

**2017 OU2 GROUNDWATER INVESTIGATION
RE137 (VPB171)
INSTALLATION REPORT**

**NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)
SITE 1 OU2
BETHPAGE, NY**

Prepared for:



**Department of the Navy
Naval Facilities Engineering Command, Atlantic
9324 Virginia Avenue
Building Z-144
Norfolk, Virginia 23511**

January 2018

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9324 Virginia Avenue
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List of Acronyms and Abbreviations

AOC	Area of Concern
bgs	below ground surface
BOD	Biological oxygen demand
CSM	Conceptual Site Model
COR	Continuously Operating Reference
Delta	Delta Well and Pump Company
EPA	Environmental Protection Agency, United States
ESS	Environmental Sequence Stratigraphy
ft	feet
GAC	Granular activated carbon
GOCO	Government-Owned Contractor-Operated
GPS	Global Positioning System
IDW	Investigation Derived Waste
IR	Installation Restoration
Katahdin	Katahdin Analytical Services
NAD	North American Datum
NAVD	North American Vertical Datum
NAVFAC	Naval Facilities Engineering Command
NG	Northrop Grumman
NTU	nephelometric turbidity units
NWIRP	Naval Weapons Industrial Reserve Plant
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
Pace	Pace Analytical Services LLC
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
POTW	Publicly Owned Treatment Works
PPB	Parts per billion
PPE	Personal Protective Equipment
PVC	Polyvinylchloride
SAP	Sampling and Analysis Plan

SP	Spontaneous potential
SPR	Single point resistivity
SPDES	State Pollution Discharge Elimination System
SVOC	Semivolatile Organic Compounds
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total dissolved solids
TKN	Total kjeldahl nitrogen
TOC	Total Organic Carbon
TSS	Total suspended solids
UFP	United Federal Programs
US	United States
VOC	Volatile Organic Compounds
VPB	Vertical Profile Boring
Zeigenfuss	Zeigenfuss Drilling Company

1.0 PROJECT BACKGROUND

Resolution Consultants has prepared this Installation Report for the Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic under contract task order WE80 Contract N62470-11-D-8013. This report describes the installation of recovery well RE137 at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage Operable Unit (OU) 2 Site 1 offsite plume. NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1).

1.1 Scope and Objectives

The scope of work was to install a recovery well for the purpose of groundwater investigation characterizing the local aquifer and developing hydrogeologic parameters needed to assess the future locations and design of the RE108 Hotspot recovery well(s). The location of RE137, as well as accompanying Vertical Profile Boring (VPB) 171, is shown in Figure 2.

This report provides information on the installation of recovery well RE137 associated with VPB171 including construction of the well, well development, soil/groundwater analysis and surveying. Tasks associated with the step drawdown test, constant rate aquifer test, development of aquifer parameters, and capture zone analysis will be provided in *Aquifer Test and Capture zone Analysis for Well RE137, RE108 Hot Spot* (Resolution Consultants, in prep 2017a).

Field tasks were conducted in 2017 in accordance with the *United Federal Programs Sampling and Analysis Plan (UFP SAP) Site 1 OU2 Offsite TCE Groundwater Plume Investigation*, NWIRP Bethpage, New York (Resolution, 2013). In addition, the work adhered to the *Abbreviated Work Plan – Vertical Profile Boring/Recovery Well Installation and Aquifer Testing for RE108 Hotspot, Naval Weapons Industrial Reserve Plant (NWIRP), Bethpage, New York* (Resolution Consultants, 2016) .

Documentation of these activities is included in Appendix A of this report.

1.2 Site History

NWIRP Bethpage is in the Hamlet of Bethpage, Town of Oyster Bay, New York. Since its inception in 1941, the plant's primary mission was the research, prototyping, testing, design, engineering, fabrication, and primary assembly of military aircraft. The facilities at NWIRP included four plants used for assembly and prototype testing, a group of quality control laboratories, two warehouse complexes (north and south), a salvage storage area, water recharge basins, the Industrial Wastewater Treatment Plant, and several smaller support buildings.

The Navy's property originally totaled 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by Northrop Grumman (NG) until September 1998. Prior to 2002, the NWIRP property was bordered on the north, west, and south by current or former NG facilities, and on the east by a residential neighborhood. By March 2008, approximately 100 acres of NWIRP property were transferred to Nassau County in three separate actions. The remaining 9 acres and access easements were retained by the Navy to continue remedial efforts at Installation Restoration (IR) Site 1 – Former Drum Marshalling Area and Site 4 – Former Underground Storage Tanks (Area of Concern [AOC] 22). A parcel of land connecting the two sites was also retained. Currently, the 9-acre parcel of NWIRP is bordered on the east by the residential neighborhood and on the north, south, and west by Steel Equities; however, a small portion is still owned by Nassau County. Access to the NWIRP is from South Oyster Bay Road.

Beginning in 2012, in response to increasing trichloroethene (TCE) concentrations at the Bethpage Water District Plant 6 public water supply well south of the ONCT, the Navy initiated an investigation in this area to identify the potential sources and pathways of site related contaminations. During the course of further investigation, VPB142 and associated wells RE108D1 and RE108D2 were installed in October 2013. The subsequent three consecutive quarterly groundwater sampling results established the boundaries of the present RE108 Hot Spot location. The hot spot plume is approximately 4,500 feet (ft) long by 1,990 ft wide as shown in Figure 2, and 500 to 800 feet deep.

1.3 Geology and Hydrogeology

Overburden at the site consists of well over 1,000 feet (ft) of unconsolidated deposits overlying crystalline bedrock of the Hartland Formation. Overburden is divided into four geologic units: the upper Pleistocene deposits, the Magothy Formation, the clay member of the Raritan Formation ("Raritan Clay") and the Lloyd Sand member of the Raritan Formation ("Lloyd Sand") (Geraghty and Miller, 1994).

The upper Pleistocene ranges in thickness from approximately 50 to 100 ft and consists of till and outwash deposits of medium to coarse sand and gravel with lenses of fine sand, silt and clay (Smolensky and Feldman, 1988); these deposits form the Upper Glacial Aquifer. Directly underlying this unit is the Magothy Formation with a thickness of 650 to 900 ft and lower extent of 700 to 1,000 ft below ground surface (bgs), as observed at the former NWIRP and extending southeast to areas south of Southern State Parkway. The Magothy is characterized by fine to medium sands and silts interbedded with zones of clays, silty sands and sandy clays. Sand and gravel lenses are found

in some areas between depths of 600 and 880 ft bgs; these deposits form the main producing zones of the Magothy Aquifer.

Investigations performed by the Navy since 2012 indicate that the bottom of the Magothy (top of the Raritan Clay) can extend to depths of 700 to greater than 1,000 ft bgs. The top of the Raritan Clay deepens to the south-southeast, as evidenced by clay depths of 1,000 ft bgs (or more) in borings installed offsite. The Raritan Clay Unit is of continental origin and consists of clay, silty clay, clayey silt, and fine silty sand. This member acts as a confining layer over the Lloyd Sand Unit. The Lloyd Sand Unit is also of continental origin, having been deposited in a large fresh water lacustrine environment. The material consists of fine to coarse-grained sands, gravel, inter-bedded clay, and silty sand. These deposits form the Lloyd Aquifer.

The Upper Glacial Aquifer and the Magothy Aquifer comprise the aquifers of interest at the NWIRP. Regionally, these formations are generally considered to form a common, interconnected aquifer as the coarse nature of each unit near their contact and the lack of any regionally confining clay unit allows for the unrestricted flow of groundwater between the formations.

The Magothy Aquifer is the major source of public water in Nassau County. The most productive water bearing zones are the discontinuous lenses of sand and gravel that occur within the siltier matrix. The major water-bearing zones are coarse sand and gravel lenses located in the lower portion of the Magothy. The Magothy Aquifer is commonly regarded to function overall as an unconfined aquifer at shallow depths and a confined aquifer at deeper depths. The drilling program at the NWIRP has revealed that clay zones beneath the facility are common but laterally discontinuous. No confining clay units of facility-wide extent have been encountered.

Groundwater is encountered at a depth of approximately 50 ft bgs at the facility. Historically, because of pumping and recharge at the facility, groundwater depths have been measured to range from 40 to 60 ft bgs. The groundwater flow in the area is to the south-southeast.

Resolution Consultants reviewed the geologic data and regional literature and developed four representative base-wide cross sections to support development of a Conceptual Site Model (CSM). A description of the application of Environmental Sequence Stratigraphy (ESS) and the results are provided in Appendix B.

2.0 FIELD PROGRAM

One recovery well was installed at the location of VPB171 between December 2016 and January 2017. Field investigation activities consisted of drilling, well installation, well development, soil/groundwater analysis and surveying. Drilling during this investigation was performed by Zeigenfuss Drilling Company of Ringoes, NJ (Zeigenfuss) and Delta Well and Pump Company of Ronkonkoma, New York (Delta). A description of these tasks is provided below.

2.1 Data from Vertical Profile Boring 171

Data collected at VPB171 was used to design the recovery well. *2017 OU2 Groundwater Investigation Data Summary Report VPB171* (Resolution Consultants, in prep 2017b) documents the installation of VPB171 including: detailed lithologic descriptions; continuous gamma, spontaneous potential (SP), and single point resistivity (SPR) geophysical logs; split spoon samples; and multiple Volatile Organic Compounds (VOC) sample results analyzed using EPA method 8260C over the entire boring length. A plot showing the geophysical, trichloroethene (TCE) and tetrachloroethene (PCE) data for VPB171 along with the well screen interval at RE137 is included in Appendix A of this report.

During VPB171 installation, eight split spoons were collected along the borehole. Five of the spoon samples were collected across the recovery well's targeted screen interval at 628, 663, 688, 713 and 748 ft bgs and were submitted to Katahdin Analytical Services (Katahdin) for grain size analysis by ASTM422. The grain size analysis results were used to design the well screen slot size and filter pack specifications for the recovery well. The five grain size samples met the Terzaghi design criteria when using the No. 30 Filter Pack. A screen slot size of 0.030" was recommended based on retention of 90-95% of the No. 30 filter pack. Appendix A includes documentation of the grain size analysis data and evaluation.

2.2 Recovery Well Installation

The 12-inch recovery well (RE137) was installed next to the location of VPB171 using the reverse circulation drilling technique. On December 1 and 2, 2016 Zeigenfuss installed a permanent 20-inch steel casing to 84 ft bgs in concrete to support the upper borehole walls. Reverse rotary drilling by Delta began on January 3, 2017 and the completion depth of 764 ft bgs was reached on January 17, 2017. Well drilling was completed on January 26, 2017.

The stainless steel well screen was designed to intercept contaminated groundwater at the depth of the TT101D2 monitoring well screen interval gravel zone (740 to 760 ft bgs) and extend upward to

intercept shallower contaminated groundwater consistent with the screen interval for RE120D1 (630 to 650 ft bgs). The final screen interval at RE137 is 630 to 745 ft bgs.

Well construction consisted of 12-inch schedule 40 153P black steel casing to 630 ft bgs, 115 ft of Johnson Hi-Flow 304SS stainless steel 0.030 inch slot screen to 745 ft bgs and a 5 ft sump to 750 ft bgs. On January 27, 2017 the No. 30 filter pack was installed up to 580 ft bgs and the #00 well sand was installed up to 550 ft bgs. Grouting was conducted on January 28, 2017 and was topped off on January 30, 2017.

Threaded bottom caps were fitted to the bottom of the well and centralizers were installed at an interval of approximately 40 to 50 ft. The well was completed at the surface with a locking curb box, set in a 3 ft by 3 ft by 0.5 ft thick concrete pad. A layer of fine sand was installed above the grout slurry and inside the curb box to allow for drainage of water from the curb box. The top of the well riser was set approximately 6 inches below grade. A Lockable gripper cap was installed on the well riser top. Well construction information is summarized in Table 1 and a well construction diagram is provided in Attachment A, Section 3.

2.3 Well Development

The recovery well was developed starting on February 22, 2017 to evacuate drilling mud, silts and other fine-grained sediments which may have accumulated within the well and annulus during its installation. Airlift well development was conducted February 22, 24, 28, March 2, 3, 6, 7, 8, 9, and 10, 2017. Incremental airlifting was conducted in 5-foot intervals from 745 to 630 ft bgs. Final turbidity values for each zone ranged from 0.0-16.04 NTU.

Following airlift development, a 60 horsepower submersible pump with a capacity of 700 gpm was installed on March 15 and 16, 2017 at 140 feet bgs. Pump development was conducted on March 20, 2017. The pump was run at 700 gpm for 4.5 hours. Final drawdown was approximately 17.5' with a final turbidity of 0.00 NTu. Table 2 provides a timeline detailing the water management and sampling programs during well development, step test, and constant rate testing. Documentation of airlift and pump development is included in Table 3 and Appendix A.

2.4 Water Treatment and Sampling

Water pumped on February 22, 2017 and February 24, 2017 during airlift development was pumped into the 3 system frac tanks and discharged as investigation derived waste (IDW). All water pumped thereafter, through the constant rate test ending April 14, 2017, was run through a treatment system and discharged directly into Nassau County Sump #305, subject to discharge

limits documented in the State Pollution Discharge Elimination System (SPDES) equivalency permit. The process flow for the pre-filter and granular activated carbon (GAC) treatment system and the SPDES permit are included in Appendix A, Section 6.

The SPDES permit requires post-treatment aqueous grab samples to ensure effective removal of contaminants prior to discharge to Sump #305. Samples were analyzed by Pace Analytical Services LLC of Melville, NY (Pace), a New York State and Navy Approved Laboratory, using Environmental Protection Agency (EPA) Methods as per the following:

<u>Analytes</u>	<u>EPA Method of Testing</u>
VOCs	8260C
SVOCs	8270C
Total Suspended Solids (TSS)	SM2540D
pH	SM450H+B
Biological Oxygen Demand (BOD)	SM5210B
Total Dissolved Solids (TDS)	SM2540C
Total Nitrogen (TKN)	E351.2
Ammonia	E350.1
Total and Dissolved Metals	6010C
Total and Dissolved Mercury	7470A

All sampling required by the SPDES equivalency permit was accomplished. Water pumped during airlift development between February 28, 2017 and March 6, 2017 was held in frac tanks until the results of the first post-treatment sample were received. The GAC treatment system was started up temporarily on March 2, 2017 to collect the first post-treatment sample. Once results were received and reviewed for permit compliance, the GAC system was put online on March 6, 2017 to treat the water stored in frac tanks since February 28, 2017 and all water pumped thereafter prior to discharge to Sump #305. Samples were collected weekly after the results of the first post-treatment sample was received. A second post-treatment sample was collected on March 20, 2017 during pump development. The timing of the high frequency sampling during the constant rate test (every 6 hours) exceeded the sampling frequency requirements in the SPDES permit (once per week). Sample descriptions are included in Table 2 and results provided in Appendix A.

At the conclusion of the well development activities one influent sample was collected on March 28, 2017 to represent baseline aquifer conditions prior to the pump test. These results are summarized in Table 4. Data validation reports are included in Appendix A.

During the constant rate pumping test from April 11, 2017 through April 14, 2017, influent and effluent sample pairs were collected every 6 hours. Analytical results and data validation reports for all samples are included in Appendix A.

2.5 Decontamination and Investigation Derived Waste

Resolution Consultants utilized dedicated and disposable sampling equipment when possible to avoid the potential for cross-contamination of samples. The sampling equipment included dedicated plastic scoops, disposable polyethylene tubing, disposable gloves, and laboratory supplied sample bottles. Hand held equipment and split spoons were decontaminated using Luminol and water wash, a potable water rinse, followed by a distilled water rinse. Water was collected in 5-gallon pails or 55-gallon drums. All decontamination activities were consistent with the UFP SAP Addendum– *VPB and Monitoring Well Installation and Sampling* (Resolution Consultants, November 2013b).

As part of the IDW management practices and in accordance with the SAP, the investigation waste (consisting of soil cuttings, drilling muds, IDW fluids, and personal protective equipment [PPE]) generated during the well installation and sampling was containerized and staged at NWIRP Bethpage. IDW activities were consistent with the UFP SAP Addendum – *VPB and Recovery Well Installation and Sampling* (Resolution Consultants, 2016).

Soil and mud were transported to the staging area at NWIRP and transferred to either roll offs for solid waste or to a frac tank for liquids. IDW solids were containerized in roll offs. Representative samples from each roll off were submitted to Katahdin Analytical Services for analysis of:

- Target Compound List (TCL) VOCs
- TCL (SVOC)
- Toxicity Characteristic Leaching Procedure (TCLP) Metals
- Polychlorinated Biphenyls (PCBs)
- Total petroleum hydrocarbons
- Corrosivity
- Ignitability
- Reactive Cyanide
- Reactive Sulfide

- Paint Filter

2.6 Surveying

A survey of the recovery well location was conducted at the end of the fieldwork by C. T. Male, Inc., of Latham, NY, under the direct supervision of Resolution Consultants. The location was tied into the existing base map developed for this investigation. The survey elevation is referenced to the North American Vertical Datum (NAVD) 1988 and has a vertical accuracy of 0.01 foot. Vertical control is based on observations of the Continuously Operating Reference (COR) Stations Queens and Central Islip. The horizontal location is referenced to the North American Datum (NAD) 1983 (2011) NY. Long Island Zone 3104 and has an accuracy of 0.1 foot. Local horizontal and vertical control is based on Global Positioning System (GPS) observations using the NYSNet Real Time Network.

A table of survey data (latitude/longitude, northing/easting, elevations of ground, manhole and top of 12 inch casing) and a survey map is included in Appendix A, Section 8.

3.0 REFERENCES

Geraghty and Miller, Inc., 1994. *Remedial Investigation Report, Grumman Aerospace Corporation, Bethpage, New York*. Revised September 1994.

