)
L1701799-07A	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-07B	Vial HCl preserved	A	N/A	2.4	Y	Absent	624(14)
L1701799-08A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-08B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-08C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-08D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-08E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-08F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-09A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-09B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-09C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-09D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-09E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-09F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-10A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10A1	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10A2	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10B1	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10B2	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10C1	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10C2	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-10D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-10D1	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-10D2	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-10E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-10E1	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	COD-410-LOW(28)
L1701799-10E2	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	COD-410-LOW(28)
L1701799-10F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-10F1	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-10F2	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-11A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-11B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-11C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-11D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-11E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-11F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-12A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-12B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-12C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL

Project Number: 20010

Lab Number: L1701799

Report Date: 01/25/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1701799-12D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-12E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-12F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)
L1701799-13A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-13B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-14A	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-14B	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-14C	Vial HCl preserved	A1	N/A	3.6	Y	Absent	624(14)
L1701799-14D	Plastic 250ml HNO3 preserved	A1	<2	3.6	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HARDT-6020(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1701799-14E	Plastic 250ml H2SO4 preserved	A1	<2	3.6	Y	Absent	TKN-351(28),COD-410-LOW(28)
L1701799-14F	Plastic 120ml unpreserved w/No H	A1	N/A	3.6	Y	Absent	ALK-T-2320(14)

*Values in parentheses indicate holding time in days



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers



Project Name: RAMAPO LANDFILL**Lab Number:** L1701799**Project Number:** 20010**Report Date:** 01/25/17**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: RAMAPO LANDFILL
Project Number: 20010

Lab Number: L1701799
Report Date: 01/25/17

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 4 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 11/19/17		ALPHA Job # L1701799																																																																																																																																																																																							
		Client Information Client: Sterling Environmental Eng., P.C. Address: 24 Wade Road Latham, NY 12110 Phone: 518-456-4900 Fax: Email: cody.sargood@sterlingenvironmental.com		Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Project Information Project Name: Ramapo Landfill Project Location: Ramapo, New York Project #: 20010 (Use Project name as Project #) ☐ Project Manager: Mark Williams ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Deliverables ☒ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #																																																																																																																																																																																					
Regulatory Requirement ☒ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☒ NY ☐ Other:		ANALYSIS TKN/COD 35.3/410.1 Alkalinity 310.1 TAL Metals / Hardness VOCs(Site Specific)* 601/602		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)		Sample Specific Comments																																																																																																																																																																																							
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: mark.williams@sterlingenvironmental.com * 1,1-Dichloroethane, Benzene, Chlorobenzene, and vinyl chloride only																																																																																																																																																																																															
Please specify Metals or TAL.																																																																																																																																																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ALPHA Lab ID (Lab Use Only)</th> <th rowspan="2">Sample ID</th> <th colspan="2">Collection</th> <th rowspan="2">Sample Matrix</th> <th rowspan="2">Sampler's Initials</th> <th rowspan="2">TKN/COD</th> <th rowspan="2">Alkalinity</th> <th rowspan="2">TAL Metals / Hardness</th> <th rowspan="2">VOCs(Site Specific)*</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>01799-01</td> <td>9-OS</td> <td>1/18/17</td> <td>930</td> <td>GW</td> <td>(C)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-02</td> <td>9-I</td> <td></td> <td>1030</td> <td></td> <td>(C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-03</td> <td>9-R</td> <td></td> <td>1125</td> <td></td> <td>(C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-04</td> <td>4-OS</td> <td></td> <td>1245</td> <td></td> <td>(C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-05</td> <td>2-OS</td> <td></td> <td>1410</td> <td></td> <td>(C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-06</td> <td>1-OS/I</td> <td></td> <td>1550</td> <td></td> <td>(C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Trip Blank</td> <td>1/17/17</td> <td></td> <td>Water</td> <td>B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="20" style="height: 50px;"> </td> </tr> </tbody> </table>										ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	TKN/COD	Alkalinity	TAL Metals / Hardness	VOCs(Site Specific)*											Date	Time	01799-01	9-OS	1/18/17	930	GW	(C)	X	X	X	X											-02	9-I		1030		(C)															-03	9-R		1125		(C)															-04	4-OS		1245		(C)															-05	2-OS		1410		(C)															-06	1-OS/I		1550		(C)																Trip Blank	1/17/17		Water	B																																		
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Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type P P P V		Preservative D A C B		Relinquished By: [Signature]		Date/Time 11/18/17 1220		Received By: [Signature]		Date/Time 11/18/17 1215		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S <u>TERMS & CONDITIONS</u> .																																																																																																																																																																													
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APPENDIX E

LABORATORY ANALYTICAL RESULTS - LEACHATE / GROUNDWATER



Rockland County

Ed Day, Rockland County Executive

ROCKLAND COUNTY SEWER DISTRICT #1

4 Route 340
Orangeburg, New York 10962
Phone: (845) 365-6111 Fax: (845) 365-6686
RCSD@co.rockland.ny.us

Christopher P. St. Lawrence
Chairman

Dianne T. Philipps, P.E.
Executive Director

March 25, 2016

Michael Sadowski, PE
Deputy Director
Town of Ramapo, DPW
Pioneer Avenue
Tallman, N.Y. 10982

TOWN OF RAMAPO

MAR 29 2016

Re: Wastewater Analysis Report/s - 2015

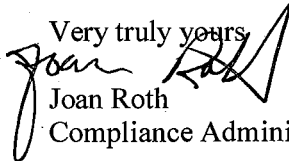
**DEPARTMENT OF
PUBLIC WORKS**

Dear Mr. Sadowski:

Enclosed is the analysis report/s for the sample/s collected from your facility on February 24, 2016. The sampling is conducted to comply with the requirements of the Wastewater Discharge Permit and the Pretreatment Program. The charges for such services as deemed applicable by the District will be billed to you in the early part of 2017.

Should you have any questions or need additional information please call this office.

Very truly yours,



Joan Roth
Compliance Administrator

Encl

CC: D. T. Philipps, PE

M.R. Saber, PE

File: Ramapo Landfill (P) - 2016
Reader

ROCKLAND COUNTY SEWER DISTRICT NO. 1
4 Route 340
Orangeburg, N.Y. 10962

PRETREATMENT PROGRAM - SAMPLE ANALYSIS REPORT

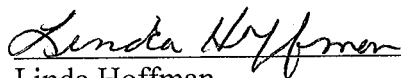
REPORT FOR: RAMAPO LANDFILL, HILBURN, NY

LOCATION SAMPLED: Manhole Immediately Upstream of Wetwell

MATRIX: Water DATE SAMPLED: 02/24/2016 Sample ID: IS-160224-RLF

PARAMETER	RESULTS	DATE OF ANALYSIS	ANALYST INITIALS	METHOD AS PER 40CFR
pH	7.2	02/24/2016	HV	SM 4500-H-B
BIOCHEMICAL OXYGEN DEMAND (mg/L)	3	03/01/2016	AC	SM 5210 B
CHEMICAL OXYGEN DEMAND (mg/L)	62	02/25/2016	HV	SM 5220 D
TOTAL SUSPENDED SOLIDS (mg/L)	16	02/25/2016	HV	SM 2540 D
Other Analyses	See Attached			

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



March 24, 2016

Linda Hoffman

Laboratory Director

NYSDOH ID No. 10447

No. of pages in this report: 11

CHAIN OF CUSTODY DOCUMENT

RAMAPO LANDFILL, Hillburn

(Permit No. 9 - Expired: 8/14/2020)

SEMI-ANNUAL

LOCATION SAMPLED: Manhole immediately upstream of wetwell near road
ID Format (YY - MM - DD)

SAMPLE ID NO. IS-160224 ---RLF

pH CALIBRATION DATE: 1st 02-23-16 and 02-24-16 TIME: 1st 2:00

Buffer 4 Reading: _____ Buffer 7 Reading: _____ Buffer 10 Reading: _____

Buffer 7 Reading:

Buffer 10 Reading:

Slaves

ANALYST: 1st

2nd

Buffer 7 Reading:

*****NOTE: If the collected sample is not within the range of 5.0 - 11.0 SU. Notify the Discharger immediately.

Name of Person Notified:

If a violation, the sample collected should be brought back to the Lab for pH check.

Temp. 0C

Done By: _____

COMPOSITE		SAMPLE INFORMATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
DATE	TIME	SAMPLER'S SIGNATURE	pH	TEMP. (°C)	TYPE	PLASTIC OR GLASS	TOTAL # OF BOTTLES	VOLUME OF NEEDED ml.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
START	02/23/16 10:15am	VG	7.15	8.5	[REDACTED]	COMP.	PLASTIC	1	500	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

COOLERS IN SAMPLE COOLER? Circle YES or NO

SAMPLES IN PROPER CONTAINERS? Circle YES or NO

NOTE: IF "NO" ICE IS CIRCLED OR SAMPLES ARE NOT COLLECTED & PRESERVED IN PROPER CONTAINERS, NOTIFY LAB DIRECTOR IMMEDIATELY. RE-SAMPLE UNLESS INSTRUCTED OTHERWISE BY LAB DIRECTOR AND RECORD SUCH IN "COMMENTS" SPACE BELOW

SAMPLE/S RELINQUISHED BY:

5

DATE:

$\frac{Q}{L} \sqrt{\frac{A}{V}}$

1

3

SAMPLES RECEIVED BY:

1

DATE:

১১৮৫

1

11. 2

COMMENTS:

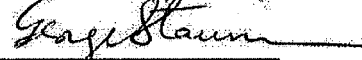
Metals (16) to be analyzed are B, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, Zn

Samples Summary

Client Name: Rockland County Sewer District #1	Date of Report: 03/18/16
4 Route 340	AAT Project Number: 029449
Orangeburg, NY 10962	Client Project Name: RC160224
	Sampled by: Rockland County Sewer District #1
	Matrix: Non-Potable Water
	Date Received: 02/24/16