Resolution Consultants, 2013. *United Federal Programs Sampling and Analysis Plan, Site 1 OU2 Offsite Trichloroethene (TCE) Groundwater Plume Investigation, NWIRP Bethpage, New York*. April 2013.

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Tables

TABLE 1
RECOVERY WELL CONSTRUCTION SUMMARY
2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

WELL COMPLETION DATE	GROUND ELEVATION (MSL)	TOP OF STEEL ELEVATION (INNER CASING) (MSL)	WELL DEPTH (ft bgs)	SURFACE CASING DEPTH (ft bgs)	SCREEN INTERVAL (ft bgs)	SUMP DEPTH INTERVAL (ft bgs)	BORING DEPTH (ft bgs)
1/30/2017	85.53	85.15	750	84	630-745	745 - 750	764

MSL - mean sea level
ft bgs - feet below ground surface

TABLE 2
RE137 RECOVERY WELL DEVELOPMENT, TEST PUMPING AND SAMPLING TIMELINE
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Event	Date	Water management	Water Volume (gallons)*	Sample Description	Sample Date	Sample Time	Sample ID	SDG
Airlift well development	2/22/2017, 2/24/2017	To Frac tank #4, #5, #6 and discharged as IDW	Approximately 26,045 gal pumped from RE137	No samples				
	2/28, 3/2, 3/3, 3/6, 3/7, 3/8, 3/9, 3/10/2017	2/28 - 3/6 water held temporarily in Frac tanks until results of 3/2/17 sample received; 3/6/17 started GAC treatment and discharge to Sump #305	Approximately 89,100 gal pumped from RE137 and 87,900 gal through GAC	Development Post-Treatment (Effluent) Sample to ensure effective removal of contaminants by the GAC system; 3/2/17 GAC turned on temporarily and collected post-treatment sample	3/2/2017	1330	IDWGW-030217-GAC	7012530
Pump development	3/20/2017	GAC treatment and discharge to Sump #305	Approximately 198,300 gal pumped from RE137 and 184,900 gal through GAC	Development Post-Treatment (Effluent) Sample	3/20/2017	1430	IDWGW-032017-GAC	7013736
Collect baseline sample prior to pump test	3/28/2017			Baseline groundwater influent sample prior to pump test	3/28/2017	1400	RE137-GW-032817-INF	7014326
Step test at 100, 200, 300 gpm	4/10/2017	GAC treatment and discharge to Sump #305	Approximately 75,600 gal pumped from RE137 and 72,900 gal through GAC					
Constant Rate Test	4/11/2017	GAC treatment and discharge to Sump #305	Approximately 3,171,500 gal pumped from RE137 and 2,921,600 gal through GAC	Influent during pump test	4/11/2017	830	RE137-INF-041117-0830	7015463
				Effluent during pump test	4/11/2017	835	RE137-EFF-041117-0835	7015463
				Influent during pump test	4/11/2017	1400	RE137-INF-041117-1400	7015463
				Effluent during pump test	4/11/2017	1405	RE137-EFF-041117-1405	7015463
				Influent during pump test	4/11/2017	2000	RE137-INF-041117-2000	7015463
				Effluent during pump test	4/11/2017	2005	RE137-EFF-041117-2005	7015463
	4/12/2017			Influent during pump test	4/12/2017	205	RE137-INF-041217-0205	7015463
				Effluent during pump test	4/12/2017	210	RE137-EFF-041217-0210	7015463
				Influent during pump test	4/12/2017	800	RE137-INF-041217-0800	7015463
				Effluent during pump test	4/12/2017	805	RE137-EFF-041217-0805	7015463
				Influent during pump test	4/12/2017	1400	RE137-INF-041217-1400	7015777
				Effluent during pump test	4/12/2017	1405	RE137-EFF-041217-1405	7015777
	4/13/2017			Influent during pump test	4/12/2017	2000	RE137-INF-041217-2000	7015777
				Effluent during pump test	4/12/2017	2005	RE137-EFF-041217-2005	7015777
				Influent during pump test	4/13/2017	205	RE137-INF-041317-0205	7015777
				Effluent during pump test	4/13/2017	210	RE137-EFF-041317-0210	7015777
				Influent during pump test	4/13/2017	805	RE137-INF-041317-0805	7015777
				Effluent during pump test	4/13/2017	810	RE137-EFF-041317-0810	7015777
	4/14/2017			Influent during pump test	4/13/2017	1400	RE137-INF-041317-1400	7015908
				Effluent during pump test	4/13/2017	1405	RE137-EFF-041317-1405	7015908
				Influent during pump test	4/13/2017	2000	RE137-INF-041317-2000	7015908
				Effluent during pump test	4/13/2017	2005	RE137-EFF-041317-2005	7015908
				Influent during pump test	4/14/2017	205	RE137-INF-041417-0205	7015908
				Effluent during pump test	4/14/2017	210	RE137-EFF-041417-0210	7015908
				Influent during pump test	4/14/2017	810	RE137-INF-041417-0810	7015908
				Effluent during pump test	4/14/2017	815	RE137-EFF-041417-0815	7015908

* water volume as determined from RE137 totalizer and/or GAC treatment system totalizer
 GAC: granular activated carbon
 Sampled for: VOC, SVOC, total metals, dissolved metals, TKN, Ammonia, TSS, BOD, TDS, and pH

- VOC SW 8260C
- SVOC SW 8270D
- TOT METALS SW 7470A (Hg), 6010C
- DIS METALS SW 7470A (Hg), 6010C
- TKN E351.2
- Amonia Nitrogen E350.1
- TSS SM 2540D
- BOD SM 5210B
- TDS SM 2540C
- Ph SM 4500H+B

TABLE 3
RECOVERY WELL DEVELOPMENT SUMMARY
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

AIR DEVELOPMENT		PUMP DEVELOPMENT			APPROX. TOTAL DEVELOPMENT VOLUME (GAL)	FINAL TURBIDITY (NTUs)
DATE	APPROX. VOLUME (GAL)	DATE	FINAL PUMP DEPTH (FT BGS)	APPROX. VOLUME (GAL)		
2/22,24,28 and 3/2,3,6,7,8,9,10	115,145	3/20/2017	140	198,300	313,445	0.00

GAL - gallon

FT BGS - feet below ground surface

NTUs - Nephelometric Turbidity Units

TABLE 4. ANALYTICAL DATA SUMMARY
RE137 POST-DEVELOPMENT BASELINE MARCH 28, 2017
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location		RE137
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	3/28/2017
Sample ID		RE137-GW-032817-INF
Sample type code		N
VOC 8260C	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	<1 U
1,1,2,2-TETRACHLOROETHANE	5	<1 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	29.1
1,1,2-TRICHLOROETHANE	1	1.2
1,1-DICHLOROETHANE	5	1.2
1,1-DICHLOROETHENE	5	<1 U
1,2,4-TRICHLOROBENZENE	5	<1 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	<1 U
1,2-DIBROMOETHANE	NL	<1 U
1,2-DICHLOROBENZENE	3	<1 U
1,2-DICHLOROETHANE	5	<1 U
1,2-DICHLOROPROPANE	1	<1 U
1,3-DICHLOROBENZENE	3	<1 U
1,4-DICHLOROBENZENE	3	<1 U
1,4-DIOXANE	NL	<100 UJ
2-BUTANONE	50	<1 U
2-HEXANONE	50	<1 U
4-METHYL-2-PENTANONE	NL	<1 U
ACETONE	50	<5 U
BENZENE	1	<1 U
BROMODICHLOROMETHANE	50	<1 U
BROMOFORM	50	<1 U
BROMOMETHANE	5	<1 U
CARBON DISULFIDE	60	<1 U
CARBON TETRACHLORIDE	5	4.2
CHLOROBENZENE	5	<1 U
CHLOROETHANE	5	<1 U
CHLOROFORM	7	1.9
CHLOROMETHANE	5	<1 U
CIS-1,2-DICHLOROETHENE	5	4.7
CIS-1,3-DICHLOROPROPENE	0.4	<1 U
CYCLOHEXANE	NL	<1 U
DIBROMOCHLOROMETHANE	5	<1 U
DICHLORODIFLUOROMETHANE	5	<1 U
ETHYLBENZENE	5	<1 U
ISOPROPYLBENZENE	5	<1 U
M- AND P-XYLENE	NL	<1 U
METHYL ACETATE	NL	<1 U
METHYL CYCLOHEXANE	NL	<1 U
METHYL TERT-BUTYL ETHER	10	<1 U
METHYLENE CHLORIDE	5	<1 U
O-XYLENE	NL	<1 U
STYRENE	5	<1 U
TETRACHLOROETHENE	5	3.8 J
TOLUENE	5	<1 U
TRANS-1,2-DICHLOROETHENE	5	<1 U
TRANS-1,3-DICHLOROPROPENE	0.4	<1 U
TRICHLOROETHENE	5	1920
TRICHLOROFLUOROMETHANE	5	<1 U
VINYL CHLORIDE	2	<1 U
XYLENES, TOTAL	5	<1 U

TABLE 4. ANALYTICAL DATA SUMMARY
 RE137 POST-DEVELOPMENT BASELINE MARCH 28, 2017
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location		RE137
Sample Date	NYSDEC Groundwater	3/28/2017
Sample ID	Guidance or Standard Value (Note 1)	RE137-GW-032817-INF
Sample type code		N
SVOCs 8270D	(ug/L)	(ug/L)
1,1-BIPHENYL	5	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	<5.0 UJ
2,4,5-TRICHLOROPHENOL	NL	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	<5.0 U
2,4-DICHLOROPHENOL	1	<5.0 U
2,4-DIMETHYLPHENOL	1	<5.0 U
2,4-DINITROPHENOL	1	<10.0 U
2,4-DINITROTOLUENE	5	<5.0 U
2,6-DINITROTOLUENE	5	<5.0 U
2-CHLORONAPHTHALENE	NL	<5.0 U
2-CHLOROPHENOL	NL	<5.0 U
2-METHYLNAPHTHALENE	NL	<5.0 U
2-METHYLPHENOL	NL	<5.0 U
2-NITROANILINE	5	<5.0 UJ
2-NITROPHENOL	NL	<5.0 U
3- AND 4-METHYLPHENOL	NL	<5.0 U
3,3-DICHLOROBENZIDINE	5	<5.0 U
3-NITROANILINE	5	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	<10.0 U
4-BROMOPHENYL-PHENYLEETHER	NL	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	<5.0 U
4-CHLOROANILINE	5	<5.0 U
4-CHLOROPHENYL-PHENYLEETHER	NL	<5.0 U
4-NITROANILINE	5	<5.0 U
4-NITROPHENOL	NL	<10.0 U
ACENAPHTHENE	NL	<5.0 U
ACENAPHTHYLENE	NL	<5.0 U
ACETOPHENONE	NL	<5.0 U
ANTHRACENE	NL	<5.0 U
ATRAZINE	7.5	<5.0 U
BENZALDEHYDE	NL	<5.0 U
BENZO[A]ANTHRACENE	NL	<5.0 U
BENZO[A]PYRENE	NL	<5.0 U
BENZO[B]FLUORANTHENE	NL	<5.0 U
BENZO[G,H,I]PERYLENE	NL	<5.0 U
BENZO[K]FLUORANTHENE	NL	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	<5.0 U
BUTYLBENZYLPHTHALATE	NL	<5.0 U
CAPROLACTAM	NL	<5.0 U
CARBAZOLE	NL	<5.0 UJ
CHRYSENE	NL	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	<5.0 U
DIBENZOFURAN	NL	<5.0 U
DIETHYLPHTHALATE	NL	<5.0 U
DIMETHYL PHTHALATE	NL	<5.0 U
DI-N-BUTYLPHTHALATE	50	<5.0 U
DI-N-OCTYLPHTHALATE	NL	<5.0 U
FLUORANTHENE	NL	<5.0 U
FLUORENE	NL	<5.0 U
HEXACHLOROBENZENE	0.04	<5.0 U
HEXACHLOROBUTADIENE	0.5	<5.0 U

TABLE 4. ANALYTICAL DATA SUMMARY
RE137 POST-DEVELOPMENT BASELINE MARCH 28, 2017
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location		RE137
Sample Date		3/28/2017
Sample ID	NYSDEC Groundwater Guidance or Standard Value (Note 1)	RE137-GW-032817-INF
Sample type code		N
SVOCs 8270D	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	<5.0 U
HEXACHLOROETHANE	5	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	<5.0 U
ISOPHORONE	NL	<5.0 U
NAPHTHALENE	NL	<5.0 U
NITROBENZENE	0.4	<5.0 U
N-NITROSODINPROPYLAMINE	NL	<5.0 U
N-NITROSODIPHENYLAMINE	NL	<5.0 U
PENTACHLOROPHENOL	1	<10.0 UJ
PHENANTHRENE	NL	<5.0 U
PHENOL	1	<5.0 U
PYRENE	NL	<5.0 U

TABLE 4. ANALYTICAL DATA SUMMARY
 RE137 POST-DEVELOPMENT BASELINE MARCH 28, 2017
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value (Note 1)	RE137
Sample Date					3/28/2017
Sample ID					RE137-GW-032817-INF
Sample type code					N
Method	Analyte	Fraction	Units	(ug/L)	
2540C	TOTAL DISSOLVED SOLIDS	N	mg/L	500	55.0
2540D	TOTAL SUSPENDED SOLIDS	N	mg/L	NL	<10.0 U
350.1	AMMONIA	N	mg/L	2000	<0.10 U
351.2	NITROGEN, TOTAL	N	mg/L	NL	<0.10 U
4500_H+_B	pH	N	PH	NL	4.4 J
6010C	ALUMINUM	Dissolved	ug/L	NL	<200 U
6010C	ALUMINUM	N	ug/L	NL	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	<60.0 U
6010C	ANTIMONY	N	ug/L	3	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	<10.0 U
6010C	ARSENIC	N	ug/L	25	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	<200 U
6010C	BARIUM	N	ug/L	1000	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	<5.0 U
6010C	BERYLLIUM	N	ug/L	NL	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	<2.5 U
6010C	CADMIUM	N	ug/L	5	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	3430
6010C	CALCIUM	N	ug/L	NL	3470
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	<10.0 U
6010C	CHROMIUM, TOTAL	N	ug/L	50	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	<50.0 U
6010C	COBALT	N	ug/L	NL	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	<25.0 U
6010C	COPPER	N	ug/L	200	<25.0 U
6010C	IRON	Dissolved	ug/L	300	171
6010C	IRON	N	ug/L	300	311
6010C	LEAD	Dissolved	ug/L	25	<5.0 U
6010C	LEAD	N	ug/L	25	<5.0 U
6010C	MAGNESIUM	Dissolved	ug/L	NL	1270
6010C	MAGNESIUM	N	ug/L	NL	1320
6010C	MANGANESE	Dissolved	ug/L	300	11.0
6010C	MANGANESE	N	ug/L	300	11.8
6010C	NICKEL	Dissolved	ug/L	100	<40.0 U
6010C	NICKEL	N	ug/L	100	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	<5000 U
6010C	POTASSIUM	N	ug/L	NL	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	<10.0 U
6010C	SELENIUM	N	ug/L	10	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	<10.0 U
6010C	SILVER	N	ug/L	50	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	12600
6010C	SODIUM	N	ug/L	20000	12900
6010C	THALLIUM	Dissolved	ug/L	NL	<10.0 U
6010C	THALLIUM	N	ug/L	NL	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	<50.0 U
6010C	VANADIUM	N	ug/L	NL	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	44.0
6010C	ZINC	N	ug/L	NL	44.4
7470A	MERCURY	Dissolved	ug/L	0.7	<0.20 U
7470A	MERCURY	N	ug/L	0.7	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	N	mg/L	NL	<2.0 U

TABLE 4. ANALYTICAL DATA SUMMARY
RE137 POST-DEVELOPMENT BASELINE MARCH 28, 2017
2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

Notes:

1. New York State Department of Environmental Conservation Division of Water Technical and Operation Guidance series (6 NYCRR 700-706, Part 703.5 summarized in TOGS 1.1.1). Ambient water quality standards and groundwater effluent limitations, class GA;
NL = Not Listed

Bold = Detected; **Bold and Italics** = Not detected exceeds NYS Groundwater Standards or guidance value
Yellow highlighted values exceed Groundwater Standards or guidance value

Sample type codes: N - normal environmental sample, FD - field duplicate

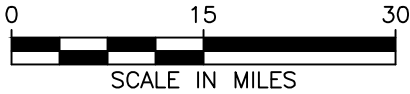
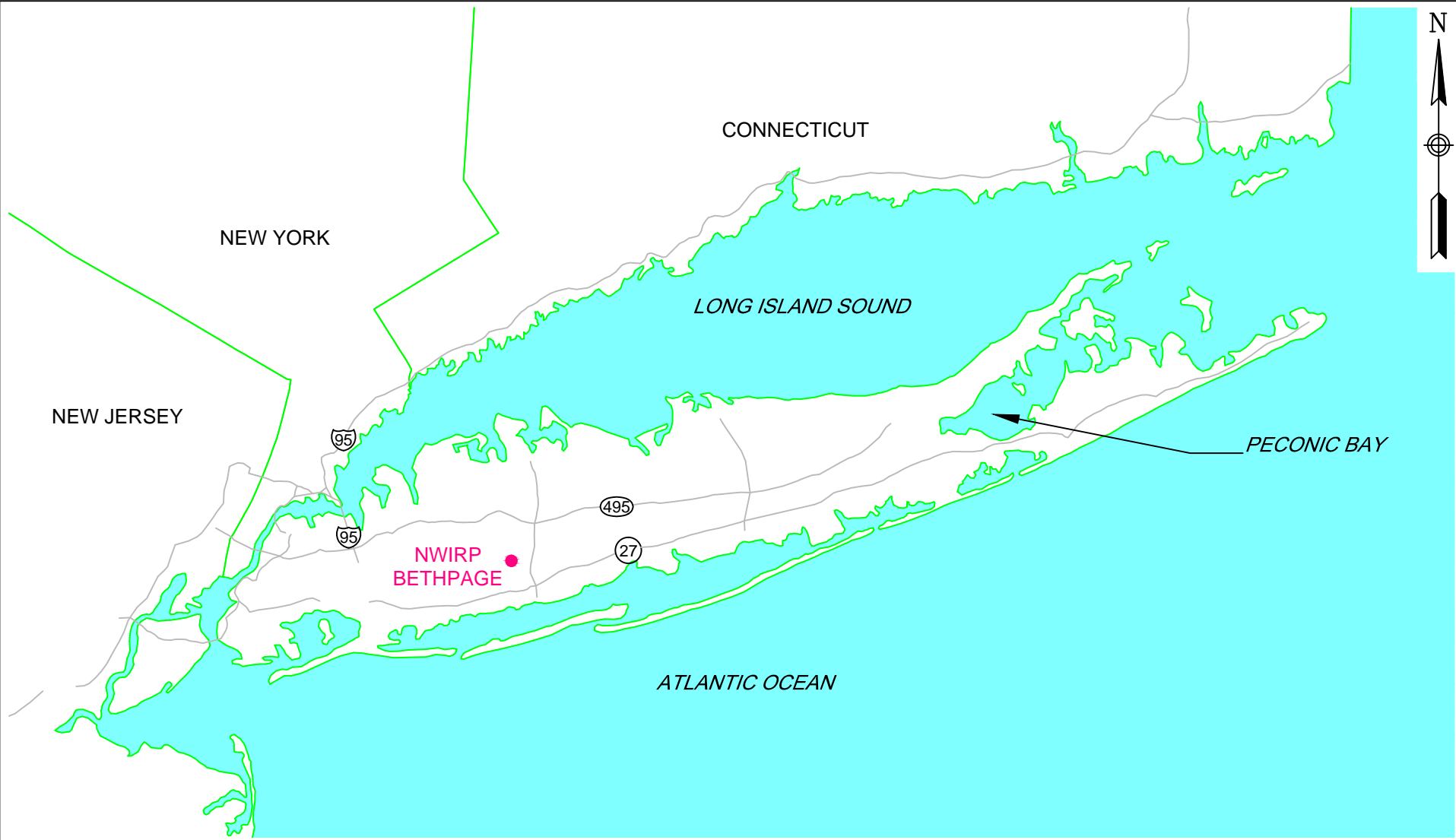
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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

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

Several volatile organic compound samples were diluted to bracket the concentration of the analyte within the calibration range of the instrument, therefore, raising the reporting limit for that sample.

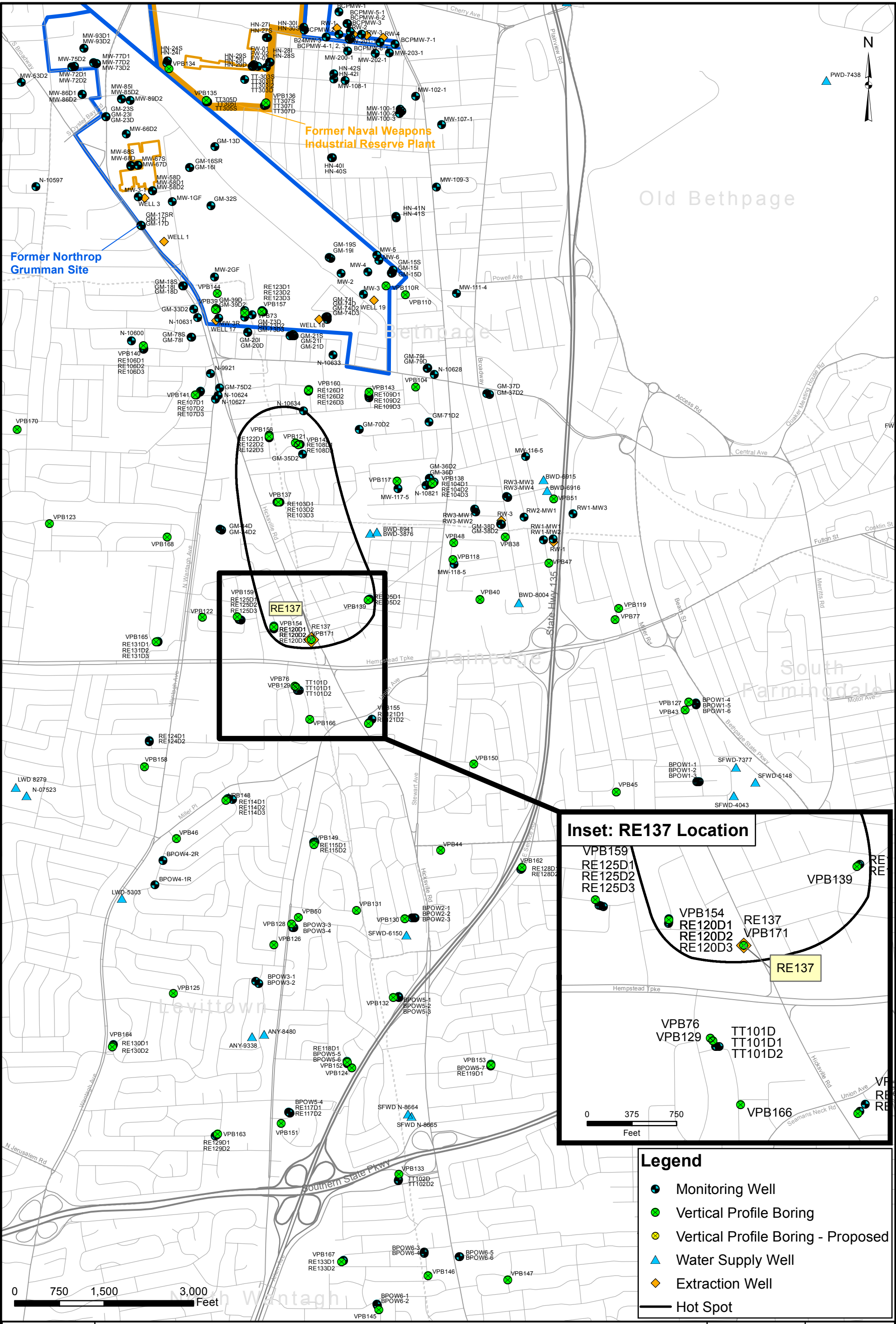
Figures



GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NUMBER N62470-11-D-8013		CTO NUMBER WE15	
APPROVED BY ---		DATE ---	
APPROVED BY ---		DATE ---	
FIGURE NO. 1			REV 0

F:\Projects\Navy\Bethpage\WXE0817.0 Deliverables\7.2 CADD\GIS_files\Bethpage\MAP DOCS\IMXD\MISC\Location Maps\F2 RE137 2017 06 14 R1.mxd



RE137 LOCATION MAP
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
 BETHPAGE, NEW YORK

CONTRACT NUMBER N62470-11-D8013	CTO NUMBER WE 15
APPROVED BY PS	DATE 10/4/2017
APPROVED BY	DATE
FIGURE NO. 2	REV 0

Appendices

Appendix A
Recovery Well RE137

Section 1
Boring Log

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		Logged By: V. Varricchio
Location: Nassau County Sump #305, Hicksville Rd., Bethpage, NY		Drilling Company: Delta Well & Pump
Project #: 60508906	Ground Elevation (msl): 85.53	Well Screen Interval (ft): 630-745
Start Date: 1/3/2017	Drilling Method: Auger (0-8' bgs) Reverse Rotary (>8' bgs)	Water Level (ft):
Finish Date: 1/30/2017	Northing: 204415.54 Easting: 1125692.43	Total Depth (ft): 764.0

DEPTH (ft)	PID (ppm)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	Well Completion	Well Construction
0					0 - 628 ft bgs: See VPB171 for Descriptions.		
50							20" Diameter Steel Casing
100							
150							
200							Bentonite Grout
250							
300							
350							
400							
450							12" Diameter Schedule 40 153P Black Steel
500							
550							Bentonite Seal
600							#00 Filter Sand

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		Logged By: V. Varricchio
Location: Nassau County Sump #305, Hicksville Rd., Bethpage, NY		Drilling Company: Delta Well & Pump
Project #: 60508906	Ground Elevation (msl): 85.53	Well Screen Interval (ft): 630-745
Start Date: 1/3/2017	Drilling Method: Auger (0-8' bgs) Reverse Rotary (>8' bgs)	Water Level (ft):
Finish Date: 1/30/2017	Northing: 204415.54 Easting: 1125692.43	Total Depth (ft): 764.0

DEPTH (ft)	PID (ppm)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	Well Completion	Well Construction
604					0 - 628 ft bgs: See VPB171 for Descriptions. (continued)		
606							#1 Filter Sand
608							
610							
612							
614							
616							
618							
620							
622							
624							
626							
628	0.0						
630			SP		Light grayish brown (10 YR 6/2) poorly graded fine SAND		
632							
634			SW		Gray (10 YR 5/1) well graded fine to coarse subangular SAND, trace fine subangular Gravel		
636							
638			SW		Very pale brown (10 YR 7/3) well graded fine to coarse subangular SAND, trace lean Clay		
640							
642							
644			CL		Dark gray (10 YR 4/1) lean CLAY, few poorly graded fine Sand		
646							
648							
650			SW		Gray (10 YR 6/1) well graded fine to coarse subangular SAND, trace lean Clay		
652							
654			SW		Gray (10 YR 6/1) well graded fine to coarse subangular SAND, trace lean Clay		
656							
658							
660			SW		Gray (10 YR 6/1) well graded fine to coarse subangular SAND, trace lean Clay		
662							
664	0.0						
666			SC		Light brownish gray (10 YR 6/2) Clayey poorly graded fine SAND		
668							
670			SC		Light brownish gray (10 YR 6/2) Clayey poorly graded fine SAND		
672							
674			SC		Light brownish gray (10 YR 6/2) Clayey poorly graded fine SAND		
676							
678							
680			GP		White (10 YR 8/1) poorly graded fine angular GRAVEL, trace well graded medium to coarse angular Sand		
682							

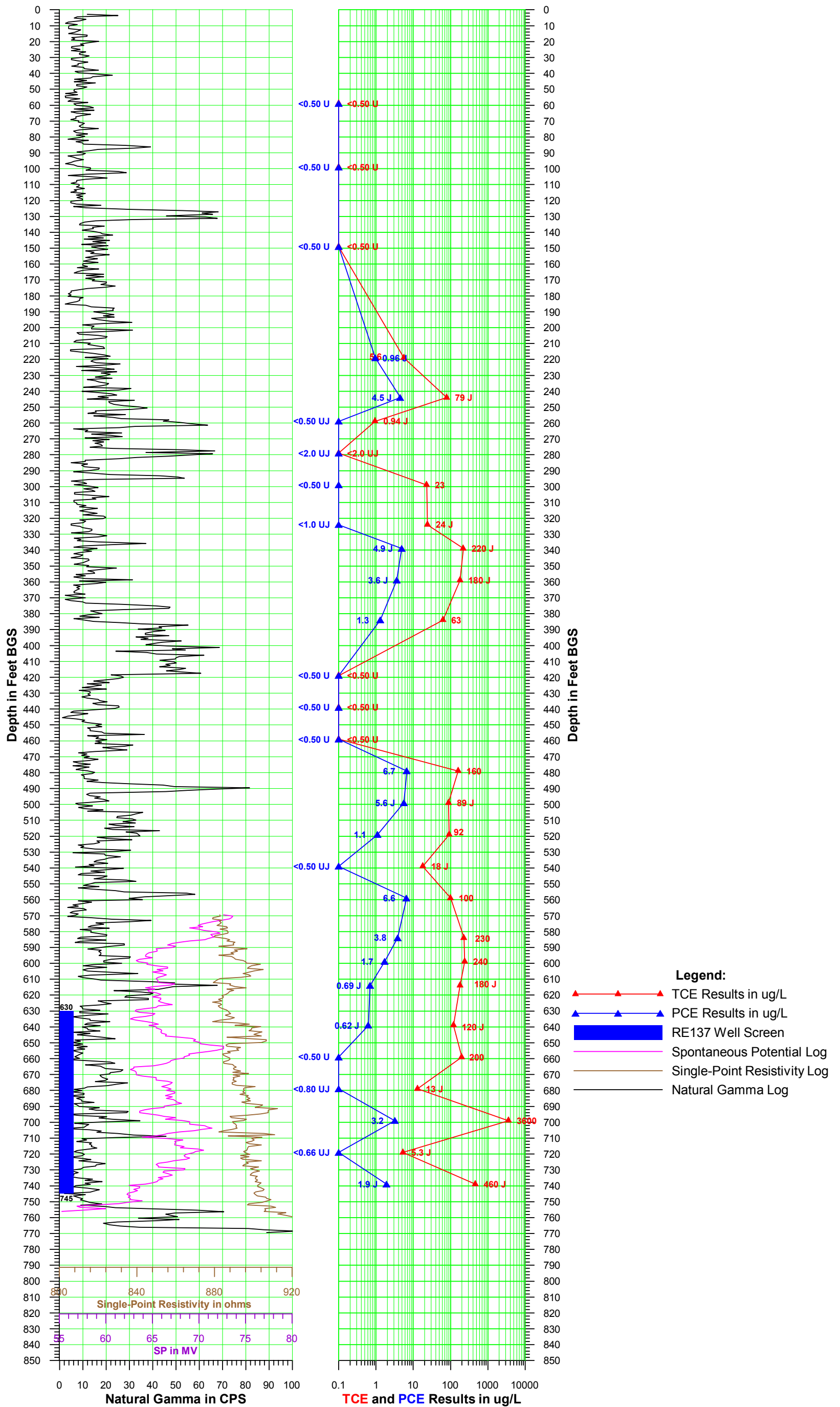
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DEPTH (ft)	PID (ppm)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	Well Completion	Well Construction
684	0.0		GP		White (10 YR 8/1) poorly graded fine angular GRAVEL, few well graded medium to coarse angular Sand		12" Diameter 304SS Johnson Hi-Flow Well Screen (630-745 ft bgs)
686			SW		Very pale brown (10 YR 7/4) well graded medium to coarse angular SAND, some poorly graded fine angular Gravel		
688							
690	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel			
692							
694	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel			
696							
698	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel			
700							
702	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel, trace lean clay			
704							
706	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular Sand, some poorly graded fine subangular GRAVEL, trace lean clay			
708							
710	SW			Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some well graded fine to coarse subangular Gravel			
712							
714	0.0	SW		Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel			
716							
718	SW		Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine subangular Gravel				
720							
722	SW		Very pale brown (10 YR 7/4) well graded medium to coarse subangular SAND, some poorly graded fine angular Gravel, trace lean clay				
724							
726	SW		Very pale brown (10 YR 7/4) well graded medium to coarse angular SAND, some well graded fine to coarse angular Gravel, trace lean clay				
728							
730	SW		Very pale brown (10 YR 7/4) well graded medium to coarse angular SAND, some well graded fine to coarse angular Gravel				
732							
734	SW		Light gray (10 YR 7/1) well graded fine to medium subangular SAND, some fat Clay				
736							
738	SC		Light gray (10 YR 7/1) well graded fine to medium subangular SAND, some fat Clay				
740							
742	SC		Very pale brown (10 YR 7/4) poorly graded fine SAND, trace poorly graded fine subangular Gravel				
744							
746	SP		Gray (10 YR 6/1) lean CLAY, little poorly graded fine Sand				
748							
750	0.0	CL		Gray (10 YR 6/1) lean CLAY, little poorly graded fine Sand			
752							
754	CL		Gray (10 YR 6/1) lean CLAY, little poorly graded fine Sand				
756							
758	CL		Gray (10 YR 6/1) lean CLAY, little poorly graded fine Sand				
760							
762	CL		Gray (10 YR 6/1) lean CLAY, little poorly graded fine Sand				
764							
End of boring at 764.0 ft. bgs.							