Parameter	Lab Sample ID	Client Sample ID	Sampling Method	Sampling Date/Time
Metals	WW-78363-1	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Chloride (Cl)	WW-78363-2	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Total Dissolved Solids (TDS)	WW-78363-3	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Ammonia as N	WW-78363-4	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Kjeldahl Nitrogen	WW-78363-5	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Phosphorus Total	WW-78363-6	IS-160224-RLF	Composite	02/24/16 10:15 - 09:30
Cyanide Total	WW-78363-7	IS-160224-RLF	Grab	02/24/16
Cyanide Amenable	WW-78363-7	IS-160224-RLF	Grab	02/24/16
Phenols	WW-78363-8	IS-160224-RLF	Grab	02/24/16
Total Petroleum Hydrocarbons (TPH)	WW-78363-9	IS-160224-RLF	Grab	02/24/16
Volatile Organic Compounds (VOC)	WW-78363-10	IS-160224-RLF	Grab	02/24/16
Semivolatile Organic Compounds (SVOC)	WW-78363-11	IS-160224-RLF	Grab	02/24/16
Pesticides/PCBs	WW-78363-12	IS-160224-RLF	Grab	02/24/16

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Client Name: Rockland County Sewer District #1	Date of Report: 03/18/16
4 Route 340	AAT Project Number: 029449
Orangeburg, NY 10962	Client Project Name: RC160224
	Sampled by: Rockland County Sewer District #1
	Sampling Date: 02/24/16
	Matrix: Non-Potable Water
	Date Received: 02/24/16

Parameter	Lab Sample ID	Client Sample ID	Result	Unit	RLs	Date of Analysis	Analyst	Method
Metals	WW-78363-1	IS-160224-RLF	See Table #5	mg/L	-	-	G. Stancu A. Monzy	-
Chloride (Cl ⁻)	WW-78363-2	IS-160224-RLF	267	mg/L	10.00	02/26/16	A. Monzy	SM 19 4500-Cl C
Total Dissolved Solids (TDS)	WW-78363-3	IS-160224-RLF	756	mg/L	1.00	02/29/16	A. Monzy	SM 2540 C
Ammonia as N	WW-78363-4	IS-160224-RLF	0.422	mg/L	0.100	03/09/16	A. Monzy	SM 4500-NH3 D or E
Kjeldahl Nitrogen*	WW-78363-5	IS-160224-RLF	1.61	mg/L	0.100*	03/02/16	-	EPA 351.1
Phosphorus Total	WW-78363-6	IS-160224-RLF	ND	mg/L	0.050	03/02/16	A. Monzy	SM 4500-P E
Cyanide Total	WW-78363-7	IS-160224-RLF	ND	mg/L	0.010	03/01/16	A. Monzy	SM 4500-CNE
Cyanide Amenable	WW-78363-7	IS-160224-RLF	ND	mg/L	0.010	03/01/16	A. Monzy	SM 4500-CN C, G
Phenols	WW-78363-8	IS-160224-RLF	0.019 B	mg/L**	0.010	03/07/16	A. Monzy	EPA 420.1
Total Petroleum Hydrocarbons (TPH)	WW-78363-9	IS-160224-RLF	ND	mg/L	5.00	03/10/16	A. Monzy	EPA 1664B
Volatile Organic Compounds (VOC)	WW-78363-10	IS-160224-RLF	See Table #1	ug/L	-	-	G. Stancu	EPA 624
Semivolatile Organic Compounds (SVOC)	WW-78363-11	IS-160224-RLF	See Table #2 & 3	ug/L	-	-	G. Stancu	EPA 625
Pesticides/PCBs	WW-78363-12	IS-160224-RLF	See Table #4	ug/L	-	-	G. Stancu	EPA 608

RLs = Laboratory Reporting/Quantitation Limit

When "*" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

"B" indicates a value that is >than MDL but < than laboratory quantitation limit and the concentration is an estimated value

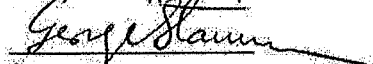
*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040.

NY Lab Registration #11301

*RL/PQL = Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

Reviewed and approved by:



George Stancu

Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 1: VOLATILE ORGANICS DATA SHEET
Method: EPA 624

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	02/24/16
Client Sample ID:	IS-160224-RLF	Date Analyzed:	02/25/16
Lab Sample ID:	WW-78363-10	Preparation Method:	EPA 5030C
AAT Project No.:	029449	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Benzene	0.41	ND	1,1-dichloroethene	0.88	ND
Bromodichloromethane	0.25	ND	trans-1,2-dichloroethene	0.81	ND
Bromoform	0.57	ND	1,2-Dichloropropane	0.42	ND
Bromomethane	0.55	ND	cis-1,3-dichloropropene	0.59	ND
Carbon tetrachloride	0.67	ND	trans-1,3-dichloropropene	0.53	ND
Chlorobenzene	0.35	ND	Dichlorofluoromethane	0.61	ND
Chloroethane	0.39	ND	Ethylbenzene	0.28	ND
2-chloroethylvinyl ether	0.26	ND	Methylene chloride	0.46	1.65 J
Chloroform	0.34	ND	1,1,2,2-Tetrachloroethane	0.48	ND
Chloromethane	0.68	ND	Tetrachloroethene	0.64	ND
Dibromochloromethane	0.59	ND	Toluene	0.53	ND
1,2-dichlorobenzene	0.42	ND	1,1,1-trichloroethane	0.47	ND
1,3-dichlorobenzene	0.41	ND	1,1,2-trichloroethane	0.64	ND
1,4-dichlorobenzene	0.42	ND	Trichloroethene	0.33	ND
1,1-dichloroethane	0.51	ND	Trichlorofluoromethane	0.47	ND
1,2-dichloroethane	0.32	ND	Vinyl chloride	0.50	ND

LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 2: Semivolatile Organic Compounds (Base Neutral Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	02/24/16
Client Sample ID:	IS-160224-RLF	Date Extracted:	02/29/16
Lab Sample ID:	WW-78363-11	Extraction Method:	EPA 3510C
AAT Project No.:	029449	Date Analyzed:	03/14/16
Sample Size:	1 liter	pH:	>11
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Acenaphthene	1.18	ND	Diethylphthalate	0.91	ND
Acenaphthylene	1.07	ND	Dimethylphthalate	1.20	ND
Anthracene	1.44	ND	2,4-Dinitrotoluene	0.88	ND
Benidine	1.33	ND	2,6-Dinitrotoluene	1.13	ND
Benzo[a]anthracene	0.97	ND	Di-n-octylphthalate	0.77	4.24 J
Benzo[b]fluoranthene	1.28	ND	Fluoranthene	0.75	ND
Benzo[a]pyrene	1.24	ND	Fluorene	1.17	ND
Benzo[g,h,i]perylene	0.98	ND	Hexachlorobenzene	1.04	ND
Benzo[k]fluoranthene	1.23	ND	Hexachlorobutadiene	1.16	ND
Bis[2-chloroethoxy]methane	1.42	ND	Hexachlorocyclopentadiene	1.94	ND
Bis[2-chloroethyl]ether	1.25	ND	Hexachloroethane	0.85	ND
Bis[2-chloroisopropyl]ether	0.97	ND	Indenol[1,2,3-cd]pyrene	0.80	ND
Bis[2-ethylhexyl]phthalate	0.29	2.46 J	Isophorone	1.43	ND
4-Bromophenyl-phenylether	1.05	ND	N-Nitrosodi-n-propylamine	1.23	ND
Butylbenzylphthalate	0.85	ND	N-Nitrosodimethylamine	1.31	ND
2-chloronaphthalene	1.30	ND	N-Nitrosodiphenylamine	1.21	ND
4-Chlorophenyl-phenylether	0.96	ND	Naphthalene	0.95	ND
Chrysene	1.25	ND	Nitrobenzene	1.10	ND
Di-n-Butylphthalate	1.01	ND	Phenanthrene	1.31	ND
3,3'-Dichlorobenzidine	1.14	ND	Pyrene	1.13	ND
Dibenzo[a,h]anthracene	0.84	ND	1,2,4-Trichlorobenzene	1.21	ND

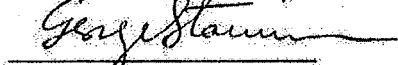
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 3: Semivolatile Organic Compounds (Acid Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	02/24/16
Client Sample ID:	IS-160224-RLF	Date Extracted:	02/29/16
Lab Sample ID:	WW-78363-11	Extraction Method:	EPA 3510C
AAT Project No.:	029449	Date Analyzed:	03/14/16
Sample Size:	1 liter	pH:	<2
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/l)	Compound Name	LOD (ug/l)	Result (ug/l)
4-Chloro-3-Methylphenol	1.52	ND	2-Nitrophenol	0.94	ND
2-Chlorophenol	1.01	ND	4-Nitrophenol	1.82	ND
2,4-Dichlorophenol	1.50	ND	Pentachlorophenol	1.87	ND
2,4-Dimethylphenol	1.31	ND	Phenol	1.39	ND
4,6-Dinitro-2-methylphenol	0.83	ND	2,4,6-Trichlorophenol	1.62	ND
2,4-Dinitrophenol	1.74	ND			

LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 4: Pesticides and PCB's
Method: EPA 608

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	02/24/16
Client Sample ID:	IS-160224-RLF	Date Extracted:	02/26/16
Lab Sample ID:	WW-78363-12	Extraction Method:	EPA 3510C
AAT Project No.:	029449	Date Analyzed:	02/29/16
Sample Size:	1 liter	pH:	5.0-9.0
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Aldrin	0.20	ND	Endrin	0.10	ND
Alpha-BHC	0.10	ND	Endrin aldehyde	0.20	ND
Beta-BHC	0.10	ND	Heptachlor	0.19	ND
Gamma-BHC (Lindane)	0.10	ND	Heptachlor Epoxide	0.10	ND
Delta-BHC	0.20	ND	Toxaphene	0.72	ND
Chlordane	0.72	ND	Methoxychlor	0.20	ND
4, 4'-DDD	0.20	ND	PCB-1016	0.40	ND
4, 4'-DDE	0.10	ND	PCB-1221	0.88	ND
4,4'-DDT	0.30	ND	PCB-1232	0.88	ND
Dieldrin	0.10	ND	PCB-1242	0.81	ND
Alpha-Endosulfan	0.10	ND	PCB-1248	0.79	ND
Beta-Endosulfan	0.10	ND	PCB-1254	0.88	ND
Endosulfan sulfate	0.20	ND	PCB-1260	0.20	ND

LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 5: METALS

<u>Parameter</u>	<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Result</u>	<u>Unit</u>	<u>RLs</u>	<u>Date of Analysis</u>	<u>Analyst</u>	<u>Method</u>
Antimony (Sb)	WW-78363-1	IS-160224-RLF	ND	mg/l	0.001	03/11/16	G. Stancu	EPA 200.9
Arsenic (As)	WW-78363-1	IS-160224-RLF	0.009	mg/l	0.001	03/10/16	G. Stancu	EPA 200.9
Beryllium (Be)	WW-78363-1	IS-160224-RLF	ND	mg/l	0.001	03/17/16	G. Stancu	EPA 200.9
Boron (B)*	WW-78363-1	IS-160224-RLF	0.050	mg/l	0.050*	03/02/16	-	EPA 200.7
Cadmium (Cd)	WW-78363-1	IS-160224-RLF	0.009	mg/l	0.004	03/14/16	A. Monzy	SM 3111 B
Chromium (Cr)	WW-78363-1	IS-160224-RLF	ND	mg/l**	0.011	03/14/16	A. Monzy	SM 3111 B
Copper (Cu)	WW-78363-1	IS-160224-RLF	0.023	mg/l	0.010	03/08/16	A. Monzy	SM 3111 B
Lead (Pb)	WW-78363-1	IS-160224-RLF	0.063	mg/l	0.050	03/14/16	A. Monzy	SM 3111 B
Manganese (Mn)	WW-78363-1	IS-160224-RLF	4.73	mg/l	0.025	03/07/16	A. Monzy	SM 3111 B
Mercury (Hg)	WW-78363-1	IS-160224-RLF	ND	mg/l	0.001	03/16/16	G. Stancu	EPA 245.1
Molybdenum (Mo)*	WW-78363-1	IS-160224-RLF	ND	mg/l	0.005*	03/02/16	-	EPA 200.7
Nickel (Ni)	WW-78363-1	IS-160224-RLF	0.059	mg/l	0.025	03/08/16	A. Monzy	SM 3111 B
Selenium (Se)	WW-78363-1	IS-160224-RLF	0.002	mg/l	0.001	03/11/16	G. Stancu	EPA 200.9
Silver (Ag)	WW-78363-1	IS-160224-RLF	ND	mg/l	0.010	03/08/16	A. Monzy	SM 3111 B
Thallium (Tl)	WW-78363-1	IS-160224-RLF	0.042 B	mg/l**	0.033	03/02/16	A. Monzy	SM 3111 B
Zinc (Zn)	WW-78363-1	IS-160224-RLF	0.051	mg/l	0.010	03/08/16	A. Monzy	SM 3111 B
Total Metals Digestion	WW-78363-1	IS-160224-RLF	Completed	-	-	02/29/16	A. Monzy	EPA 200.2

RLs = Laboratory Reporting/Quantitation Limit

When "***" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

"B" indicates a value that is >than MDL but < than laboratory quantitation limit

*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040, NY Lab Registration #11301

*RL/PQL= Reporting/Practical Quantitation Level (Equivalent to NELAP LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

*Total Metals Digestion was completed on 03/01/16

Reviewed and approved by:



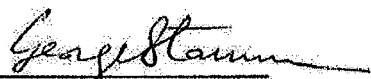
George Stancu

Technical Director

CERTIFICATION

Client Name: Rockland County Sewer District #1	Date of Report:	03/18/16
4 Route 340	AAT Project Number:	029449
Orangeburg, NY 10962	Client Project Name:	RC160224
	Sampled by:	Rockland County Sewer District #1
	Matrix:	Non-Potable Water
	Date Received:	02/24/16

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



George Stancu
Technical Director

CHAIN OF CUSTODY

PAGE 1 OF 1

37 Ramland Road
Orangeburg, NY 10962
Tel: 201-484-7461
Fax: 845-818-3593



NELAP CERTIFIED, NY LAB ID: 11713, NJDEP LAB ID: NY100

Company Name: ROCKLAND COUNTY SEWER DISTRICT #1		Client Project Name: RC160224		FOR LABORATORY USE ONLY PRESERVATION PH CHECK Unpreserved 6.12.12 Ascorbic/HCl Vials HCl Vials HCl HNO ₃ H ₂ SO ₄ NaOH NaOH/Zn Acetate Na ₂ S ₂ O ₅	
Address: 4 ROUTE 340 ORANGEBURG, NY 10962		Client Project Number: RC160224			
Contact Name: LINDA HOFFMAN		Client Purchase Order No:			
Tel/Fax: 845-365-6626		Project Mgr. Name: LINDA HOFFMAN			
Sampler's Name/Affiliation: (Print) LINDA HOFFMAN		Send Invoice to:			
Sampler's Signature:		AAT Project No: 1W1224449-029449			

LAB SAMPLE ID	DATE	COLLECTION		SAMPLE TYPE		MATRIX	TOTAL	NUMBER OF PRESERVED CONTAINERS								OTHER	
		Start	End	comp	grab			NaOH	H ₂ SO ₄	HCl	CH ₃ COOH	Na ₂ S ₂ O ₅	NaOH				
IS-160224-RLF	2/24/16	10:15A	9:30A	X		NW	15	1									metals (16) B, Sb, As, Ba, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, Zn
				X				2									Chlorides, TDS
				X				3									Ammonia, TKN, total phosphorus
								1									Total, Free cyanide
								1									Total phenols
								3									TPH, VOC's
								4									Semivolatiles, PCB's, Pesticides

SPECIAL INSTRUCTIONS	
MATRIX CODES: DW: DRINKING WATER, GW: GROUND WATER, WW: NON POTABLE WATER, SW: SOIL, SL: SLUDGE, SOL: NON SOIL, SOLID: OTHER	
TURNAROUND TIME: ☒ STANDARD 2 WEEKS ☐ RUSH, LABORATORY APPROVAL REQUIRED	
REPORT FORMAT: ☒ RESULTS ONLY ☐ FULL ELECTRONIC DATA DELIVERABLES	
RELINQUISHED BY (Print): LINDA HOFFMAN	RECEIVED BY (Print): ANGIE MONY
Signature: <i>Linda Hoffman</i>	Signature: <i>Angie Mony</i>
RELINQUISHED BY (Print): ANGIE MONY	RECEIVED BY (Print): ANGIE MONY
Signature: <i>Angie Mony</i>	Signature: <i>Angie Mony</i>
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Rockland County

Ed Day, Rockland County Executive

ROCKLAND COUNTY SEWER DISTRICT #1

4 Route 340
Orangeburg, New York 10962
Phone: (845) 365-6111 Fax: (845) 365-6686
RCSD@co.rockland.ny.us

Dianne T. Philipps, P.E.
Executive Director

June 30, 2016

Michael Sadowski, PE
Deputy Director
Town of Ramapo, DPW
Pioneer Avenue
Tallman, N.Y. 10982

TOWN OF RAMAPO
JUL - 7 2016
**DEPARTMENT OF
PUBLIC WORKS**

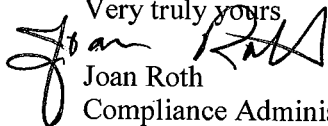
Re: Wastewater Analysis Report/s - 2015

Dear Mr. Sadowski:

Enclosed is the analysis report/s for the sample/s collected from your facility on June 8, 2016. The sampling is conducted to comply with the requirements of the Wastewater Discharge Permit and the Pretreatment Program. The charges for such services as deemed applicable by the District will be billed to you in the early part of 2017.

Should you have any questions or need additional information please call this office.

Very truly yours,



Joan Roth
Compliance Administrator

Encl

CC: D. T. Philipps, PE

M.R. Saber, PE

File: Ramapo Landfill (P) - 2016
Reader

ROCKLAND COUNTY SEWER DISTRICT NO. 1
4 Route 340
Orangeburg, N.Y. 10962

PRETREATMENT PROGRAM - SAMPLE ANALYSIS REPORT

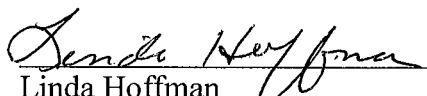
REPORT FOR: RAMAPO LANDFILL, HILBURN, NY

LOCATION SAMPLED: Manhole Immediately Upstream of Wetwell

MATRIX: Water DATE SAMPLED: 06/08/2016 Sample ID: IS-160608-RLF

PARAMETER	RESULTS	DATE OF ANALYSIS	ANALYST INITIALS	METHOD AS PER 40CFR
pH	8.2	06/08/2016	AC	SM 4500-H-B
BIOCHEMICAL OXYGEN DEMAND (mg/L)	2	06/14/2016	AC	SM 5210 B
CHEMICAL OXYGEN DEMAND (mg/L)	30	06/09/2016	HV	SM 5220 D
TOTAL SUSPENDED SOLIDS (mg/L)	4	06/09/2016	HV	SM 2540 D
Other Analyses	See Attached			

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

 March 24, 2016
Linda Hoffman
Laboratory Director
NYSDOH ID No. 10447

No. of pages in this report: 11

ROCKLAND COUNTY SEWER DISTRICT #1
4 RTE 340 ORANGEBURG, NY 10962

CHAIN OF CUSTODY DOCUMENT

FACILITY SAMPLED: RAMAPO LANDFILL, Hillburn

(Permit No. 9 - Expired: 8/14/2020)

SEMI-ANNUAL

LOCATION SAMPLED: Manhole immediately upstream of ventwell near road
ID Format (YY - MM - DD)

SAMPLE ID NO. 15-160608 -RLF

pH CALIBRATION DATE: 1st 6/7/16 2nd 6/8/16
Buffer 4 Reading: Buffer 7 Reading: Buffer 10 Reading: Slope: ANALYST: 1st HV 2nd HV

*****NOTE: If the collected sample is not within the range of 5.0 - 11.0 SU, Notify the Discharger immediately.
Name of Person Notified: JC
If a violation, the sample collected should be brought back to the Lab for pH check.
pH: 7.75 Temp. 0C 19.2
Time: 8-2 Done By: JC

SAMPLE INFORMATION

COMPOSITE	DATE	TIME	SAMPLER'S SIGNATURE	pH	TEMP. (°C)	TYPE	PLASTIC OR GLASS	TOTAL # OF BOTTLES	VOLUME NEEDED mL	BOD, COD, TSS (unpreserved)	METALS (MNO ₂)	CHLORIDES (unpreserved)	TDS (unpreserved)	AMMONIA (H ₂ SO ₄)	TKN (H ₂ SO ₄)	T-Phosphorous (H ₂ SO ₄)	CYANIDE (NaOH)	PHENOL (H ₂ SO ₄)	TPH (HCl)	VOCs, EPA 624, (HCl)	SEMI-VOLATILES, EPA 625 (Unpreserved)	PCB's & Pesticides (Unpreserved)
START	6/7/16	10:15A	JC	7.75	19.2	COMP.	PLASTIC	1	500	X												
END	6/8/16	10:00am	JC	8.2	15.0	COMP.	PLASTIC	1	500													
						COMP.	PLASTIC	1	500													
						COMP.	PLASTIC	1	500													
						COMP.	PLASTIC	1	500													
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						COMP.	PLASTIC	1	500													
						GRAB	PLASTIC	1	1000													
						GRAB	PLASTIC	1	1000													
						GRAB	Glass Amber	1	1000													
						GRAB	Glass Vial	2	40													
						GRAB	Glass Amber	2	1000													
						GRAB	Glass Amber	2	1000													

ICE IN SAMPLE COOLER? Circle YES or NO

SAMPLES IN PROPER CONTAINERS? Circle YES or NO

NOTE: IF "NO" ICE IS CIRCLED OR SAMPLES ARE NOT COLLECTED & PRESERVED IN PROPER CONTAINERS, NOTIFY LAB DIRECTOR IMMEDIATELY. RE-SAMPLE UNLESS INSTRUCTED OTHERWISE BY LAB DIRECTOR AND RECORD SUCH IN "COMMENTS" SPACE BELOW.

SAMPLES RELINQUISHED BY: JC

SAMPLES RECEIVED BY: JC

COMMENTS: Metals (16) to be analyzed are B, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, Zn

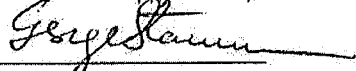
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Samples Summary

Client Name: Rockland County Sewer District #1	Date of Report: 06/28/16
4 Route 340	AAT Project Number: 030087
Orangeburg, NY 10962	Client Project Name: RC160608
	Sampled by: Rockland County Sewer District #1
	Matrix: Non-Potable Water
	Date Received: 06/08/16

Parameter	Lab Sample ID	Client Sample ID	Sampling Method	Sampling Date/Time
Metals	WW-79783-1	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Chloride (Cl ⁻)	WW-79783-2	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Total Dissolved Solids (TDS)	WW-79783-3	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Ammonia as N	WW-79783-4	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Kjeldahl Nitrogen	WW-79783-5	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Phosphorus Total	WW-79783-6	IS-160608-RLF	Composite	06/08/16 10:15 - 10:00
Cyanide Total	WW-79783-7	IS-160608-RLF	Grab	06/08/16
Cyanide Amenable	WW-79783-7	IS-160608-RLF	Grab	06/08/16
Semivolatile Organic Compounds (SVOC)	WW-79783-8	IS-160608-RLF	Grab	06/08/16
Pesticides/PCBs	WW-79783-9	IS-160608-RLF	Grab	06/08/16
Phenols	WW-79783-10	IS-160608-RLF	Grab	06/08/16
Volatile Organic Compounds (VOC)	WW-79783-11	IS-160608-RLF	Grab	06/08/16
Total Petroleum Hydrocarbons (TPH)	WW-79783-12	IS-160608-RLF	Grab	06/08/16
Oil & Grease	WW-79783-12	IS-160608-RLF	Grab	06/08/16

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Client Name: Rockland County Sewer District #1	Date of Report: 06/28/16
4 Route 340	AAT Project Number: 030087
Orangeburg, NY 10962	Client Project Name: RC160608
	Sampled by: Rockland County Sewer District #1
	Sampling Date: 06/08/16
	Matrix: Non-Potable Water
	Date Received: 06/08/16

Parameter	Lab Sample ID	Client Sample ID	Result	Unit	RLs	Date of Analysis	Analyst	Method
Metals	WW-79783-1	IS-160608-RLF	See Table #5	mg/L	-	-	G. Stancu A. Monzy	-
Chloride (Cl)	WW-79783-2	IS-160608-RLF	165	mg/L	10.00	06/20/16	A. Monzy	SM 19 4500-Cl C
Total Dissolved Solids (TDS)	WW-79783-3	IS-160608-RLF	624	mg/L	1.00	06/13/16	A. Monzy	SM 2540 C
Ammonia as N	WW-79783-4	IS-160608-RLF	ND	mg/L	0.100	06/16/16	A. Monzy	SM 4500-NH3 D or E
Kjeldahl Nitrogen*	WW-79783-5	IS-160608-RLF	0.410	mg/L	0.100*	06/15/16	-	EPA 351.1
Phosphorus Total	WW-79783-6	IS-160608-RLF	0.601	mg/L	0.050	06/23/16	A. Monzy	SM 4500-P E
Cyanide Total	WW-79783-7	IS-160608-RLF	ND	mg/L	0.010	06/20/16	A. Monzy	SM 4500-CN E
Cyanide Amenable	WW-79783-7	IS-160608-RLF	ND	mg/L	0.010	06/20/16	A. Monzy	SM 4500-CN C, G
Semivolatile Organic Compounds (SVOC)	WW-79783-8	IS-160608-RLF	See Table #2 & 3	ug/L	-	-	G. Stancu	EPA 625
Pesticides/PCBs	WW-79783-9	IS-160608-RLF	See Table #4	ug/L	-	-	G. Stancu	EPA 608
Phenols	WW-79783-10	IS-160608-RLF	ND	mg/L**	0.010	06/15/16	A. Monzy	EPA 420.1
Volatile Organic Compounds (VOC)	WW-79783-11	IS-160608-RLF	See Table #1	ug/L	-	-	G. Stancu	EPA 624
Total Petroleum Hydrocarbons (TPH)	WW-79783-12	IS-160608-RLF	ND	mg/L	5.00	06/27/16	A. Monzy	EPA 1664B
Oil & Grease	WW-79783-12	IS-160608-RLF	ND	mg/L	5.00	06/27/16	A. Monzy	EPA 1664B

RLs = Laboratory Reporting/Quantitation Limit

When "***" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

*B" indicates a value that is >than MDL but < than laboratory quantitation limit and the concentration is an estimated value.

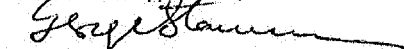
*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040.

NY Lab Registration #11301

*RL/PQL= Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 1: VOLATILE ORGANICS DATA SHEET
Method: EPA 624

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	06/08/16
Client Sample ID:	IS-160608-RLF	Date Analyzed:	06/20/16
Lab Sample ID:	WW-79783-11	Preparation Method:	EPA 5030C
AAT Project No.:	030087	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Benzene	0.41	ND	1,1-dichloroethene	0.88	ND
Bromodichloromethane	0.25	ND	trans-1,2-dichloroethene	0.81	ND
Bromoform	0.57	ND	1,2-Dichloropropane	0.42	ND
Bromomethane	0.55	ND	cis-1,3-dichloropropene	0.59	ND
Carbon tetrachloride	0.67	ND	trans-1,3-dichloropropene	0.53	ND
Chlorobenzene	0.35	ND	Dichlorofluoromethane	0.61	ND
Chloroethane	0.39	ND	Ethylbenzene	0.28	ND
2-chloroethylvinyl ether	0.26	ND	Methylene chloride	0.46	ND
Chloroform	0.34	3.46 J	1,1,2,2-Tetrachloroethane	0.48	ND
Chloromethane	0.68	ND	Tetrachloroethene	0.64	ND
Dibromochloromethane	0.59	ND	Toluene	0.53	ND
1,2-dichlorobenzene	0.42	ND	1,1,1-trichloroethane	0.47	ND
1,3-dichlorobenzene	0.41	ND	1,1,2-trichloroethane	0.64	ND
1,4-dichlorobenzene	0.42	ND	Trichloroethene	0.33	ND
1,1-dichloroethane	0.51	ND	Trichlorofluoromethane	0.47	ND
1,2-dichloroethane	0.32	ND	Vinyl chloride	0.50	ND