Section 2

VPB171 Gamma and TCE/PCE Plot

**Vertical Profile Boring VPB-171/Recovery Well RE137
Downward Run - November 22, 2016
Validated Analytical Data**



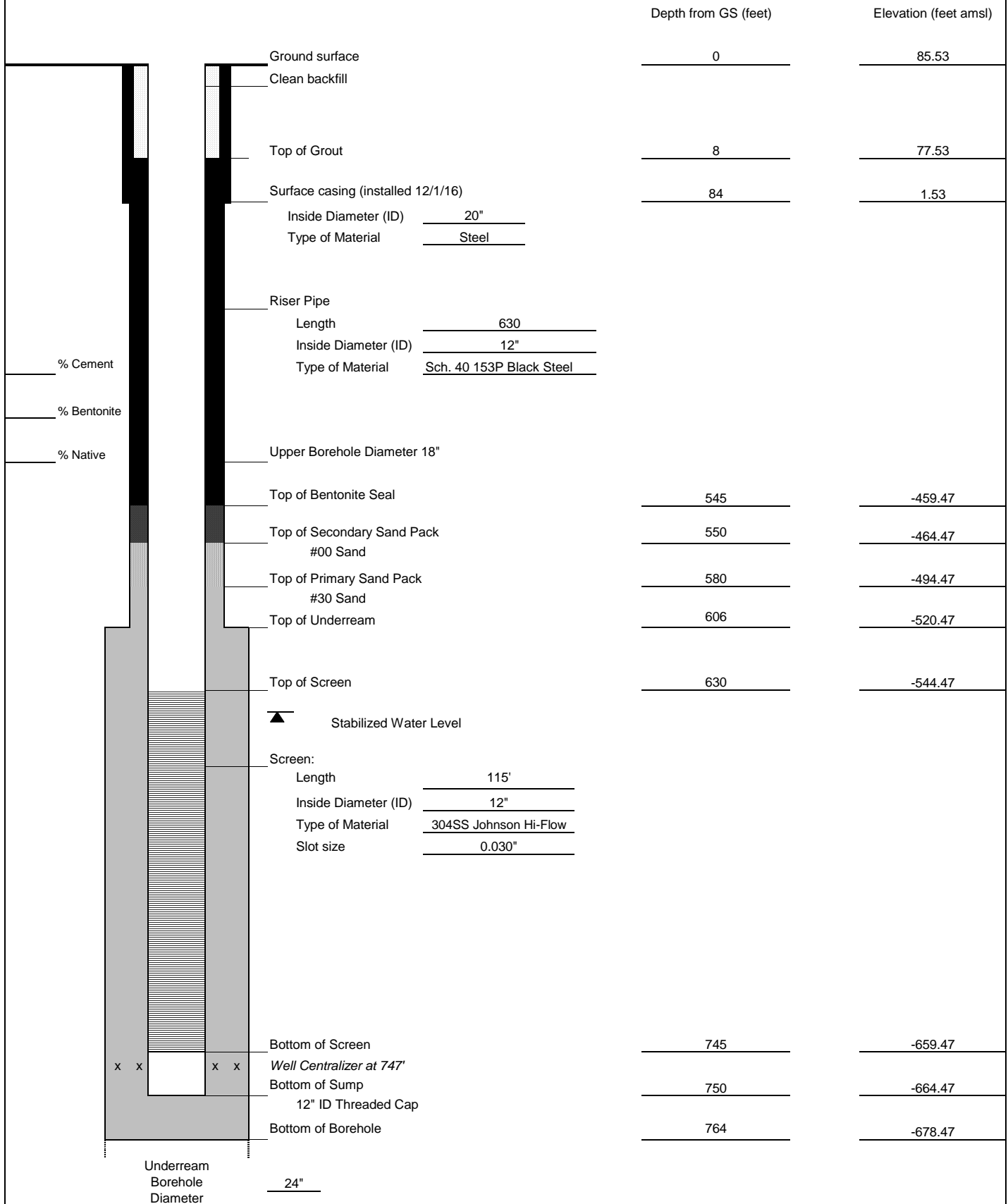
Section 3

Well Construction Log



Client: NWIRP - Bethpage	Project Number: 60508906	WELL ID: RE137
Site Location: NWIRP BETHPAGE, NY		
Well Location: Nassau County Sump #305, Hicksville Rd., Bethpage, NY	Date Installed: 1/3/2017 - 1/30/2017	
Method: Reverse Rotary	Inspector: Vincent Varricchio	
Coords: Northing: 204415.54 Easting: 1125692.43	Contractor: Delta Well & Pump	

RECOVERY WELL CONSTRUCTION DETAIL



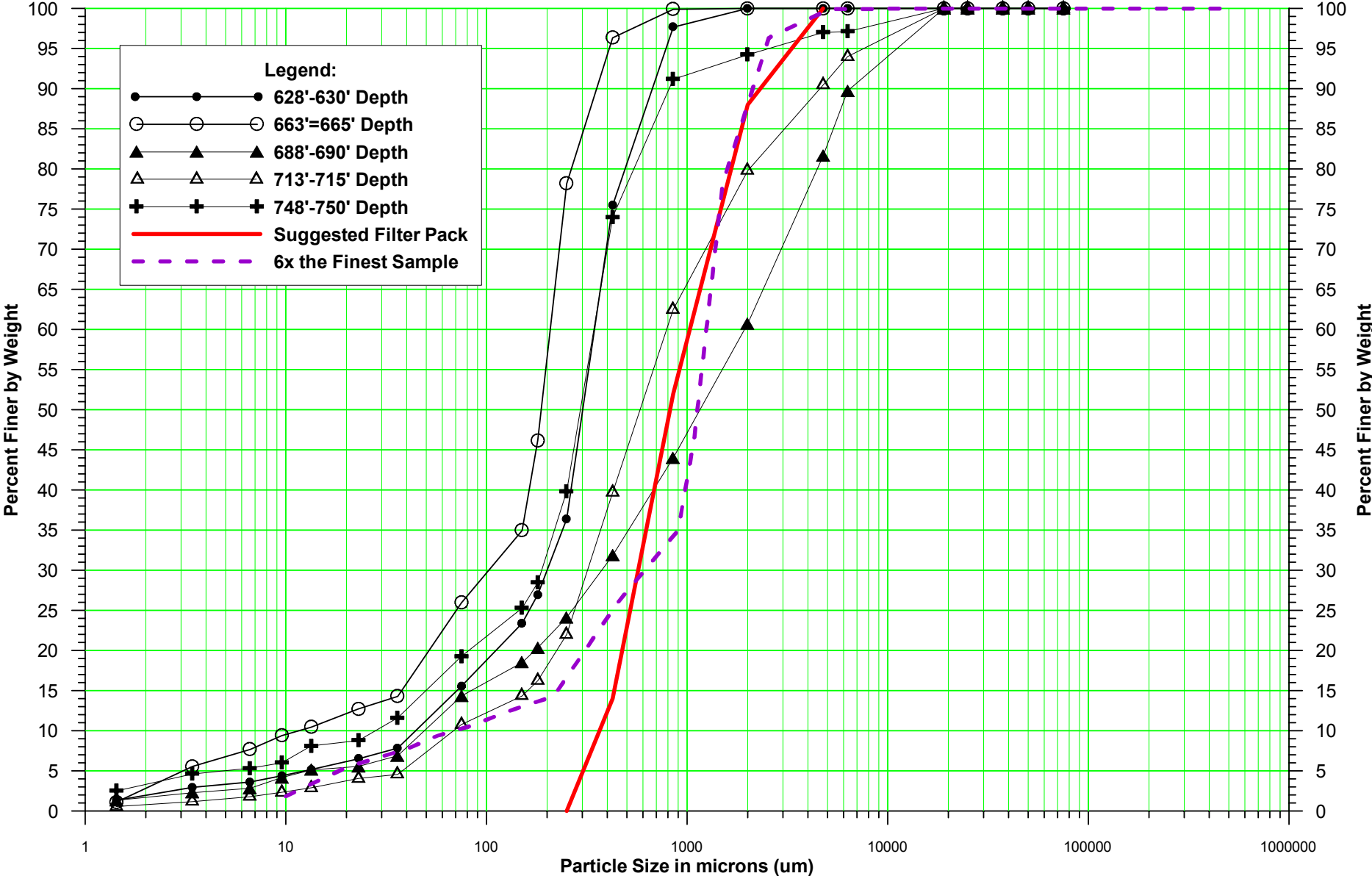
VINCENT VARRICCHIO
Signature

1/30/2017
Date

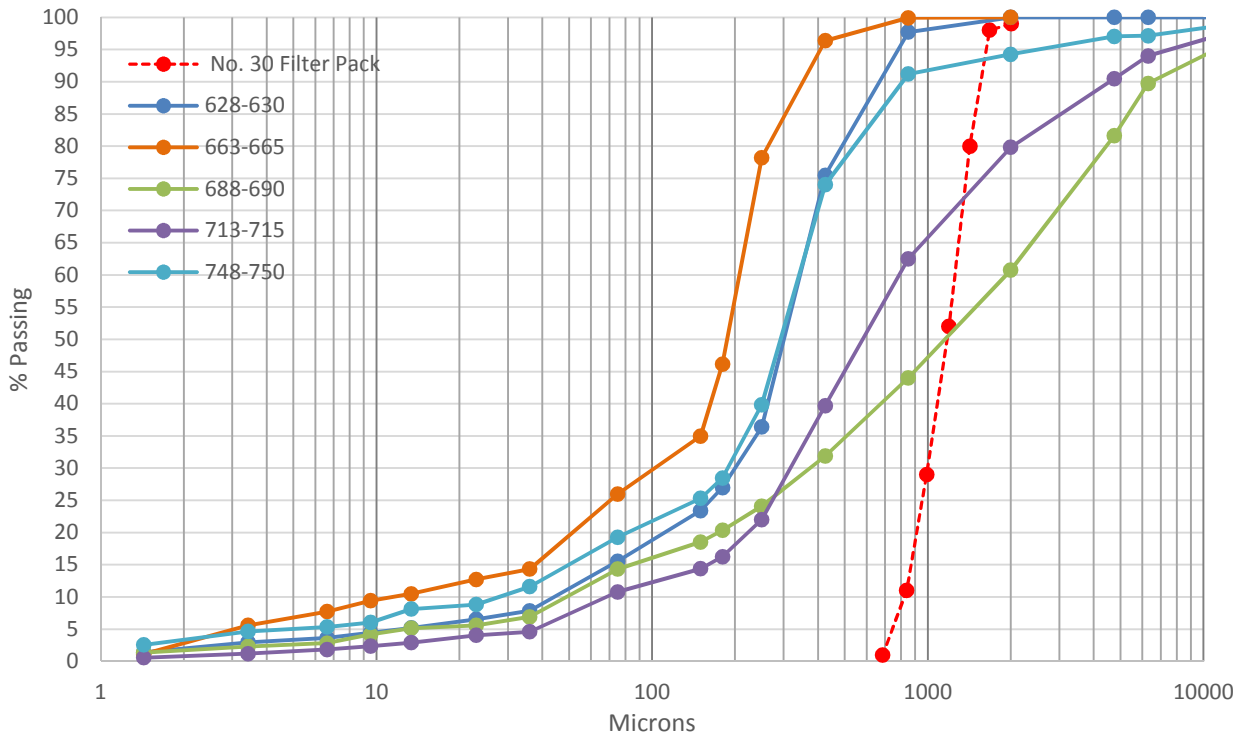
Section 4

Grain Size(Sieve) Analysis

Sieve Analysis for VPB171 Recovery Well RE137)



VPB171 Sieve Analysis and Terzaghi design criteria



Terzaghi: $\frac{d_{15} \text{ filter}}{d_{85} \text{ aquifer}} < 4 < \frac{d_{15} \text{ filter}}{d_{15} \text{ aquifer}}$

628-630: $\frac{870}{580} = 1.5$ $\frac{870}{71} = 12.25$

663-665: $\frac{870}{300} = 2.9$ $\frac{870}{36} = 24.17$

688-690: $\frac{870}{5300} = 0.16$ $\frac{870}{80} = 10.88$

713-715: $\frac{870}{3000} = 0.29$ $\frac{870}{155} = 5.61$

748-750: $\frac{870}{660} = 1.32$ $\frac{870}{50} = 17.40$

Katahdin Analytical Services

Grain Size

Project Review Checklist

Client: <u>Eusate</u>
Samples: <u>ST9584-6</u>

QC Level: IV

Report Due Date: 12/4

Data has been approved for release by: WAB

Date Released: 11/23

Data Review Criteria	Yes	No	N.A.	NCR Filed (List Date)
1 All analyses requested were performed (Review Work Order)	✓			
2 All raw transcriptions from logbook to spreadsheet have been reviewed.	✓			
3 Ten percent of spreadsheet calculations have been checked.	✓			
4 All other data and reported results have been reviewed.	✓			
5 All reporting units and significant figures are correct.	✓			
6 All submitted forms are accurate and legible.				
7 Reporting instructions and analysis instructions have been followed.	✓			
8 Field blanks are uncontaminated (i.e. < PQL).			✓	
9 Field duplicate RPD's within acceptance criteria.			✓	
10 For level I/II reports, graph form is submitted.	✓			
11 For level III/IV reports, all raw data and tab sheets are submitted.	✓			
12 Additional information to be included in cover letter as described below.			✓	

Comments (refer to numbers above; continue on back if necessary):

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-SO-1116-628-630
Lab Sample ID	SJ9584-6

Date Received	11/15/16
Start Date/Time	11/18/16:14:06
End Date/Time	11/26/16:12:32

Sample Weight	Sample (g)
Sample Weight (wet)	120.4
Sample Weight (oven dried)	100.78

Date/Time in oven	11/22/16:15:00
Date/Time out of oven	11/23/16:9:00

Hydrometer Data

Serial Number	379474
Cal Date:	11/21/16:08:03
Low Temp C	17.80
Low Temp Reading	1.0040
High Temp	20.60
High Temp Reading	1.0035
Hyd Cal Slope	-0.000179
Hyd Cal Intercept	0.007179
Soil Gravity	2.650000

% Moisture	16.293
------------	--------

Sample Split (Oven Dried)	Sample (g)
Sample >=#10	0
Sample <=#10	100.78
% Passing #10	100.00

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare	Pan+Sample	Sample	% Finer	Classification	Subclass
3"	75000	0	0	0	100	Gravel	
2"	50000	0	0	0	100	Gravel	
1.5"	37500	0	0	0	100	Gravel	
1"	25000	0	0	0	100	Gravel	
3/4"	19000	0	0	0	100	Gravel	
1/4"	6300	0	0	0	100.00	Gravel	
#4	4750	0	0	0	100.00	Gravel	
#10	2000	0.00	0.00	0	100.00	Sand	Coarse
#20	850	302.8	305.1	2.3	97.72	Sand	Medium
#40	425	273.9	296.3	22.4	75.49	Sand	Medium
#60	250	248	287.4	39.4	36.40	Sand	Fine
#80	180	328	337.5	9.5	26.97	Sand	Fine
#100	150	238.6	242.2	3.6	23.40	Sand	Fine
#200	75	227.8	235.7	7.9	15.56	Sand	Fine

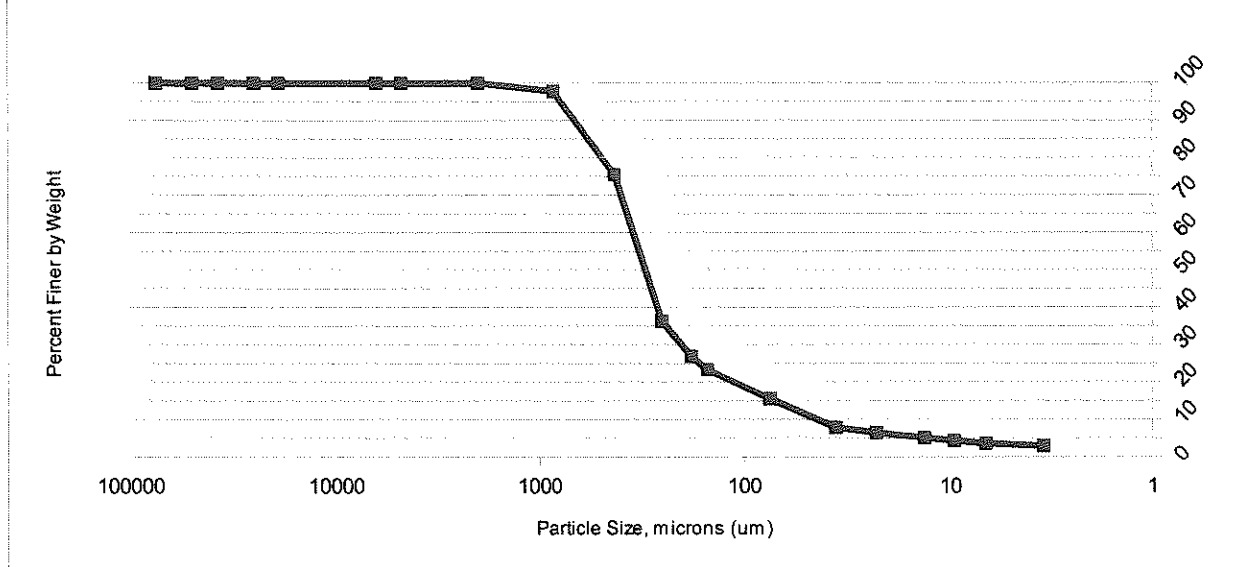
Silt/Clay Fraction (Hydrometer Test)

Time (min)	Actual Time	Spec. Gravity	Temp C	% Finer	Particle Size	Classification
2	2	1.0095	20	7.86	35.99	Silt
5	5	1.0085	20	6.53	23.00	Silt
15	15	1.0075	20	5.19	13.37	Silt
30	30	1.0070	19.5	4.41	9.52	Silt
60	64	1.0065	19	3.62	6.62	Silt
240	240	1.0060	19	2.95	3.42	Clay
1440	1440	1.0050	18	1.38	1.43	Clay

Gravel	0.00
Sand Coarse	0.00
Sand Medium	24.51
Sand Fine	59.93
Silt	12.42
Clay	3.14
Total =	100

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-SO-1116-628-630
Lab Sample ID	SJ9584-6



Data		
Sample Fraction	Particle Size	%Passing
3"	75000	100
2"	50000	100
1.5"	37500	100
1"	25000	100
3/4"	19000	100
1/4"	6300	100.00
#4	4750	100.00
#10	2000	100.00
#20	850	97.72
#40	425	75.49
#60	250	36.40
#80	180	26.97
#100	150	23.40
#200	75	15.56
2	35.99	7.86
5	23.00	6.53
15	13.37	5.19
30	9.52	4.41
64	6.62	3.62
240	3.42	2.95
1440	1.43	1.38

Gravel	0.00
Sand Coarse	0.00
Sand Medium	24.51
Sand Fine	59.93
Silt	12.42
Clay	3.14

Katahdin Analytical Services, LLC.
Sediment Grain Size - Method ASTM D422

Client	Ensafe	Date Received	
Client ID	171-50-1116-628-630	Start Date/Time	11-18-16: 14:00
Lab Sample ID	ST9584-6A	End Date/Time	11-23-16: 12:32

Sample Weight	Sample (g)	Date/Time in oven	11-22-16: 15:00
Sample Weight (wet)	120.4	Date/Time out of oven	11-23-16: 9:00
Sample Weight (oven dried)	100.78		

% Moisture	16.293	Hydrometer Data	
		Serial Number	374474
		Cal Date:	11-21-16: 6:03
Sample Split (Oven Dried)	Sample (g)	Low Temp C	17.8
Sample >=#10	0	Low Temp Reading	1.0040
Sample <=#10	100.78	High Temp	20.6
		High Temp Reading	1.0035
		Soil Gravity	2.65

Gravel/Sand Fraction (Sieves)			
Sample Fraction	Size (um)	Pan Tare	Pan+Sample
3"	75000		
2"	50000		
1.5"	37500		
1"	25000		
3/4"	19000		
1/4"	6300		
#4	4750		
#10	2000		
#20	850	302.8	305.1
#40	425	273.89	296.3
#60	250	248.0	237.7
#80	180	328.0	337.5
#100	150	238.6	242.2
#200	75	227.8	235.7
Pan	Pan	298.7	299.1

Silt/Clay Fraction (Hydrometer Test)				
Time (min)	Proposed Read Time	Actual Time (min)	Temp C	Spec. Gravity
2	8:04	8:04 (2)	19.9	1.0095
5	8:07	8:07 (5)	20.099	1.0085
15	8:17	8:17 (15)	19.8	1.0075
30	8:32	8:32 (30)	19.6	1.0070
60	9:02	9:06 (60)	19.1	1.0065
240	12:02	12:02 (240)	18.9	1.0060
1440	8:02	8:02 (1440)	17.9	1.0050

NARRATIVE

CLIENT: Ensafe
Work Order #: SJ9761

Grain Size Analysis

There were no protocol deviations or observations noted by the organics laboratory staff.

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111516-663-665
Lab Sample ID	SJ9761-4

Date Received	11/18/16
Start Date/Time	11/18/16:14:18
End Date/Time	11/23/16:12:45

Sample Weight	Sample (g)
Sample Weight (wet)	150.1
Sample Weight (oven dried)	118.88

Date/Time in oven	11/22/16:15:00
Date/Time out of oven	11/23/16:9:00

% Moisture	20.797
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Hydrometer Data

Serial Number	379474
Cal Date:	11/21/16:08:03
Low Temp C	17.80
Low Temp Reading	1.0040
High Temp	20.60
High Temp Reading	1.0035
Hyd Cal Slope	-0.000179
Hyd Cal Intercept	0.007179
Soil Gravity	2.650000

Sample Split (Oven Dried)	Sample (g)
Sample >=#10	0
Sample <=#10	118.88
%Passing #10	100.00

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare	Pan+Sample	Sample	%Finer	Classification	Subclass
3"	75000	0	0	0	100	Gravel	
2"	50000	0	0	0	100	Gravel	
1.5"	37500	0	0	0	100	Gravel	
1"	25000	0	0	0	100	Gravel	
3/4"	19000	0	0	0	100	Gravel	
1/4"	6300	0	0	0	100.00	Gravel	
#4	4750	0	0	0	100.00	Gravel	
#10	2000	0.00	0.00	0	100.00	Sand	Coarse
#20	850	302.8	302.9	0.1	99.92	Sand	Medium
#40	425	273.9	278.1	4.2	96.38	Sand	Medium
#60	250	248	269.6	21.6	78.21	Sand	Fine
#80	180	328	366.1	38.1	46.17	Sand	Fine
#100	150	238.6	251.9	13.3	34.98	Sand	Fine
#200	75	227.8	238.5	10.7	25.98	Sand	Fine

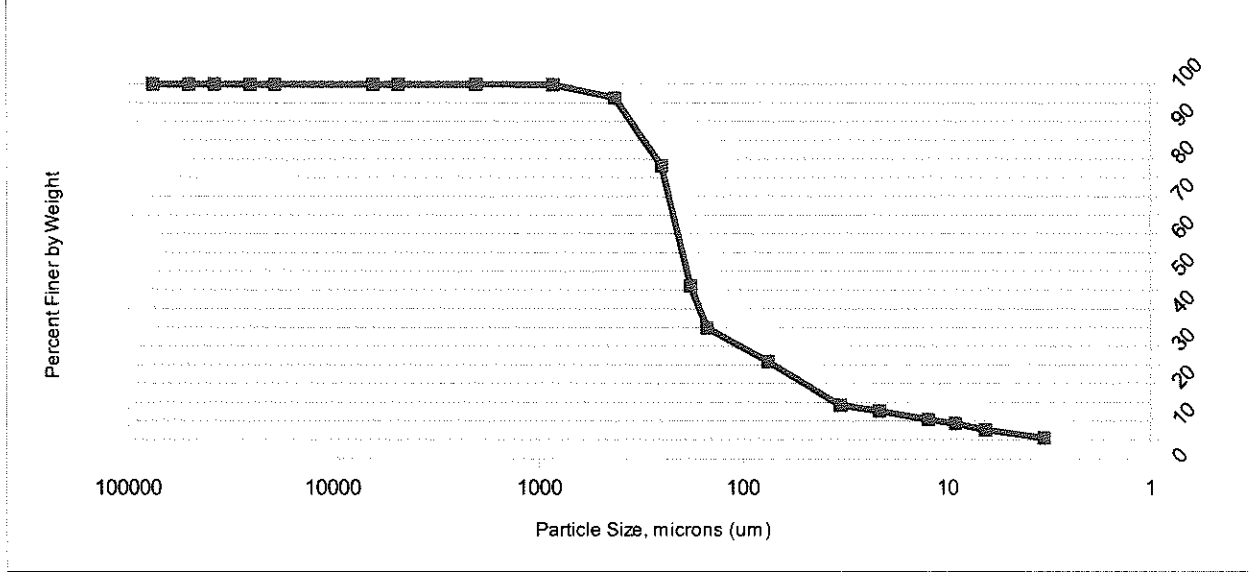
Silt/Clay Fraction (Hydrometer Test)

Time (min)	Actual Time	Spec. Gravity	Temp C	% Finer	Particle Size	Classification
2	2	1.0170	20	14.33	33.16	Silt
5	5	1.0155	20	12.73	21.41	Silt
15	16	1.0135	19.5	10.49	12.33	Silt
30	30	1.0125	19.5	9.42	9.08	Silt
60	61	1.0110	19	7.72	6.48	Silt
240	240	1.0090	19	5.58	3.33	Clay
1440	1440	1.0050	18	1.11	1.43	Clay

Gravel	0.00
Sand Coarse	0.00
Sand Medium	3.62
Sand Fine	70.40
Silt	19.84
Clay	6.14
Total =	100

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111516-663-665
Lab Sample ID	SJ9761-4



Data		
Sample Fraction	Particle Size	%Passing
3"	75000	100
2"	50000	100
1.5"	37500	100
1"	25000	100
3/4"	19000	100
1/4"	6300	100.00
#4	4750	100.00
#10	2000	100.00
#20	850	99.92
#40	425	96.38
#60	250	78.21
#80	180	46.17
#100	150	34.98
#200	75	25.98
2	33.16	14.33
5	21.41	12.73
16	12.33	10.49
30	9.08	9.42
61	6.48	7.72
240	3.33	5.58
1440	1.43	1.11

Gravel	0.00
Sand Coarse	0.00
Sand Medium	3.62
Sand Fine	70.40
Silt	19.84
Clay	6.14

Katahdin Analytical Services, LLC.
Sediment Grain Size - Method ASTM D422

Client	Ensafe	Date Received	11-18-16
Client ID	171-111516-663-665	Start Date/Time	11-18-16: 14:18
Lab Sample ID	5J9761.4 A	End Date/Time	11-23-16: 12:45

Sample Weight	Sample (g)	Date/Time in oven	11-22-16: 15:00
Sample Weight (wet)	150.1	Date/Time out of oven	11-23-16: 9:00
Sample Weight (oven dried)	118.88		

		Hydrometer Data	
% Moisture	20.797	Serial Number	379474
		Cal Date:	11-21-16: 8:03
Sample Split (Oven Dried)	Sample (g)	Low Temp C	17.8
Sample >=#10	0	Low Temp Reading	1.0040
Sample <=#10	118.88	High Temp	20.6
		High Temp Reading	1.0035
		Soil Gravity	2.65

Gravel/Sand Fraction (Sieves)			
Sample Fraction	Size (um)	Pan Tare	Pan+Sample
3"	75000		
2"	50000		
1.5"	37500		
1"	25000		
3/4"	19000		
1/4"	6300		
#4	4750		
#10	2000		
#20	850	302.8	302.9
#40	425	273.9	278.1
#60	250	248.0	269.6
#80	180	328.0	368.1
#100	150	238.6	251.9
#200	75	227.8	238.5
Pan	Pan	298.7	299.7

Silt/Clay Fraction (Hydrometer Test)				
Time (min)	Proposed Read Time	Actual Time (min)	Temp C	Spec. Gravity
2	8:11	8:11 (2)	20.0	1.0170
5	8:14	8:14 (5)	19.9	1.0155
15	8:24	8:25 (16)	19.6	1.0135
30	8:39	8:39 (30)	19.4	1.0125
60	9:09	9:10 (61)	19.1	1.0110
240	12:09	12:09 (240)	18.8	1.0090
1440	8:09	8:09 (1440)	17.8	1.0050

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111616-688-690
Lab Sample ID	SJ9761-7

Date Received	11/18/16
Start Date/Time	11/18/16:14:20
End Date/Time	11/23/16:13:20

Sample Weight	Sample (g)
Sample Weight (wet)	181.5
Sample Weight (oven dried)	159.70

Date/Time in oven	11/22/16:15:00
Date/Time out of oven	11/23/16:9:00

% Moisture 12.009

Hydrometer Data

Serial Number	379474
Cal Date:	11/21/16:08:03
Low Temp C	17.80
Low Temp Reading	1.0040
High Temp	20.60
High Temp Reading	1.0035
Hyd Cal Slope	-0.000179
Hyd Cal Intercept	0.007179
Soil Gravity	2.650000

Sample Split (Oven Dried)	Sample (g)
Sample >=#10	62.6
Sample <=#10	97.1
% Passing #10	60.80

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare	Pan+Sample	Sample	% Finer	Classification	Subclass
3"	75000	0	0	0	100	Gravel	
2"	50000	0	0	0	100	Gravel	
1.5"	37500	0	0	0	100	Gravel	
1"	25000	0	0	0	100	Gravel	
3/4"	19000	556.7	556.7	0	100	Gravel	
1/4"	6300	505.9	522.3	16.4	89.73	Gravel	
#4	4750	403.9	416.8	12.9	81.65	Gravel	
#10	2000	371.50	404.90	33.4	60.74	Sand	Coarse
#20	850	302.8	329.5	26.7	44.02	Sand	Medium
#40	425	273.9	293.3	19.4	31.87	Sand	Medium
#60	250	248	260.4	12.4	24.11	Sand	Fine
#80	180	328	334	6	20.35	Sand	Fine
#100	150	238.5	241.4	2.9	18.54	Sand	Fine
#200	75	227.7	234.4	6.7	14.34	Sand	Fine

Silt/Clay Fraction (Hydrometer Test)

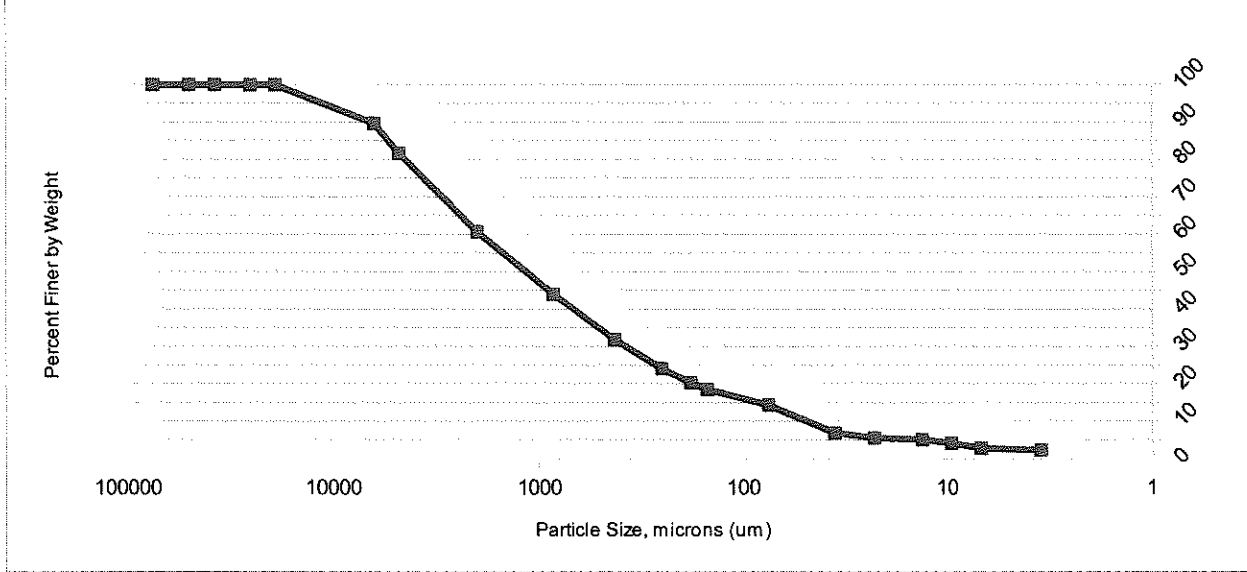
Time (min)	Actual Time	Spec. Gravity	Temp C	% Finer	Particle Size	Classification
2	2	1.0115	19.5	6.91	35.55	Silt
5	5	1.0100	19.5	5.58	22.74	Silt
15	15	1.0095	19.5	5.14	13.22	Silt
30	30	1.0085	19	4.17	9.51	Silt
60	60	1.0070	19	2.84	6.77	Silt
240	240	1.0065	18.5	2.32	3.44	Clay
1440	1440	1.0055	18	1.36	1.43	Clay

Gravel	18.35
Sand Coarse	20.91
Sand Medium	28.87
Sand Fine	17.53
Silt	11.55
Clay	2.79

Total =	100
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Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111616-688-690
Lab Sample ID	SJ9761-7



Data		
Sample Fraction	Particle Size	%Passing
3"	75000	100
2"	50000	100
1.5"	37500	100
1"	25000	100
3/4"	19000	100
1/4"	6300	89.73
#4	4750	81.65
#10	2000	60.74
#20	850	44.02
#40	425	31.87
#60	250	24.11
#80	180	20.35
#100	150	18.54
#200	75	14.34
2	35.55	6.91
5	22.74	5.58
15	13.22	5.14
30	9.51	4.17
60	6.77	2.84
240	3.44	2.32
1440	1.43	1.36

Gravel	18.35
Sand Coarse	20.91
Sand Medium	28.87
Sand Fine	17.53
Silt	11.55
Clay	2.79

Katahdin Analytical Services, LLC.
Sediment Grain Size - Method ASTM D422

Client	Ensafe	Date Received	11-18-16
Client ID	171-111616.688.690	Start Date/Time	11-18-16: 14:20
Lab Sample ID	ST9761-7A	End Date/Time	11-23-16: 13:20

Sample Weight	Sample (g)	Date/Time in oven	11-22-16: 15:00
Sample Weight (wet)	181.5	Date/Time out of oven	11-23-16: 9:00
Sample Weight (oven dried)	159.70		
Hydrometer Data			
% Moisture	12.009	Serial Number	379474
		Cal Date:	11-21-16: 8:03
Sample Split (Oven Dried)	Sample (g)	Low Temp C	17.8
Sample >=#10	62.6	Low Temp Reading	1.0040
Sample <=#10	97.1	High Temp	20.6
		High Temp Reading	1.0035
		Soil Gravity	2.65

Gravel/Sand Fraction (Sieves)			
Sample Fraction	Size (um)	Pan Tare	Pan+Sample
3"	75000		
2"	50000		
1.5"	37500		
1"	25000		
3/4"	19000	556.7	556.7
1/4"	6300	506.0 505.9	522.3
#4	4750	403.9	416.8
#10	2000	371.5	404.9
#20	850	302.8	329.5
#40	425	273.9	293.3
#60	250	248.0	260.4
#80	180	328.0	334.0
#100	150	238.5	241.4
#200	75	227.7	234.4
Pan	Pan	296.4	299.2

Silt/Clay Fraction (Hydrometer Test)				
Time (min)	Proposed Read Time	Actual Time (min)	Temp C	Spec. Gravity
2	8:21	8:21 (2)	19.5	1.0115
5	8:24	8:24 (5)	19.5	1.0100
15	8:34	8:34 (15)	19.3	1.0095
30	8:49	8:49 (30)	19.1	1.0085
60	9:19	9:19 (60)	19.1	1.0070
240	12:19	12:19 (240)	18.7	1.0065
1440	8:19	8:19 (1440)	17.9	1.0055

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111616-713-715
Lab Sample ID	SJ9761-10

Date Received	11/18/16
Start Date/Time	11/18/16:14:22
End Date/Time	11/23/16:13:45

Sample Weight	Sample (g)
Sample Weight (wet)	150.4
Sample Weight (oven dried)	128.35

Date/Time in oven	11/22/16:15:00
Date/Time out of oven	11/23/16:9:00

% Moisture	14.66
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Hydrometer Data

Serial Number	379474
Cal Date:	11/21/16:08:03
Low Temp C	17.80
Low Temp Reading	1.0040
High Temp	20.60
High Temp Reading	1.0035
Hyd Cal Slope	-0.000179
Hyd Cal Intercept	0.007179
Soil Gravity	2.650000

Sample Split (Oven Dried)	Sample (g)
Sample >=#10	26.2
Sample <=#10	102.15
% Passing #10	79.59