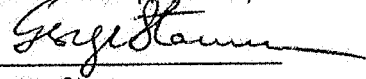
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 2: Semivolatile Organic Compounds (Base Neutral Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	06/08/16
Client Sample ID:	IS-160608-RLF	Date Extracted:	06/09/16
Lab Sample ID:	WW-79783-8	Extraction Method:	EPA 3510C
AAT Project No.:	030087	Date Analyzed:	06/09/16
Sample Size:	1 liter	pH:	>11
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Acenaphthene	1.18	ND	Diethylphthalate	0.91	ND
Acenaphthylene	1.07	ND	Dimethylphthalate	1.20	ND
Anthracene	1.44	ND	2,4-Dinitrotoluene	0.88	ND
Benzidine	1.33	ND	2,6-Dinitrotoluene	1.13	ND
Benzo[a]anthracene	0.97	ND	Di-n-octylphthalate	0.77	ND
Benzo[b]fluoranthene	1.28	ND	Fluoranthene	0.75	ND
Benzo[a]pyrene	1.24	ND	Fluorene	1.17	ND
Benzo[g,h,i]perylene	0.98	ND	Hexachlorobenzene	1.04	ND
Benzo[k]fluoranthene	1.23	ND	Hexachlorobutadiene	1.16	ND
Bis[2-chloroethoxy]methane	1.42	ND	Hexachlorocyclopentadiene	1.94	ND
Bis[2-chloroethyl]ether	1.25	ND	Hexachloroethane	0.85	ND
Bis[2-chloroisopropyl]ether	0.97	ND	Indenol[1,2,3-cd]pyrene	0.80	ND
Bis[2-ethylhexyl]phthalate	0.29	13.07	Isophorone	1.43	ND
4-Bromophenyl-phenylether	1.05	ND	N-Nitrosodi-n-propylamine	1.23	ND
Butylbenzylphthalate	0.85	ND	N-Nitrosodimethylamine	1.31	ND
2-chloronaphthalene	1.30	ND	N-Nitrosodiphenylamine	1.21	ND
4-Chlorophenyl-phenylether	0.96	ND	Naphthalene	0.95	ND
Chrysene	1.25	ND	Nitrobenzene	1.10	ND
Di-n-Butylphthalate	1.01	ND	Phenanthrene	1.31	ND
3,3'-Dichlorobenzidine	1.14	ND	Pyrene	1.13	ND
Dibenzo[a,h]anthracene	0.84	ND	1,2,4-Trichlorobenzene	1.21	ND

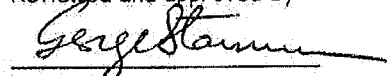
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 3: Semivolatile Organic Compounds (Acid Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	06/08/16
Client Sample ID:	IS-160608-RLF	Date Extracted:	06/09/16
Lab Sample ID:	WW-79783-8	Extraction Method:	EPA 3510C
AAT Project No.:	030087	Date Analyzed:	06/09/16
Sample Size:	1 liter	pH:	<2
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
4-Chloro-3-Methylphenol	1.52	ND	2-Nitrophenol	0.94	ND
2-Chlorophenol	1.01	ND	4-Nitrophenol	1.82	ND
2,4-Dichlorophenol	1.50	ND	Pentachlorophenol	1.87	ND
2,4-Dimethylphenol	1.31	ND	Phenol	1.39	ND
4,6-Dinitro-2-methylphenol	0.83	ND	2,4,6-Trichlorophenol	1.62	ND
2,4-Dinitrophenol	1.74	ND			

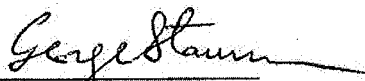
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 4: Pesticides and PCB's
Method: EPA 608

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	06/08/16
Client Sample ID:	IS-160608-RLF	Date Extracted:	06/13/16
Lab Sample ID.:	WW-79783-9	Extraction Method:	EPA 3510C
AAT Project No.:	030087	Date Analyzed:	06/13/16
Sample Size:	1 liter	pH:	5.0-9.0
Matrix:	Non-Potable Water	Dilution Factor:	1

<u>Compound Name</u>	<u>LOD</u> (ug/L)	<u>Result</u> (ug/L)	<u>Compound Name</u>	<u>LOD</u> (ug/L)	<u>Result</u> (ug/L)
Aldrin	0.20	ND	Endrin	0.10	ND
Alpha-BHC	0.10	ND	Endrin aldehyde	0.20	ND
Beta-BHC	0.10	ND	Heptachlor	0.19	ND
Gamma-BHC (Lindane)	0.10	ND	Heptachlor Epoxide	0.10	ND
Delta-BHC	0.20	ND	Toxaphene	0.72	ND
Chlordane	0.72	ND	Methoxychlor	0.20	ND
4,4'-DDD	0.20	ND	PCB-1016	0.40	ND
4,4'-DDE	0.10	ND	PCB-1221	0.88	ND
4,4'-DDT	0.30	ND	PCB-1232	0.88	ND
Dieldrin	0.10	ND	PCB-1242	0.81	ND
Alpha-Endosulfan	0.10	ND	PCB-1248	0.79	ND
Beta-Endosulfan	0.10	ND	PCB-1254	0.88	ND
Endosulfan sulfate	0.20	ND	PCB-1260	0.20	ND

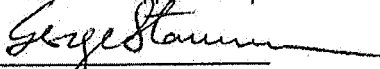
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 5: METALS

<u>Parameter</u>	<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Result</u>	<u>Unit</u>	<u>RLs</u>	<u>Date of Analysis</u>	<u>Analyst</u>	<u>Method</u>
Antimony (Sb)*	WW-79783-1	IS-160608-RLF	ND	mg/l	0.005*	06/15/16	-	EPA 200.7
Arsenic (As)*	WW-79783-1	IS-160608-RLF	ND	mg/l	0.004*	06/15/16	-	EPA 200.7
Beryllium (Be)*	WW-79783-1	IS-160608-RLF	ND	mg/l	0.001*	06/15/16	-	EPA 200.7
Boron (B)*	WW-79783-1	IS-160608-RLF	0.080	mg/l	0.050*	06/15/16	-	EPA 200.7
Cadmium (Cd)	WW-79783-1	IS-160608-RLF	0.003 B	mg/l**	0.001	06/22/16	A. Monzy	SM 3111 B
Chromium (Cr)	WW-79783-1	IS-160608-RLF	ND	mg/l**	0.011	06/22/16	A. Monzy	SM 3111 B
Copper (Cu)	WW-79783-1	IS-160608-RLF	ND	mg/l	0.010	06/17/16	A. Monzy	SM 3111 B
Lead (Pb)	WW-79783-1	IS-160608-RLF	0.030 B	mg/l**	0.016	06/17/16	A. Monzy	SM 3111 B
Manganese (Mn)	WW-79783-1	IS-160608-RLF	0.395	mg/l	0.025	06/24/16	A. Monzy	SM 3111 B
Mercury (Hg)	WW-79783-1	IS-160608-RLF	ND	mg/l	0.001	06/09/16	G. Stancu	EPA 245.1
Mercury Digestion	WW-79783-1	IS-160608-RLF	Completed	-	-	06/09/16	G. Stancu	EPA 245.1
Molybdenum (Mo)*	WW-79783-1	IS-160608-RLF	ND	mg/l	0.005*	06/15/16	-	EPA 200.7
Nickel (Ni)	WW-79783-1	IS-160608-RLF	0.061	mg/l	0.025	06/17/16	A. Monzy	SM 3111 B
Selenium (Se)*	WW-79783-1	IS-160608-RLF	ND	mg/l	0.010*	06/15/16	-	EPA 200.7
Silver (Ag)	WW-79783-1	IS-160608-RLF	ND	mg/l	0.010	06/22/16	A. Monzy	SM 3111 B
Thallium (Tl)	WW-79783-1	IS-160608-RLF	ND	mg/l**	0.033	06/14/16	A. Monzy	SM 3111 B
Zinc (Zn)	WW-79783-1	IS-160608-RLF	0.010	mg/l	0.010	06/14/16	A. Monzy	SM 3111 B
Total Metals Digestion	WW-79783-1	IS-160608-RLF	Completed	-	-	06/13/16	A. Monzy	EPA 200.2

RLs = Laboratory Reporting/Quantitation Limit

When "***" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

"B" indicates a value that is >than MDL but < than laboratory quantitation limit

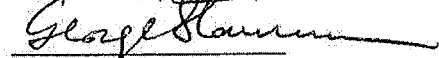
*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040, NY Lab Registration #11301

*RL/PQL= Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

*Total Metals Digestion was completed on 06/14/16

Reviewed and approved by:



George Stancu
Technical Director

CERTIFICATION

Client Name: Rockland County Sewer District #1	Date of Report: 06/28/16
4 Route 340	AAT Project Number: 030087
Orangeburg, NY 10962	Client Project Name: RC160608
	Sampled by: Rockland County Sewer District #1
	Matrix: Non-Potable Water
	Date Received: 06/08/16

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


George Stancu
Technical Director

37 Ramland Road
Orangeburg, NY 10962
Tel: 201-484-7461
Fax: 845-818-3593



**Advanced Analytical
Technologies Inc.**

NELAP CERTIFIED. NY LAB ID: 11713, NJDEP LAB ID: NY100

Company Name: N. ROCKLAND COUNTY SEWER DISTRICT #1 Address: 4 ROUTE 340 ORANGEBURG, NY 10962						Client Project Name: RC160608 Client Project Number: RC160608 Client Purchase Order No:								
Contact Name: LINDA HOFFMAN Tel/Fax: 845-365-6626 Sampler's Name/Affiliation: (Print) Linda Hoffman						Project Mgr. Name: LINDA HOFFMAN Send Invoice to: Linda Hoffman AAT Project No: 230087								
SAMPLE LOCATION / FIELD ID	LAB SAMPLE ID	DATE	COLLECTION TIME		NUMBER OF PRESERVED CONTAINERS									
			Start	End	MATRIX	TOTAL	NONE	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ SO ₄	NaOAc/Ac	OTHER
IS-160608-RLF	WW-79783 (1-12)	6/8/16	10:15 A	10:00 A	X	15 gms	1							metals (16) B, Sb, As, Be, Ca, Cr, Cu, Mn, Hg, Mo, Ni, Se, Ag, Ti, Zn Chlorides, TDS
					X		2							Ammonia, TKV, t-phosphorus
					X					3				Total, Free cyanide
					X		4	Sev						formaldehyde, Semivolatiles, PCB, Pest
					X					1				Phenols
					X				3					VOC's, TPH, Oil+Grease
MATRIX CODES: DW: DRINKING WATER, GW: GROUND WATER, WW: NON POTABLE WATER, SW: SOIL, SL: SLUDGE, SOL: NON SOIL SOLID, O: OTHER														
TURNAROUND TIME: X STANDARD 2 WEEKS [] RUSH. LABORATORY APPROVAL REQUIRED														
REPORT FORMAT: X RESULTS ONLY [] NJ REDUCED [] ELECTRONIC DATA DELIVERABLES														
RELINQUISHED BY (Print): LINDA HOFFMAN			DATE: 6/8/16	TIME: 4:30	AM PM: AM	RECEIVED BY (Print): Cassandra Lawrence			DATE: 6/8/16	TIME: 5:11	AM PM: AM	Signature: Linda Hoffman		
RELINQUISHED BY (Print): Linda Hoffman			DATE: 6/8/16	TIME: 5:11	AM PM: AM	RECEIVED BY (Print): Cassandra Lawrence			DATE: 6/8/16	TIME: 5:11	AM PM: AM	Signature: Linda Hoffman		
RELINQUISHED BY (Print): Linda Hoffman			DATE: 6/8/16	TIME: 5:11	AM PM: AM	RECEIVED BY (Print): Cassandra Lawrence			DATE: 6/8/16	TIME: 5:11	AM PM: AM	Signature: Linda Hoffman		
RELINQUISHED BY (Print): Linda Hoffman			DATE: 6/8/16	TIME: 5:11	AM PM: AM	RECEIVED BY (Print): Cassandra Lawrence			DATE: 6/8/16	TIME: 5:11	AM PM: AM	Signature: Linda Hoffman		