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare	Pan+Sample	Sample	%Finer	Classification	Subclass
3"	75000	0	0	0	100	Gravel	
2"	50000	0	0	0	100	Gravel	
1.5"	37500	0	0	0	100	Gravel	
1"	25000	0	0	0	100	Gravel	
3/4"	19000	556.7	556.7	0	100	Gravel	
1/4"	6300	505.9	513.6	7.7	94.00	Gravel	
#4	4750	403.9	408.4	4.5	90.49	Gravel	
#10	2000	371.50	385.20	13.7	79.82	Sand	Coarse
#20	850	302.8	325	22.2	62.52	Sand	Medium
#40	425	273.8	303.1	29.3	39.70	Sand	Medium
#60	250	248	270.7	22.7	22.01	Sand	Fine
#80	180	328	335.4	7.4	16.25	Sand	Fine
#100	150	238.5	240.9	2.4	14.38	Sand	Fine
#200	75	227.8	232.4	4.6	10.79	Sand	Fine

Silt/Clay Fraction (Hydrometer Test)

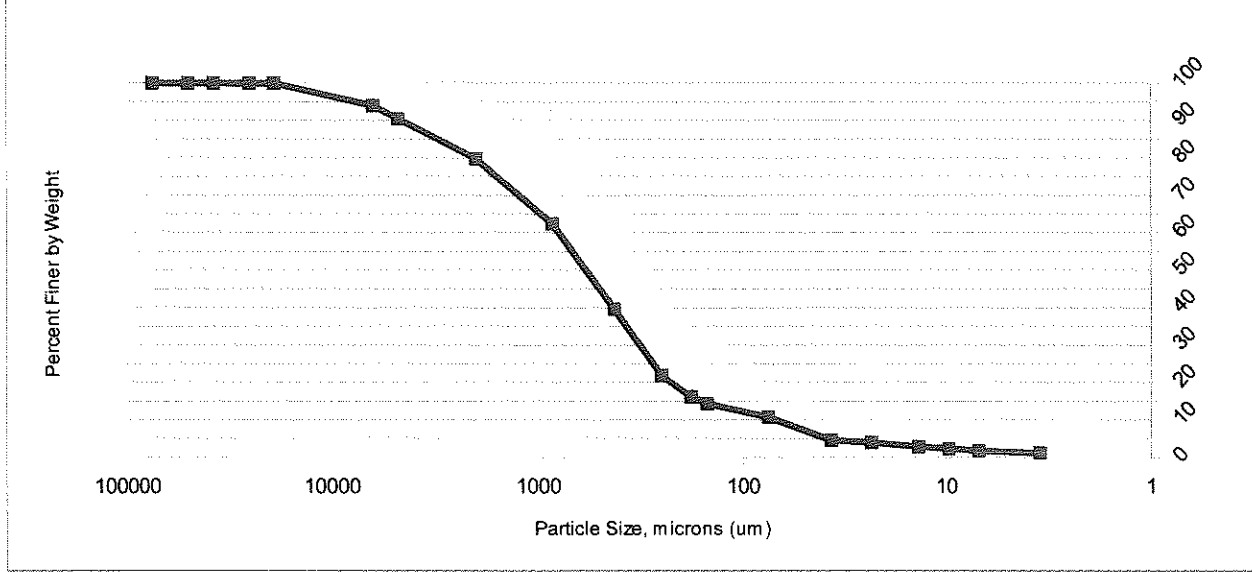
Time (min)	Actual Time	Spec. Gravity	Temp C	% Finer	Particle Size	Classification
2	2	1.0080	19.5	4.60	36.60	Silt
5	5	1.0075	19.5	4.06	23.31	Silt
15	15	1.0065	19	2.90	13.68	Silt
30	30	1.0060	19	2.36	9.67	Silt
60	60	1.0055	19	1.83	6.91	Silt
240	240	1.0050	18.5	1.20	3.48	Clay
1440	1440	1.0045	18	0.57	1.44	Clay

Gravel	9.51
Sand Coarse	10.67
Sand Medium	40.12
Sand Fine	28.91
Silt	9.25
Clay	1.54

Total =	100
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Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-111616-713-715
Lab Sample ID	SJ9761-10



Data		
Sample Fraction	Particle Size	%Passing
3"	75000	100
2"	50000	100
1.5"	37500	100
1"	25000	100
3/4"	19000	100
1/4"	6300	94.00
#4	4750	90.49
#10	2000	79.82
#20	850	62.52
#40	425	39.70
#60	250	22.01
#80	180	16.25
#100	150	14.38
#200	75	10.79
2	36.60	4.60
5	23.31	4.06
15	13.68	2.90
30	9.67	2.36
60	6.91	1.83
240	3.48	1.20
1440	1.44	0.57

Gravel	9.51
Sand Coarse	10.67
Sand Medium	40.12
Sand Fine	28.91
Silt	9.25
Clay	1.54

Katahdin Analytical Services, LLC.
Sediment Grain Size - Method ASTM D422

Client	EnSafe	Date Received	11-18-16
Client ID	171-111616-713-715	Start Date/Time	11-18-16 14:22
Lab Sample ID	SJ9761-10 A	End Date/Time	11-23-16 13:45

Sample Weight	Sample (g)	Date/Time in oven	11-22-16 15:00
Sample Weight (wet)	150.4	Date/Time out of oven	11-23-16 9:00
Sample Weight (oven dried)	128.35		

		Hydrometer Data	
% Moisture	14.66	Serial Number	379474
		Cal Date:	11-21-16 8:03

Sample Split (Oven Dried)	Sample (g)	Low Temp C	17.8
Sample >=#10	26.2	Low Temp Reading	1.0040
Sample <=#10	102.15	High Temp	20.6

	High Temp Reading	1.0035
	Soil Gravity	2.65

Gravel/Sand Fraction (Sieves)			
Sample Fraction	Size (um)	Pan Tare	Pan+Sample
3"	75000		
2"	50000		
1.5"	37500		
1"	25000		
3/4"	19000	556.7	556.7
1/4"	6300	505.9	513.6
#4	4750	403.9	408.4
#10	2000	371.95	385.2
#20	850	302.8	325.0
#40	425	273.8	303.1
#60	250	246.0	270.7
#80	180	326.0	335.4
#100	150	238.5	240.9
#200	75	227.8	232.4
Pan	Pan	22298.6	296.8

8:28 Silt/Clay Fraction (Hydrometer Test)				
Time (min)	Proposed Read Time	Actual Time (min)	Temp C	Spec. Gravity
2	8:30	8:30 (2)	19.7	1.0080
5	8:33	8:33 (5)	19.6	1.0075
15	8:43	8:43 (15)	19.2	1.0065
30	8:58	8:58 (30)	19.1	1.0060
60	9:28	9:28 (60)	18.9	1.0055
240	12:28	12:28 (240)	18.7	1.0050
1440	8:28	8:28 (1440)	17.9	1.0045

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-SO-1118-748-750
Lab Sample ID	SJ9868-1

Date Received	11/22/16
Start Date/Time	11/28/16:13:08
End Date/Time	12/01/16:9:30

Sample Weight	Sample (g)
Sample Weight (wet)	115.3
Sample Weight (oven dried)	101.23

Date/Time in oven	11/29/16:13:45
Date/Time out of oven	12/01/16:8:10

% Moisture	12.201
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Hydrometer Data

Serial Number	379474
Cal Date:	11/28/16:10:33
Low Temp C	20.30
Low Temp Reading	1.0035
High Temp	20.60
High Temp Reading	1.0030
Hyd Cal Slope	-0.001667
Hyd Cal Intercept	0.037333
Soil Gravity	2.650000

Sample Split (Oven Dried)	Sample (g)
Sample >=#10	5.8
Sample <=#10	95.43
%Passing #10	94.27

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare	Pan+Sample	Sample	%Finer	Classification	Subclass
3"	75000	0	0	0	100	Gravel	
2"	50000	0	0	0	100	Gravel	
1.5"	37500	0	0	0	100	Gravel	
1"	25000	0	0	0	100	Gravel	
3/4"	19000	556.7	556.7	0	100	Gravel	
1/4"	6300	506	508.9	2.9	97.14	Gravel	
#4	4750	403.9	404	0.1	97.04	Gravel	
#10	2000	371.40	374.20	2.8	94.27	Sand	Coarse
#20	850	302.9	306	3.1	91.21	Sand	Medium
#40	425	273.9	291.3	17.4	74.02	Sand	Medium
#60	250	248	282.6	34.6	39.84	Sand	Fine
#80	180	328	339.5	11.5	28.48	Sand	Fine
#100	150	238.5	241.7	3.2	25.32	Sand	Fine
#200	75	227.7	233.8	6.1	19.29	Sand	Fine

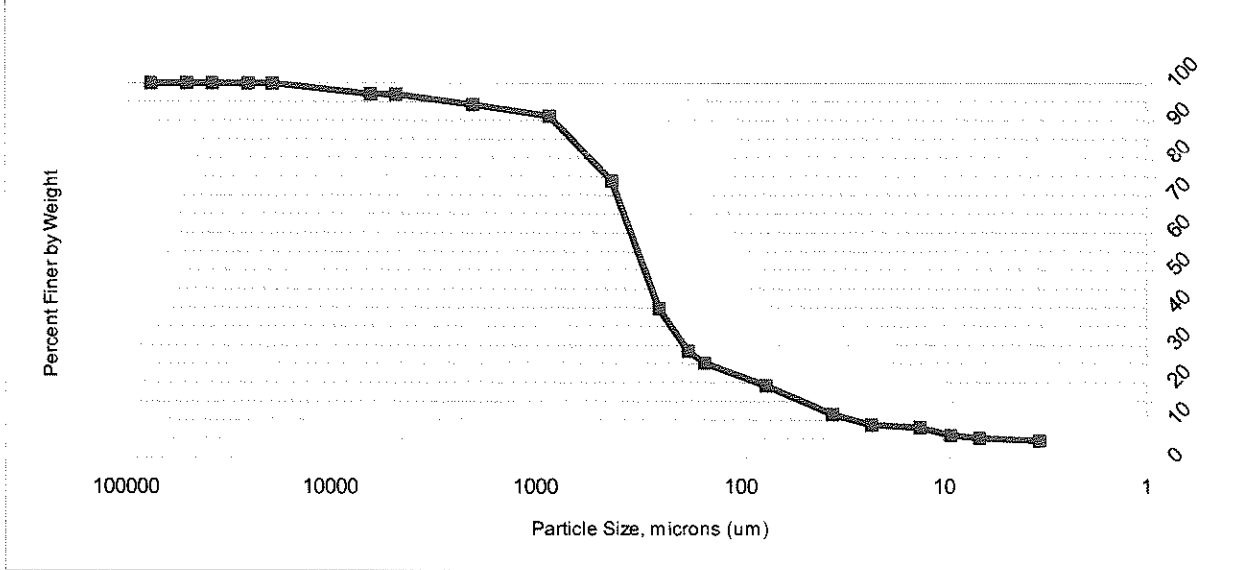
Silt/Clay Fraction (Hydrometer Test)

Time (min)	Actual Time	Spec. Gravity	Temp C	% Finer	Particle Size	Classification
2	2	1.0115	20.5	11.61	35.11	Silt
5	5	1.0095	20.5	8.82	22.62	Silt
15	15	1.0090	20.5	8.13	13.06	Silt
30	31	1.0075	20.5	6.04	9.25	Silt
60	60	1.0070	20.5	5.34	6.65	Silt
240	240	1.0065	20.5	4.64	3.36	Clay
1440	1440	1.0050	20.5	2.55	1.38	Clay

Gravel	2.96
Sand Coarse	2.77
Sand Medium	20.25
Sand Fine	54.73
Silt	14.50
Clay	4.79
Total =	100

Kathdin Analytical Services - Report of Analysis
Sediment Grain Size - ASTM D422

Client	ENSAFE
Client ID	171-SO-1118-748-750
Lab Sample ID	SJ9868-1



Data		
Sample Fraction	Particle Size	%Passing
3"	75000	100
2"	50000	100
1.5"	37500	100
1"	25000	100
3/4"	19000	100
1/4"	6300	97.14
#4	4750	97.04
#10	2000	94.27
#20	850	91.21
#40	425	74.02
#60	250	39.84
#80	180	28.48
#100	150	25.32
#200	75	19.29
2	35.11	11.61
5	22.62	8.82
15	13.06	8.13
31	9.25	6.04
60	6.65	5.34
240	3.36	4.64
1440	1.38	2.55

Gravel	2.96
Sand Coarse	2.77
Sand Medium	20.25
Sand Fine	54.73
Silt	14.50
Clay	4.79

Sand

Katahdin Analytical Services, LLC.
Sediment Grain Size - Method ASTM D422

Client	Ensafe	Date Received	11-22-16
Client ID	171507118-748-750	Start Date/Time	11-28-16: 13:08
Lab Sample ID	SJ9868-1 A	End Date/Time	12-1-16: 9:30

Sample Weight	Sample (g)	Date/Time in oven	11-29-16: 13:45
Sample Weight (wet)	115.3	Date/Time out of oven	12-1-16: 8:10
Sample Weight (oven dried)	101.23		

% Moisture	12.201	Hydrometer Data	
		Serial Number	379474
		Cal Date:	11-28-16: 10:33

Sample Split (Oven Dried)	Sample (g)	Low Temp C	20.3
Sample >=#10	5.8	Low Temp Reading	1.0035
Sample <=#10	95.43	High Temp	20.4

	High Temp Reading	1.0030
	Soil Gravity	2.65

Gravel/Sand Fraction (Sieves)			
Sample Fraction	Size (um)	Pan Tare	Pan+Sample
3"	75000		
2"	50000		
1.5"	37500		
1"	25000		
3/4"	19000	556.7	556.7
1/4"	6300	506.0	508.9
#4	4750	403.9	404.0
#10	2000	371.4	374.2
#20	850	302.9	306.0
#40	425	273.9	291.3
#60	250	248.0	282.4
#80	180	328.0	339.5
#100	150	238.5	241.7
#200	75	227.7	233.8
Pan	Pan	298.7	298.9

Silt/Clay Fraction (Hydrometer Test)				
Time (min)	Proposed Read Time	Actual Time (min)	Temp C	Spec. Gravity
2	10:32	10:32 (2)	20.3	1.01105
5	10:35	10:35 (5)	20.3	1.0095
15	10:45	10:45 (15)	20.3	1.0090
30	11:00	11:01 (31)	20.3	1.0075
60	11:30	11:30 (60)	20.3	1.0070
240	14:30	14:30 (240)	20.5	1.0065
1440	10:30	10:30 (unno)	20.6	1.0050

Section 5

Well Development

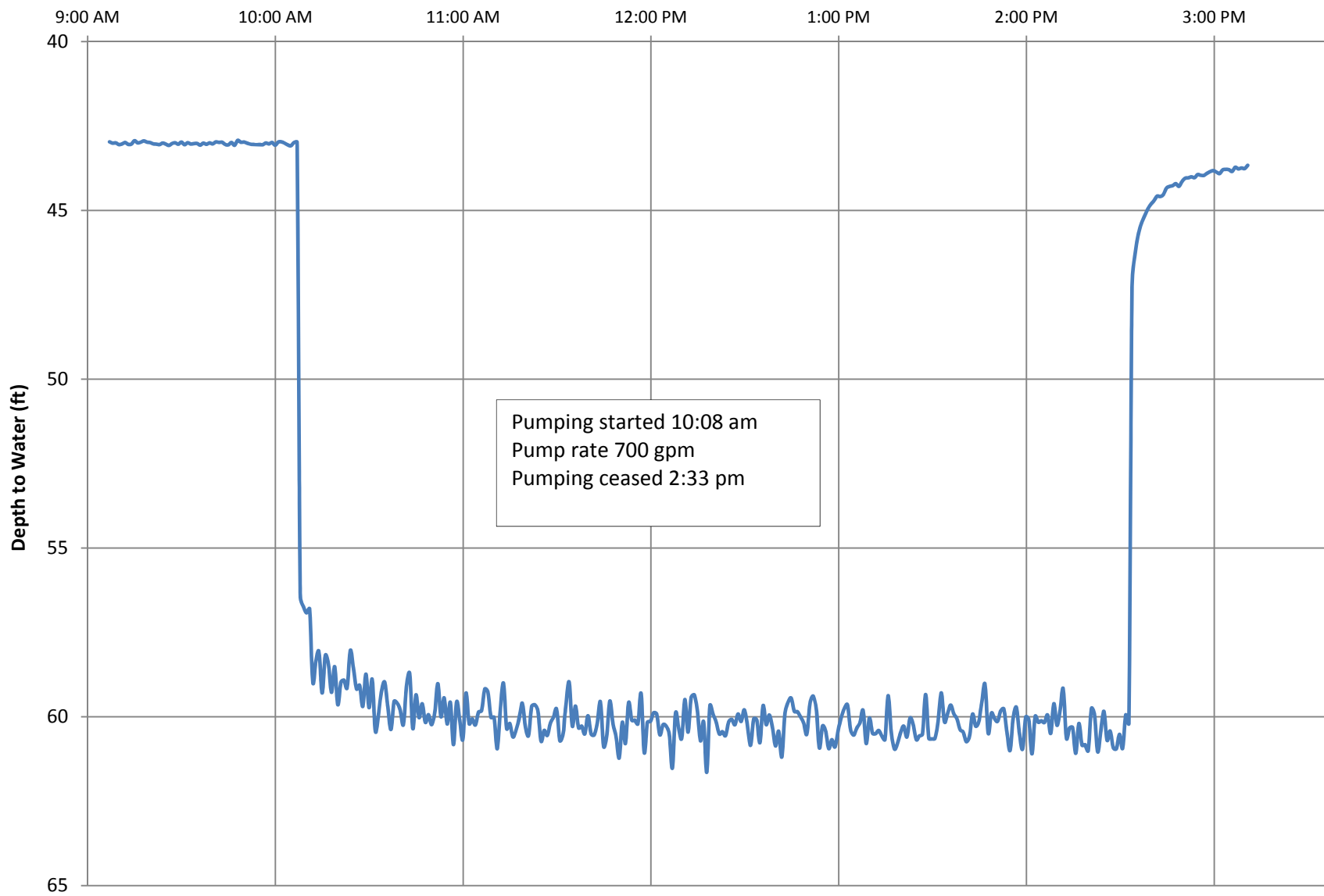
Airlift Well Development

Airlift zone (ft bgs)	Date	Approximate volume (gal)	Turbidity (Ntu)	Water Management
740 - 745	2/22/2017		6.57	pump into frac tank #6, discharge as IDW
735 - 740	2/22/2017		11.07	
730 - 735	2/22/2017		14.57	pump into frac tank #5 & #6, discharge as IDW
725 - 730	2/24/2017		20.52	
720 - 725	2/24/2017		12.71	#4 and #5, discharge as IDW
715 - 720	2/28/2017	5700	16.04	hold for GAC treatment
710 - 715	2/28/2017	4000	10.2	
705 - 710	2/28/2017	4000	6.02	
700 - 705	3/2/2017	4000	6.81	
695 - 700	3/2/2017 - 3/3/17	4500	3.92	
690 - 695	3/3/17	5000	4.07	
685 - 690	3/6/2017	2800	6.02	
680 - 685	3/6/2017	4200	5.97	GAC treatment and discharge to Sump #305
675 - 680	3/7/2017	21900	0.0	
670 - 675	3/7/2017		2.1	
665 - 670	3/7/2017		0.0	
660 - 665	3/8/2017	4000	1.68	
655 - 660	3/8/2017	34000	0.0	
650 - 655	3/8/2017 - 3/9/17		0.1	
645 - 650	3/9/2017		4.23	
640 - 645	3/9/2017		2.38	
635 - 640	3/10/2017		2.38	
630 - 635	3/10/2017		1.87	

Total volume = 94100

GAC: granular activated carbon

RE137 Pump Development 3/20/2017



Pumping Development

Date & Time	Action	Pumping Rate (gpm)	Depth to water (ft)	Comment
3/20/17 9:00 AM	Antecedent water level	0	42.97	
3/20/17 10:08 AM	Start pumping	700		
3/20/17 10:45 AM		700	59.94	
3/20/17 11:45 AM		700	60.21	
3/20/17 1:00 PM		700	60.3	
3/20/17 2:00 PM		700	60.41	maximum drawdown 17.44 ft
3/20/17 2:30 PM	Sample pretreatment GAC, measure final turbidity	700		Turbidity 0.00 Ntu
3/20/17 2:33 PM	Shut off pumping	0		Approximate volume pumped: 198,300 gallons
3/20/17 3:00 PM		0	43.84	
3/20/17 3:15 PM		0	43.68	

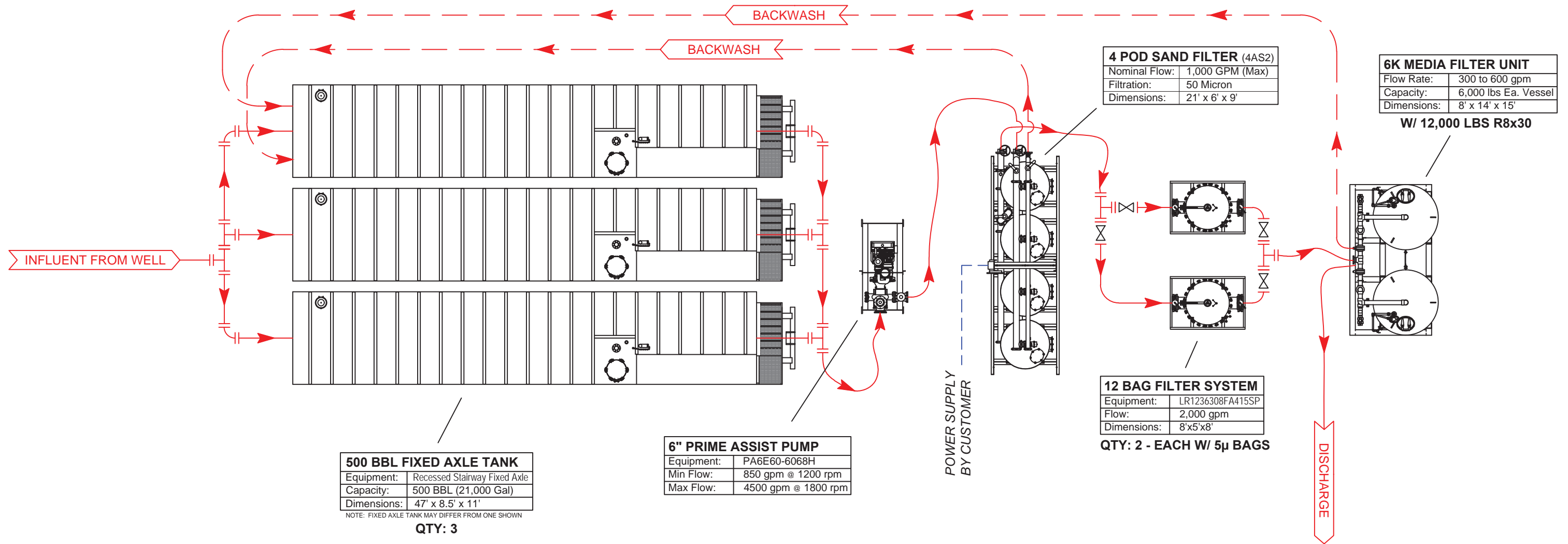
Water Mangement: all pumping development water was run through granular activated carbon (GAC) treatment system and discharged to Sump #305.

Section 6

Granular Activated Carbon (GAC) Treatment System,

Discharge permit and

Analytical Sample Results



The information presented on this drawing is for informational purposes only. Use of this drawing is not a replacement for a professional engineering evaluation of the application. This drawing is intended to show preliminary equipment requirements and arrangement and is in no way a replacement for a thorough engineering review of the application at hand. A representative of the customer or end user should always conduct the final evaluation of the application. That representative, and not BakerCorp Inc., or its employees and representatives, is responsible for the final engineering design and performance of the application.

No warranty is provided or implied, including any warranty of fitness for a particular purpose. As such, the customer agrees that by using the suggestions shown on this drawing, you assume the risk of all loss or injury resulting from any information found within. In no event shall BakerCorp, or any representative or agent thereof, be liable under any theory based in contract, negligence or strict liability or any other legal or equitable theory to any party for any amounts including, without limitation, lost revenues, lost profits, lost business or indirect, consequential, incidental, special or punitive damages. This disclaimer shall survive any and all notices advising of the possibility that any user may suffer harm from any inaccuracies contained herein.

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SHEET SIZE: MATERIAL:
B
 11" x 17"
 FINISH:

BAKERCORP 3020 OLD RANCH PARKWAY SEAL BEACH, CA 90740-2751		TITLE: BETHPAGE, NY - 700 GPM TCE REMOVAL PROCESS FLOW DIAGRAM	
CUSTOMER: AECOM	DATE: 07-19-16	SCALE: -	BRANCH: NEW
DWG BY: M. BROOKS	DATE: 07-19-16	DWG No: SKF2574	SHEET: 1 OF: 1
CKD BY: C. VILLELLA	DATE: 07-19-16	REV: -	

PRODUCT DATA SHEET

January, 2007

YARDNEY 4-POD SAND FILTER (Equip. # SFL21988 and earlier)

GENERAL INFORMATION

Skid mounted high rate automatic backwashing sand media filter (4 tanks (pods)) designed for general-purpose water filtration of organic and inorganic solids (Yardney Model # IL5424-4AS2). Powered by 110 V external power supply, or battery with solar cell recharge for remote operation.

WEIGHTS AND MEASURES

» Capacity:	.....	504 – 756 gpm (Normal flow range) 1000 gpm (Peak flow)
» Design Press:	.....	80 psi maximum
» Temperature:	.....	Limit to ambient. Consult BakerCorp if temperature exceeds 100 degrees.
» Filtration:	.....	To 50 microns
» Height:	.....	8'-11" (overall)
» Width :	.....	6'-3"
» Length:	.....	20'-1"
» Weight:	.....	6,326 lbs. – equipment only 14,500 lbs. – media only 28,000 lbs. - operational
» Backflush:	.....	240 gpm, automatic

OPERATING REQUIREMENTS

» Compressed Air:	.....	5 cfm minimum at 60 psi [Note: external air supply required]
» Sand Media:	.....	Crushed silica, 0.47MM (#80 grit)
» Gravel Media:	.....	#3 crushed rock, 1/2" x 3/4"
» Input Power:	.....	Selectable input power of customer supplied 110 V AC, or 12V DC from a unit mounted solar package.
» Output Power:	.....	12V DC

FEATURES

» System Controller:	.....	Automatic Filter Controller. Flush activation based on elapsed time and/or pressure differential.
» Piping:	.....	Inlet & outlet pipe is 6" A53B, 3/16" wall; weld fittings are A234; flanges are A106. Backflush piping is 4" schedule 40 PVC.
» Solar Panel:	.....	Uni-Solar Model UA-5 (5 watts) module.

FEATURES – con't

» Press. Gauge:	.....	2" face, 1/4" NPT bottom connection, stainless steel case, plexiglass lens, brass bourdon tube, 0-100 psi range.
» Flowmeter:	.....	Six-inch propeller type meter, AWWA C704-92 compliant. Instantaneous flowrate indicator and six-digit totalizer. Accuracy is ±2% of reading. Repeatability of 0.25%. Rated at 90-1200 gpm, 150 psi, 160°F. Tube: epoxy-coated carbon steel; Impeller: high-impact plastic.
» Butterfly Valves:	.....	<u>Effluent / Influent:</u> 6" with cast iron body (epoxy coated), EPDM seat, 304 SS stem and aluminum bronze disc. <u>Tank Isolation:</u> 4" grooved ends, EPDM disc coating
» Ball Valves:	.....	Four-inch, bronze body and brass ball; seat is carbon/glass-filled PTFE. 1/4 turn open or close.
» Solenoid Valve:	.....	12V DC, normally closed type 7121V (energizing opens valve).
» Differential Press. Switch:	.....	0-30 psid. Two-inch dial, plated steel case, ±3% accuracy.
» Air / Vacuum Release Valve:	.....	2" Bernard Model 4415 valve, mounted on backwash, influent and effluent lines
» Battery:	.....	Sealed rechargeable lead-acid, 12V, NP2.6-12
» Battery Charger:	.....	Power-Sonic Model PSC-12500A, 12 volts.
» Tubing:	.....	Pressurized – 1/4" 304 ss w/ Hoke fittings; Drain - 1/4" polypropylene; Vent – schedule 80 PVC

SURFACE DETAILS

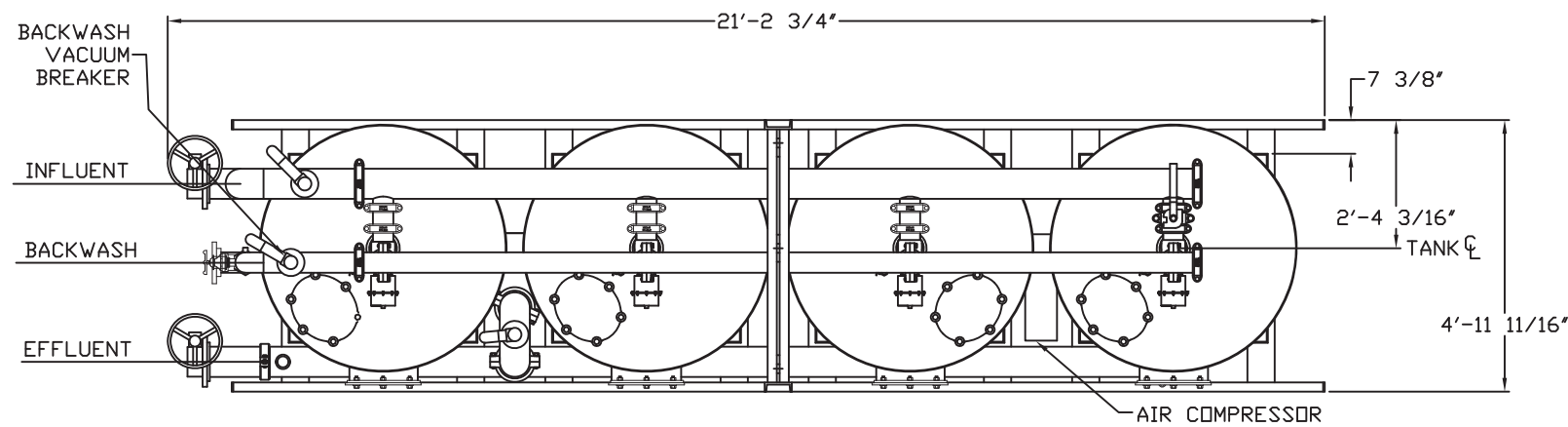
» Interior Coating:	.....	3M Skotchkote 134
» Exterior Coating:	.....	High Gloss Polyurethane

TESTS/CERTIFICATIONS

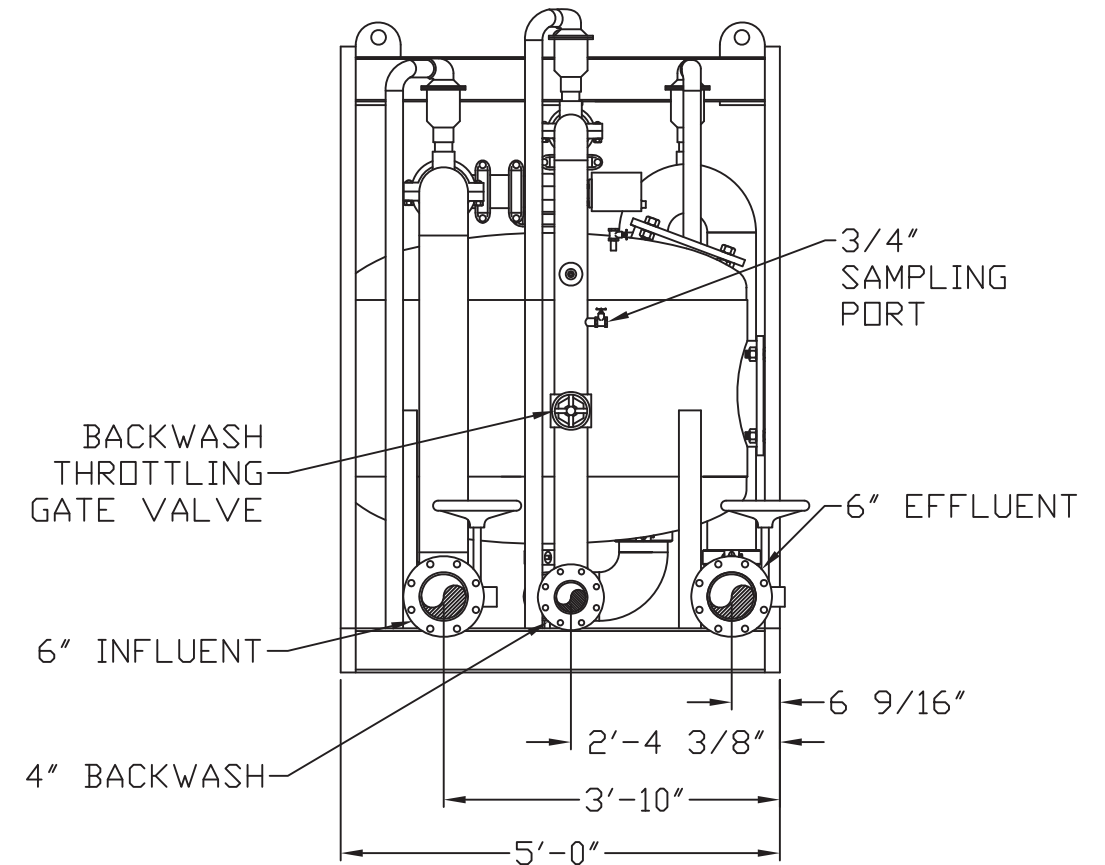
» Tests Performed:	OEM pressure tested. BakerCorp performs scheduled QMS inspections.
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NOTES:

1. This drawing is a baseline representation for this size skid. Variations between this drawing and the actual equipment in the field can exist, primarily with appurtenance locations. Consult your local BakerCorp representative if specific needs exist.