White - Original

Yellow - Laboratory Copy

Pink - Client Copy



Rockland County

Ed Day, Rockland County Executive

ROCKLAND COUNTY SEWER DISTRICT #1

4 Route 340
Orangeburg, New York 10962
Phone: (845) 365-6111 Fax: (845) 365-6686
RCSD@co.rockland.ny.us

Dianne T. Philipps, P.E.
Executive Director

October 24, 2016

Michael Sadowski, PE
Deputy Director
Town of Ramapo, DPW
Pioneer Avenue
Tallman, N.Y. 10982

TOWN OF RAMAPO

OCT 31 2016

**DEPARTMENT OF
PUBLIC WORKS**

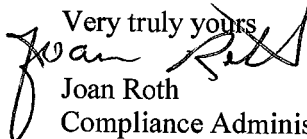
Re: Wastewater Analysis Report/s - 2015

Dear Mr. Sadowski:

Enclosed is the analysis report/s for the sample/s collected from your facility on September 21, 2016. The sampling is conducted to comply with the requirements of the Wastewater Discharge Permit and the Pretreatment Program. The charges for such services as deemed applicable by the District will be billed to you in the early part of 2017.

Should you have any questions or need additional information please call this office.

Very truly yours,



Joan Roth
Compliance Administrator

Encl

CC: D. T. Philipps, PE

M.R. Saber, PE

File: Ramapo Landfill (P) - 2016
Reader

ROCKLAND COUNTY SEWER DISTRICT NO. 1
4 Route 340
Orangeburg, N.Y. 10962

PRETREATMENT PROGRAM - SAMPLE ANALYSIS REPORT

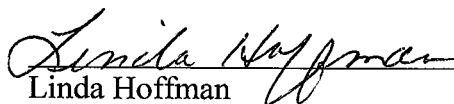
REPORT FOR: RAMAPO LANDFILL, HILBURN, NY

LOCATION SAMPLED: Manhole Immediately Upstream of Wetwell

MATRIX: Water DATE SAMPLED: 09/21/2016 Sample ID: IS-160921-RLF

PARAMETER	RESULTS	DATE OF ANALYSIS	ANALYST INITIALS	METHOD AS PER 40CFR
pH	7.2	09/21/2016	AC	SM 4500-H-B
BIOCHEMICAL OXYGEN DEMAND (mg/L)	12	09/27/2016	MP	SM 5210 B
CHEMICAL OXYGEN DEMAND (mg/L)	42	09/22/2016	HV	SM 5220 D
TOTAL SUSPENDED SOLIDS (mg/L)	4	09/22/2016	HV	SM 2540 D
Other Analyses	See Attached			

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

 October 20, 2016
Linda Hoffman
Laboratory Director
NYSDOH ID No. 10447

No. of pages in this report: 13

ROCKLAND COUNTY SEWER DISTRICT #1
4 RTE 340 ORANGEBURG, NY 10962

CHAIN OF CUSTODY DOCUMENT

FACILITY SAMPLED: RAMAPO LANDFILL, Hillburn

(Permit No. 9 - Expired: 8/14/2020)

SEMI-ANNUAL

LOCATION SAMPLED: Manhole immediately upstream of wetwell near road

SAMPLE ID NO. 1S-16092-1 -RLF

PH CALIBRATION DATE: 1st 9/20/16 2nd 9/21/16
4.01 Buffer 7 Reading: 7.00
TIME: 1st 7:20 2nd 7:15 AM
ANALYST: 1st MP 2nd HL
Buffer 10 Reading: 10.01 Slope: 95-2
Buffer 7 Reading: 7.03

*****NOTE: If the collected sample is not within the range of 5.0 - 11.0 SU, Notify the Discharger immediately.
Name of Person Notified:
If a violation, the sample collected should be brought back to the Lab for pH check.
pH: 7.2
Time: 9:47 AM
Temp. 0C: 20.7
Done By: AR

SAMPLE INFORMATION

COMPOSITE	DATE	TIME	SAMPLER'S SIGNATURE	PH	TEMP. (°C)	TYPE	PLASTIC OR GLASS	TOTAL # OF BOTTLES	VOLUME mL	BOD, COD, TSS (unpreserved)	METALS (HNO ₃)	CHLORIDES (unpreserved)	TDS (unpreserved)	AMMONIA (H ₂ SO ₄)	TKN (H ₂ SO ₄)	T-Phosphorous (H ₂ SO ₄)	TOTAL FREE CYANIDE (NaOH)	Formaldehyde (mono)	PHENOL (H ₂ SO ₄)	Oil and Grease, TPH (HCl)	VOC, EPA 624, (HCl)	SEMI-VOLATILES, EPA625 (unpreserved)	PCB's & Pesticides (unpreserved)
START	9/20/16	9:20 AM	AR	7.9	19.5	COMP.	PLASTIC	1	500	X													
END	9/21/16	9:47 AM	AR	7.2	20.7	COMP.	PLASTIC	1	500														
						COMP.	PLASTIC	1	250		X												
						COMP.	PLASTIC	1	500			X											
						COMP.	PLASTIC	1	500				X										
						COMP.	PLASTIC	1	500					X									
						COMP.	PLASTIC	1	500						X								
						COMP.	PLASTIC	1	500							X							
						COMP.	PLASTIC	1	500								X						
						COMP.	PLASTIC	1	500									X					
						GRAB	PLASTIC	1	1000										X				
						GRAB	AMBER	1	1000											X			
						GRAB	PLASTIC	1	1000												X		
						GRAB	Glass Amber	1	1000													X	
						GRAB	Glass Vial	2	40														X
						GRAB	Glass Amber	2	1000														X
						GRAB	Glass Amber	2	1000														X

ICE IN SAMPLE COOLER? Circle YES or NO
SAMPLES IN PROPER CONTAINERS? Circle YES or NO

NOTE: IF "NO" ICE IS CIRCLED OR SAMPLES ARE NOT COLLECTED & PRESERVED IN PROPER CONTAINERS, NOTIFY LAB DIRECTOR IMMEDIATELY. RE-SAMPLE UNLESS INSTRUCTED OTHERWISE BY LAB DIRECTOR AND RECORD SUCH IN "COMMENTS" SPACE BELOW.

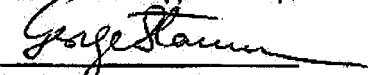
SAMPLES RELINQUISHED BY: R DATE: 9/21/16 TIME: 11:00 AM
SAMPLES RECEIVED BY: [Signature] DATE: 9/21/16 TIME: 12:35 PM
COMMENTS: Metals (16) to be analyzed are B, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, Zn

Samples Summary

Client Name: Rockland County Sewer District #1	Date of Report: 10/19/16
4 Route 340	AAT Project Number: 030794
Orangeburg, NY 10962	Client Project Name: RC160921
	Sampled by: Rockland County Sewer District #1
	Matrix: Non-Potable Water
	Date Received: 09/21/16

Parameter	Lab Sample ID	Client Sample ID	Sampling Method	Sampling Date/Time
Metals	WW-81345-1	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Chloride (Cl ⁻)	WW-81345-2	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Total Dissolved Solids (TDS)	WW-81345-3	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Ammonia as N	WW-81345-4	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Kjeldahl Nitrogen	WW-81345-5	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Phosphorus Total	WW-81345-6	IS-160921-RLF	Composite	09/21/16 09:20 - 09:47
Cyanide Total	WW-81345-7	IS-160921-RLF	Grab	09/21/16
Cyanide Amenable	WW-81345-7	IS-160921-RLF	Grab	09/21/16
Phenols	WW-81345-8	IS-160921-RLF	Grab	09/21/16
Volatile Organic Compounds (VOC)	WW-81345-9	IS-160921-RLF	Grab	09/21/16
Oil & Grease	WW-81345-10	IS-160921-RLF	Grab	09/21/16
Total Petroleum Hydrocarbons (TPH)	WW-81345-10	IS-160921-RLF	Grab	09/21/16
Formaldehyde	WW-81345-11	IS-160921-RLF	Grab	09/21/16
Semivolatile Organic Compounds (SVOC)	WW-81345-12	IS-160921-RLF	Grab	09/21/16
Pesticides/PCBs	WW-81345-13	IS-160921-RLF	Grab	09/21/16

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Client Name: Rockland County Sewer District #1	Date of Report: 10/19/16
4 Route 340	AAT Project Number: 030794
Orangeburg, NY 10962	Client Project Name: RC160921
	Sampled by: Rockland County Sewer District #1
	Sampling Date: 09/21/16
	Matrix: Non-Potable Water
	Date Received: 09/21/16

Parameter	Lab Sample ID	Client Sample ID	Result	Unit	RLs	Date of Analysis	Analyst	Method
Metals	WW-81345-1	IS-160921-RLF	See Table #5	mg/L	-	-	G. Stancu A. Monzy	-
Chloride (Cl ⁻)	WW-81345-2	IS-160921-RLF	294	mg/L	10.00	09/26/16	A. Monzy	SM 19 4500-Cl C
Total Dissolved Solids (TDS)	WW-81345-3	IS-160921-RLF	976	mg/L	1.00	09/27/16	A. Monzy	SM 2540 C
Ammonia as N	WW-81345-4	IS-160921-RLF	1.72	mg/L	0.100	09/23/16	A. Monzy	SM 4500-NH3 D or E
Kjeldahl Nitrogen*	WW-81345-5	IS-160921-RLF	3.23	mg/L	0.100*	09/28/16	-	EPA 351.1
Phosphorus Total	WW-81345-6	IS-160921-RLF	0.238	mg/L	0.050	09/22/16	A. Monzy	SM 4500-P E
Cyanide Total	WW-81345-7	IS-160921-RLF	ND	mg/L	0.010	09/28/16	A. Monzy	SM 4500-CN E
Cyanide Amenable	WW-81345-7	IS-160921-RLF	ND	mg/L	0.010	09/28/16	A. Monzy	SM 4500-CN C, G
Phenols	WW-81345-8	IS-160921-RLF	0.029 B	mg/L**	0.010	09/30/16	A. Monzy	EPA 420.1
Volatile Organic Compounds (VOC)	WW-81345-9	IS-160921-RLF	See Table #1	ug/L	-	-	G. Stancu	EPA 624
Oil & Grease	WW-81345-10	IS-160921-RLF	ND	mg/L	5.00	09/22/16	A. Monzy	EPA 1664B
Total Petroleum Hydrocarbons (TPH)	WW-81345-10	IS-160921-RLF	ND	mg/L	5.00	09/22/16	A. Monzy	EPA 1664B
Formaldehyde*	WW-81345-11	IS-160921-RLF	See Attached Report	ug/L	-	-	-	-
Semivolatile Organic Compounds (SVOC)	WW-81345-12	IS-160921-RLF	See Table #2 & 3	ug/L	-	-	G. Stancu	EPA 625
Pesticides/PCBs	WW-81345-13	IS-160921-RLF	See Table #4	ug/L	-	-	G. Stancu	EPA 608

RLs = Laboratory Reporting/Quantitation Limit

When "*" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

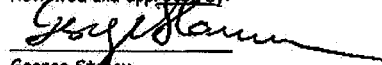
"B" indicates a value that is >than MDL but < than laboratory quantitation limit and the concentration is an estimated value

*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040.
NY Lab Registration #11301

*RL/PQL = Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

Reviewed and approved by:


George Stancu
Technical Director



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

September 30, 2016

FOR: Attn: Slava Kogan
Advanced Analytical Technologies, Inc.
37 Ramland Road
Orangeburg, NY 10962

Sample Information

Matrix: WASTE WATER
Location Code: ADV-ANA
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date

09/21/16
09/22/16

Time

9:47
16:40

Laboratory Data

SDG ID: GBV22314
Phoenix ID: BV22315

Project ID:
Client ID: WW-81345-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Nitrogen Tot Kjeldahl	3.23	0.10	mg/L	1	09/28/16	WHM	E351.1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

September 30, 2016

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

September 30, 2016

FOR: Attn: Slava Kogan
Advanced Analytical Technologies, Inc.
37 Ramland Road
Orangeburg, NY 10962

Sample Information

Matrix: WASTE WATER
Location Code: ADV-ANA
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date

Time

09/21/16 9:47
09/22/16 16:40

Laboratory Data

SDG ID: GBV22314
Phoenix ID: BV22316

Project ID:
Client ID: WW-81345-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Formaldehyde Prep by HPLC	Completed				09/22/16	MZ/D	
Formaldehyde Re-Prep by HPLC	Completed				09/22/16	MZ/Z	
Formaldehyde	ND	50	ug/L	1	09/23/16	MH	E1667
Formaldehyde RePrep	ND	50	ug/L	1	09/26/16	MH	E1667/SW8315A

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level

Comments:

The Formaldehyde analysis did not have a valid reading; a greater than value is reported. The sample was re-extracted and re-analyzed after hold time and the subsequent numeric result is reported above.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

September 30, 2016

Reviewed and Released by: Bobbi Aloisa, Vice President

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 1: VOLATILE ORGANICS DATA SHEET
Method: EPA 624

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	09/21/16
Client Sample ID:	IS-160921-RLF	Date Analyzed:	09/30/16
Lab Sample ID:	WW-81345-9	Preparation Method:	EPA 5030C
AAT Project No.:	030794	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Benzene	0.41	ND	1,1-dichloroethene	0.88	ND
Bromodichloromethane	0.25	1.50 J	trans-1,2-dichloroethene	0.81	ND
Bromoform	0.57	ND	1,2-Dichloropropane	0.42	ND
Bromomethane	0.55	ND	cis-1,3-dichloropropene	0.59	ND
Carbon tetrachloride	0.67	ND	trans-1,3-dichloropropene	0.53	ND
Chlorobenzene	0.35	ND	Dichlorofluoromethane	0.61	ND
Chloroethane	0.39	ND	Ethylbenzene	0.28	ND
2-chloroethylvinyl ether	0.26	ND	Methylene chloride	0.46	ND
Chloroform	0.34	3.81 J	1,1,2,2-Tetrachloroethane	0.48	ND
Chloromethane	0.68	ND	Tetrachloroethene	0.64	ND
Dibromochloromethane	0.59	ND	Toluene	0.53	ND
1,2-dichlorobenzene	0.42	ND	1,1,1-trichloroethane	0.47	ND
1,3-dichlorobenzene	0.41	ND	1,1,2-trichloroethane	0.64	ND
1,4-dichlorobenzene	0.42	ND	Trichloroethene	0.33	ND
1,1-dichloroethane	0.51	ND	Trichlorofluoromethane	0.47	ND
1,2-dichloroethane	0.32	ND	Vinyl chloride	0.50	ND

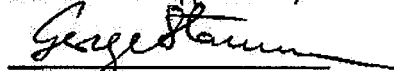
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:



George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 2: Semivolatile Organic Compounds (Base Neutral Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	09/21/16
Client Sample ID:	IS-160921-RLF	Date Extracted:	09/27/16
Lab Sample ID:	WW-81345-12	Extraction Method:	EPA 3510C
AAT Project No.:	030794	Date Analyzed:	10/18/16
Sample Size:	1 liter	pH:	>11
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/L)	Compound Name	LOD (ug/L)	Result (ug/L)
Acenaphthene	1.18	ND	Diethylphthalate	0.91	ND
Acenaphthylene	1.07	ND	Dimethylphthalate	1.20	ND
Anthracene	1.44	ND	2,4-Dinitrotoluene	0.88	ND
Benazidine	1.33	ND	2,6-Dinitrotoluene	1.13	ND
Benzo[a]anthracene	0.97	ND	Di-n-octylphthalate	0.77	ND
Benzo[b]fluoranthene	1.28	ND	Fluoranthene	0.75	ND
Benzo[a]pyrene	1.24	ND	Fluorene	1.17	ND
Benzo[g,h,i]perylene	0.98	ND	Hexachlorobenzene	1.04	ND
Benzo[k]fluoranthene	1.23	ND	Hexachlorobutadiene	1.16	ND
Bis[2-chloroethoxy]methane	1.42	ND	Hexachlorocyclopentadiene	1.94	ND
Bis[2-chloroethyl]ether	1.25	ND	Hexachloroethane	0.85	ND
Bis[2-chloroisopropyl]ether	0.97	ND	Indenol[1,2,3-cd]pyrene	0.80	ND
Bis[2-ethylhexyl]phthalate	0.29	2.50 J	Isophorone	1.43	ND
4-Bromophenyl-phenylether	1.05	ND	N-Nitrosodi-n-propylamine	1.23	ND
Butylbenzylphthalate	0.85	ND	N-Nitrosodimethylamine	1.31	ND
2-chloronaphthalene	1.30	ND	N-Nitrosodiphenylamine	1.21	ND
4-Chlorophenyl-phenylether	0.96	ND	Naphthalene	0.95	ND
Chrysene	1.25	ND	Nitrobenzene	1.10	ND
Di-n-Butylphthalate	1.01	ND	Phenanthrene	1.31	ND
3,3'-Dichlorobenzidine	1.14	ND	Pyrene	1.13	ND
Dibenzo[a,h]anthracene	0.84	ND	1,2,4-Trichlorobenzene	1.21	ND

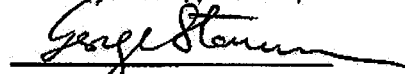
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 3: Semivolatile Organic Compounds (Acid Extractables)
Method: EPA 625

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	09/21/16
Client Sample ID:	IS-160921-RLF	Date Extracted:	09/27/16
Lab Sample ID:	WW-81345-12	Extraction Method:	EPA 3510C
AAT Project No.:	030794	Date Analyzed:	10/18/16
Sample Size:	1 liter	pH:	<2
Matrix:	Non-Potable Water	Dilution Factor:	1

Compound Name	LOD (ug/L)	Result (ug/l)	Compound Name	LOD (ug/l)	Result (ug/l)
4-Chloro-3-Methylphenol	1.52	ND	2-Nitrophenol	0.94	ND
2-Chlorophenol	1.01	ND	4-Nitrophenol	1.82	ND
2,4-Dichlorophenol	1.50	ND	Pentachlorophenol	1.87	ND
2,4-Dimethylphenol	1.31	ND	Phenol	1.39	ND
4,6-Dinitro-2-methylphenol	0.83	ND	2,4,6-Trichlorophenol	1.62	ND
2,4-Dinitrophenol	1.74	ND			

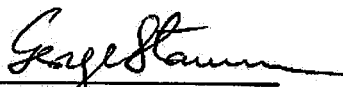
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 4: Pesticides and PCB's
Method: EPA 608

Client Name:	Rockland County Sewer District #1	Date/Time Sampled:	09/21/16
Client Sample ID:	IS-160921-RLF	Date Extracted:	09/26/16
Lab Sample ID:	WW-81345-13	Extraction Method:	EPA 3510C
AAT Project No.:	030794	Date Analyzed:	10/04/16
Sample Size:	1 liter	pH:	5.0-9.0
Matrix:	Non-Potable Water	Dilution Factor:	1

<u>Compound Name</u>	<u>LOD</u> (ug/L)	<u>Result</u> (ug/L)		<u>Compound Name</u>	<u>LOD</u> (ug/L)	<u>Result</u> (ug/L)
Aldrin	0.20	ND		Endrin	0.10	ND
Alpha-BHC	0.10	ND		Endrin aldehyde	0.20	ND
Beta-BHC	0.10	ND		Heptachlor	0.19	ND
Gamma-BHC (Lindane)	0.10	ND		Heptachlor Epoxide	0.10	ND
Delta-BHC	0.20	ND		Toxaphene	0.72	ND
Chlordane	0.72	ND		Methoxychlor	0.20	ND
4, 4'-DDD	0.20	ND		PCB-1016	0.40	ND
4, 4'-DDE	0.10	ND		PCB-1221	0.88	ND
4,4'-DDT	0.30	ND		PCB-1232	0.88	ND
Dieldrin	0.10	ND		PCB-1242	0.81	ND
Alpha-Endosulfan	0.10	ND		PCB-1248	0.79	ND
Beta-Endosulfan	0.10	ND		PCB-1254	0.88	ND
Endosulfan sulfate	0.20	ND		PCB-1260	0.20	ND

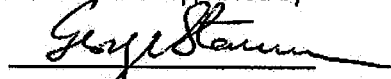
LOD = Limit of Detection

A result of "ND" indicates that the analyte was Not Detected at the Limit of Detection

"J" indicates a value that is greater than LOD but less than the lowest calibration standard and the result is an estimated value

"D" = Diluted; "B" = Compound also found in the Lab Blank

Reviewed and approved by:


George Stancu
Technical Director

ANALYTICAL REPORT
NYS DOH LABORATORY ID NO: 11713

Table 5: METALS

<u>Parameter</u>	<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Result</u>	<u>Unit</u>	<u>RLs</u>	<u>Date of Analysis</u>	<u>Analyst</u>	<u>Method</u>
Antimony (Sb)	WW-81345-1	IS-160921-RLF	0.002	mg/l	0.001	10/03/16	G. Stancu	EPA 200.9
Arsenic (As)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.001	09/26/16	G. Stancu	EPA 200.9
Beryllium (Be)	WW-81345-1	IS-160921-RLF	0.003	mg/l	0.001	10/03/16	G. Stancu	EPA 200.9
Boron (B)*	WW-81345-1	IS-160921-RLF	0.110	mg/l	0.050*	09/25/16	-	EPA 200.7
Cadmium (Cd)	WW-81345-1	IS-160921-RLF	0.009	mg/l	0.004	09/27/16	A. Monzy	SM 3111 B
Chromium (Cr)	WW-81345-1	IS-160921-RLF	ND	mg/l**	0.011	10/03/16	A. Monzy	SM 3111 B
Copper (Cu)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.010	09/30/16	A. Monzy	SM 3111 B
Lead (Pb)	WW-81345-1	IS-160921-RLF	0.094	mg/l	0.050	09/27/16	A. Monzy	SM 3111 B
Manganese (Mn)	WW-81345-1	IS-160921-RLF	0.211	mg/l	0.025	09/29/16	A. Monzy	SM 3111 B
Mercury (Hg)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.001	09/30/16	G. Stancu	EPA 245.1
Mercury Digestion	WW-81345-1	IS-160921-RLF	Completed	-	-	09/30/16	G. Stancu	EPA 245.1
Molybdenum (Mo)*	WW-81345-1	IS-160921-RLF	ND	mg/l	0.005*	09/25/16	-	EPA 200.7
Nickel (Ni)	WW-81345-1	IS-160921-RLF	0.070	mg/l	0.025	09/27/16	A. Monzy	SM 3111 B
Selenium (Se)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.001	09/28/16	G. Stancu	EPA 200.9
Silver (Ag)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.010	09/23/16	A. Monzy	SM 3111 B
Thallium (Tl)	WW-81345-1	IS-160921-RLF	ND	mg/l**	0.033	10/04/16	A. Monzy	SM 3111 B
Zinc (Zn)	WW-81345-1	IS-160921-RLF	ND	mg/l	0.010	09/23/16	A. Monzy	SM 3111 B
Total Metals Digestion	WW-81345-1	IS-160921-RLF	Completed	-	-	09/23/16	A. Monzy	EPA 200.2

RLs = Laboratory Reporting/Quantitation Limit

When "***" is present immediately following the "RLs" units, the "RLs" is the Method Detection Limit (MDL).

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs

"B" indicates a value that is >than MDL but < than laboratory quantitation limit

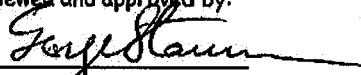
*Analysis was performed by Phoenix Environmental Laboratories Inc., 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040. NY Lab Registration #11301

*RL/PQL= Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation)

*ND = Not Detected, BRL = Below Reporting Limit

*Total Metals Digestion was completed on 09/22/16

Reviewed and approved by:


George Stancu
Technical Director



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

September 30, 2016

FOR: Attn: Slava Kogan
Advanced Analytical Technologies, Inc.
37 Ramland Road
Orangeburg, NY 10962

Sample Information

Matrix: WASTE WATER
Location Code: ADV-ANA
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LB
Analyzed by: see "By" below

Date Time

09/21/16 9:47
09/22/16 16:40

Laboratory Data

SDG ID: GBV22314
Phoenix ID: BV22314

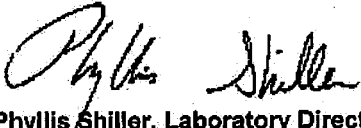
Project ID:
Client ID: WW-81345-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Boron	0.11	0.05	mg/L	1	09/25/16	LK	E200.7
polybdenum	< 0.005	0.005	mg/L	1	09/25/16	LK	E200.7
total Metals Digestion	Completed				09/22/16	AG	

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.


Phyllis Shiller, Laboratory Director
September 30, 2016

Reviewed and Released by: Bobbi Aloisa, Vice President

CERTIFICATION

Client Name: Rockland County Sewer District #1	Date of Report:	10/19/16
4 Route 340	AAT Project Number:	030794
Orangeburg, NY 10962	Client Project Name:	RC160921
	Sampled by:	Rockland County Sewer District #1
	Matrix:	Non-Potable Water
	Date Received:	09/21/16

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


George Stancu
Technical Director



Friday, September 30, 2016

Attn: Slava Kogan
Advanced Analytical Technologies, Inc.
37 Ramland Road
Orangeburg, NY 10962

Project ID:
Sample ID#s: BV22314 - BV22316

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

AAT
Advanced Analytical
Technologies Inc.

37 Ramland Road
Orangeburg, NY 10962
Tel: 201-484-7461
Fax: 845-818-3593

NELAP CERTIFIED: NY LAB ID: 11713, NJDEP LAB ID: NY100

Company Name: ROCKLAND COUNTY SEWER DISTRICT #1		Client Project Name: RC160921	
Address: 4 ROUTE 340 ORANGEBURG, NY 10962		Client Project Number: RC160921	
Contact Name: LINDA HOFFMAN		Client Purchase Order No:	
Tel/Fax: 845-365-6626		Project Mgr. Name: LINDA HOFFMAN	
Sampler's Name/Affiliation: (Print)		Send Invoice to:	
Sampler's Signature:		AAT Project No: 030794	

SAMPLE LOCATION / FIELD ID	LAB SAMPLE ID	COLLECTION		NUMBER OF PRESERVED CONTAINERS		ANALYSIS REQUESTED										
		Start	End	TIME	DATE	MATRIX	TOTAL	NONE	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ SO ₄	NaOH/Zn	OTHER	
IS-160921-RLF	WW-8/345 (1-13)	9:20A	9:27A		9/21/16	X	16		1							metals (16B, Sb, As, Se, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, Zn)
				X				2								Chlorides, TDS
				X					3							Ammonia, TKN, Total phosphorous
										1						Total, Free cyanide
											1					Total phenols
											3					Formaldehyde, Semivolatile HCs, PCB's, Pesticides
								5								

MATRIX CODES: DW: DRINKING WATER, GW: GROUND WATER, WW: NON POTABLE WATER, SW: SOIL, SL: SLUDGE, SOL: NON SOIL, SOLID, O: OTHER

TURNAROUND TIME: ☒ STANDARD 2 WEEKS ☐ RUSH. LABORATORY APPROVAL REQUIRED

REPORT FORMAT: ☒ RESULTS ONLY ☐ INJ REDUCED ☐ ELECTRONIC DATA DELIVERABLES

RELINQUISHED BY (Print): Linda Hoffman	RECEIVED BY (Print):	DATE: 9/21/16	TIME: 5:00 PM
RELINQUISHED BY (Signature):	Signature:	DATE: 9/21/16	TIME: 5:00 PM
RELINQUISHED BY (Print):	Signature:	DATE: 9/21/16	TIME: 5:00 PM
RELINQUISHED BY (Signature):	Signature:	DATE: 9/21/16	TIME: 5:00 PM

DATE:	TIME:	AM	PM	FIELD ANALYSIS
DATE:	TIME:	AM	PM	SAMPLE TEMP:
DATE:	TIME:	AM	PM	SAMPLE pH:
DATE:	TIME:	AM	PM	RES. C: Yes No
DATE:	TIME:	AM	PM	Cooler Temp. upon receipt at lab
DATE:	TIME:	AM	PM	Rec'd on ice? Yes No