TOP VIEW

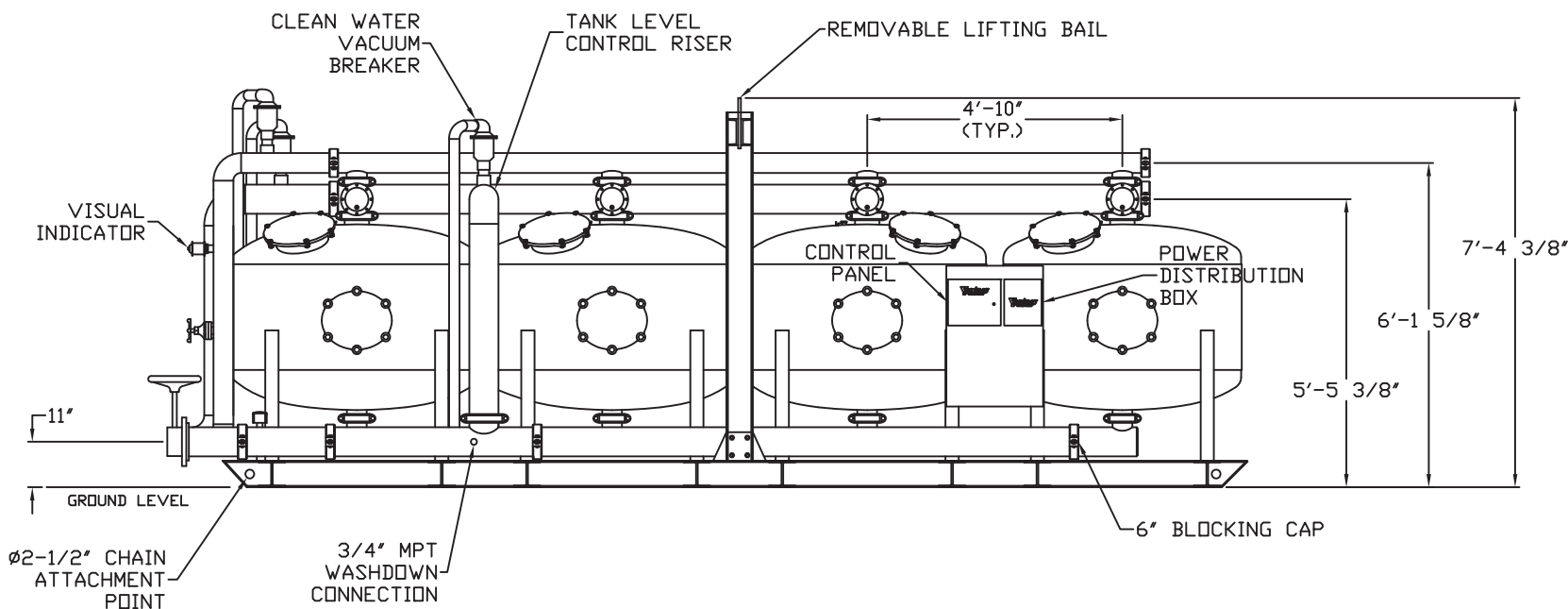


END VIEW

MODEL IL5424-4AS3

NOTES:

1. FLOW RATE DESIGN - 1000 GPM
2. MAXIMUM WORKING PRESSURE - 80 PSI.
3. ELECTRICAL:
 - CONTROLLER 120V, 1A
 - COMPRESSOR 120V, 5A
4. WEIGHT (APPROX.):
 - A. EQUIPMENT - 4900#
 - B. MEDIA - 14,500#
 - C. OPERATION - 26,900#
5. BACKWASH RATE: 15 GPM/FT² - 240 GPM.
6. PNEUMATICALLY ACTIVATED VALVES. W/ SS TUBE
7. STEEL CONDUIT
8. TUBE TANK VENT VALVES TO GROUND



SIDE VIEW

The information contained herein is proprietary to BakerCorp and shall not be reproduced or disclosed in whole or in part, or used for any design or manufacture except when user obtains direct written authorization from BakerCorp.				BAKERCORP 3020 OLD RANCH PARKWAY SEAL BEACH, CA 90740-2751	
G				SCALE: Do Not Scale	SIZE B
F				DRAWN BY: P.J.B.	APPROVED BY: -
E				TITLE YARDNEY 4-POD SAND FILTER (Equipment No. SFL22034 and higher)	ORIGINAL DWG. DATE 17MAR05
D				DRAWING NO.	CAT/CLASS --
C					SHEET 1 OF 1
B					REV. 0
A					
REV.	DESCRIPTION	DATE	BY	S-9-M0019-1-	

PRODUCT DATA SHEET

March, 2008

**8" 304 STAINLESS STEEL
12-BAG FILTER SYSTEM**

GENERAL INFORMATION

Single vessel mounted on a forkliftable skid. Housing is not ASME code stamped. Different filter elements are available depending on job requirements and should be specified by the customer prior to use.

WEIGHTS AND MEASURES

» Capacity*:	1200 – 2000 gpm (@ 1 micron and up)
» Design Press:	150 psig
» Design Temp:	225°F max. (gasket dependent)
» Height:	7'-5" (overall)
» Width:	4'-11"
» Depth:	7'-5"
» Weight (dry):	1075 lbs. (approx.)

*Capacity (flowrate) depends on factors such as liquid viscosity, micron value of the filter media, solids loading etc. Assuming water as a filtrate and factoring in pressure drop only, 2000 gpm is a practical upper limit for a size #2 bag with a 100 micron rating; 1200 gpm with 1-micron rated bags. Clean pressure drop would be 2-3 psi. Lowering the micron rating increases the pressure drop. The minimum pressure drop for this unit at higher micron ratings is 1-2 psi. Filter bags should be changed out at 15-18 psid, or earlier if the process requires it.

SKID DESIGN

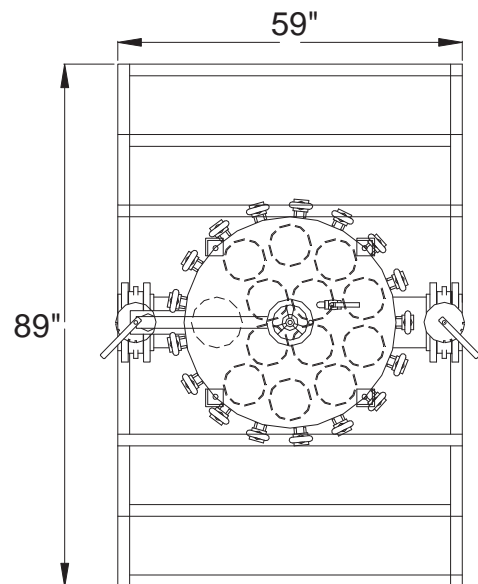
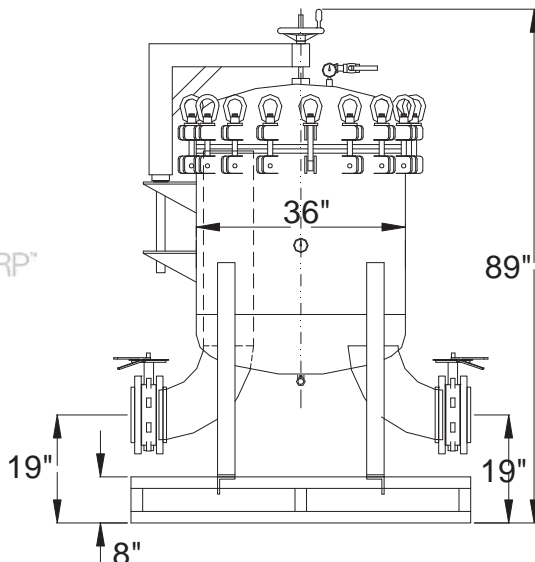
» Skid:	2"x2"x0.25" A36 c.s. structural tubing
» Vessel Leg Supports:	3x3x.375 angle, SA-36
» Forklift Pockets:	Through front and rear framing channels

FILTER DESIGN

» Assembly Number:	Krystil Klear LR12-36-30-8F-A-4-15-SP
» Top Head:	(17) closure bolts and nuts with davit lift assembly. 36" O.D., 0.25" thk, SA-240 Gr. 304 stainless steel
» Shell:	36" O.D., 0.25" thick x 28" L . R & T, SA-240 Gr. 304 stainless steel
» Inlet & Outlet:	8" 150# RFSO flanges, SA-182 Gr. 304 S.S.
» Bag Elements:	12 required: size #2, 7-1/16" snap ring & 30" length required; Available fibers range from 1 to 1500 microns.
» Lid Seal:	Buna N O-ring
» In/Out Valves:	8" 150" butterfly with Buna seat
» Internal Hardware:	SA-240 Gr. 304 S.S. tube sheet

TESTS / CERTIFICATIONS

» Test Performed:	OEM Hydrotested @ 195 psi. Scheduled QMS inspections after purchase by BakerCorp.
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To the best of our knowledge the technical data contained herein are true and accurate at the date of issuance and are subject to change without prior notice. No guarantee of accuracy is given or implied because variations can and do exist. NO WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY BAKERCORP, EITHER EXPRESSED OR IMPLIED.

PRODUCT DATA SHEET

January, 2007

D-KLEEN.WATER 6000HP

GENERAL INFORMATION

This system is designed for continuous aqueous phase treatment of groundwater or wastewater, and has the ability to remove contaminants to non-detectable levels. The influent stream may be drawn in through the system in either series or parallel flow, and can operate on one vessel only while the other is in backwash mode. Baker can provide a number of service and disposal options for the spent media.

WEIGHTS AND MEASURES

» Max. Flowrate:	Series: 300 gpm; Parallel: 600 gpm
» Max. Pressure:	75 psi
» Max. Temp:	150°F
» Height:	15'-4"
» Width:	8'-0" (skid)
» Length:	13'-10" (skid)
» Diameter:	72" (each vessel)
» Shipping Wt. (empty)	~9,500 lbs.
» Operating Wt.:	~70,000 lbs.

FILTER MEDIA

» Types:	<ul style="list-style-type: none"> •Activated Carbon •Organoclay •Ion Exchange Resin •Specialty Media
» Volume:	200 cu. ft per vessel (400 cu. ft. total)
» Weight:	6,000 lbs. each vessel (12,000 lbs. total)

MISCELLANEOUS DATA

» Vessel Code:	ASME Section VIII, Div. 1, paragraph UG125-UG137
» Inlet:	4" Flange
» Outlet:	4" Flange
» Interior Coating:	Plasite 4000 series
» Internals:	<u>Lower Underdrain:</u> 4: sch. 80 PVC slotted pipes (4) <u>Upper Diffuser:</u> 2" sch. 80 PVC slotted pipes (4)
» Media Access:	Top and side manways
» Manway Gaskets:	Neoprene
» Manifold Valves:	4" Lever-operated butterfly
» Relief Valves:	(1) - 1"x1 1/2" Thermal Relief (bronze/SS trim) (1) - 1"x1" Air/Vacuum Vent (C.I./ bronze/SS trim)

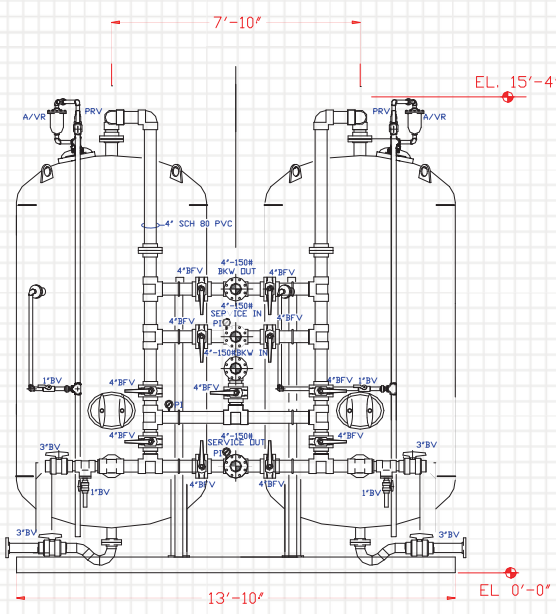
PRESSURE DROP DATA

Contact BakerCorp



NOTE:

- Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate procedures for potentially low oxygen spaces must be followed, including all federal and state requirements.



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PRODUCT DATA SHEET

March, 2012

**KLEEN.WATER
6000HPV**

GENERAL INFORMATION

These units are designed for the efficient purification of contaminated water or liquid streams. These filters have the ability to remove contaminants to non-detectable levels. The vessels are constructed of heavy-duty mild steel and are lined with a double-layer epoxy coating.

WEIGHTS AND MEASURES

» Max. Flowrate:	.....	300 gpm
» Max. Pressure:	.....	75 psi
» Max. Temp:	.....	150°F
» Height:	.....	113-5/16"
» Diameter:	.....	84"
» Shipping Wt*: (*Media dependent)	.....	3475 lbs. Vessel Only 9475 lbs. – 15475 lbs. Vessel + Media*

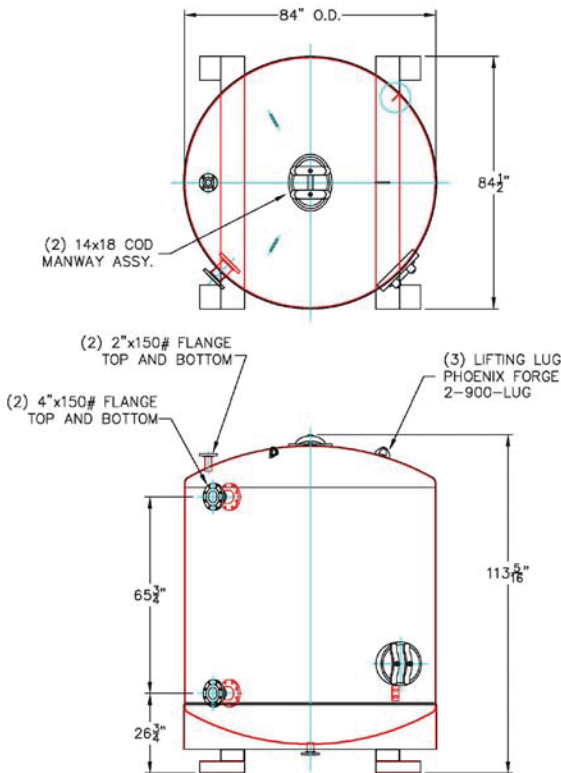
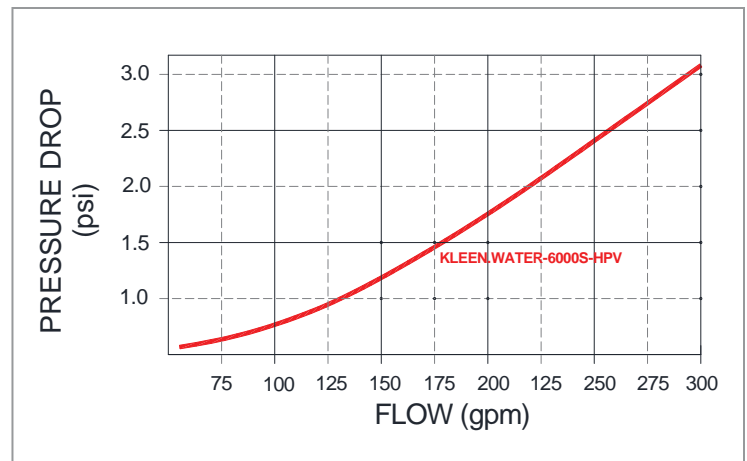
FILTER MEDIA

» Types:	.....	<ul style="list-style-type: none"> ▪ Activated Carbon ▪ Organoclay ▪ Ion Exchange Resin ▪ Specialty Media
» Volume:	.....	200 cu. ft.
» Weight*: (*Media dependent)	.....	6000 lbs. – 12000 lbs.

MISCELLANEOUS

» Inlet:	.....	4" FNPT TOP
» Outlet:	.....	4" FNPT LOWER SIDE
» Interior Coating:	.....	Plasite 4110 Vinyl Ester Resin
» Internals:	.....	Schedule 80 PVC underdrains
» Media Access:	.....	Top & Side 14"x18" manways (neoprene gaskets)

PRESSURE DROP DATA



NOTE:

1. Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate procedures for potentially low oxygen spaces must be followed, including all federal and state requirements.

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau A

625 Broadway, 12th Floor, Albany, NY 12233-7015

P: (518) 402-9625 | F: (518) 402-9627

www.dec.ny.gov

February 15, 2017

Ms. Lora Fly
Remedial Project Manager
NAVFAC MIDLANT, Code OPT3-5
9742 Maryland Avenue, Bldg Z-144
Norfolk, VA23511-3095

Re: NWIRP-Bethpage, NYSDEC No. 130003B
REVISED - SPDES PERMIT EQUIVALENT APPLICATION
Hicksville Road across from Moore Drive (Sump #305)

Dear Ms. Fly:

Resolution Consultants, on behalf of the Department of the Navy (Navy), has submitted a revised request to establish State Pollutant Discharge Elimination System (SPDES) effluent for the 108 Hotspot area. The New York State Department Environmental Conservation Division of Water has reviewed the revised SPDES Permit Equivalent Application, and has establish discharge limits for the NGC-USNAVY OU2 RE-108 Hotspot Area groundwater extraction and treatment system. These discharge limits, and associated reporting requirements, are enclosed with this letter.

Should you have any questions regarding the content of this letter, please do not hesitate to contact me at (518) 402-9622 or email me at henry.wilkie@dec.ny.gov.

Sincerely,



Henry Wilkie
Environmental Engineer 1
Remedial Section B

ecc: J. Pelton
D. Hesler
D. Evans
S. Karpinski, NYSDOH
J DeFranco, NCDOH
C. Stein, USEPA Region II



Department of
Environmental
Conservation

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Permits

625 Broadway, Albany, New York 12233-3505

P: (518) 402-8111 | F: (518) 402-9029

www.dec.ny.gov

MEMORANDUM

TO: Henry Wilkie
FROM: Brian Baker
SUBJECT: NGC-USNAVY OU2 RE-108 Hotspot Area
DRAINAGE BASIN: 17-01, Long Island Sound
DATE: February 15, 2017

In response to your request dated September 19, 2016, and updated request of February 7, 2017, please find the attached effluent limitations and monitoring requirements for the above-noted remediation discharge. The groundwater extracted during the aquifer testing will pass through a pre-filter and a Granulated Activated Carbon unit treatment system prior to being discharged into Nassau County Basin #305 and subsequently to groundwater.

The DOW does not have any regulatory authority over a discharge from a State, PRP, or Federal Superfund Site. DER will be responsible for ensuring compliance with the attached effluent limitations and monitoring requirements, and approval of all engineering submissions. Footnote 1 identifies the appropriate DER Section Chief as the place to send all effluent results, engineering submissions, and modification requests. The Regional Water Engineer should be kept apprised of the status of this discharge and, in accordance with the attached criteria, receive a copy of the effluent results for informational purposes.

If you have any questions, please call me at 518-402-8124.

Attachment (Effluent Limitations and Monitoring Requirements)

cc: Regional Water Engineer (w/attach)
BWP Section Chief, DOW (w/attach)

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning 12/7/2016 and lasting until 3/31/2017 the discharges from the groundwater treatment facility to Nassau County Basin #305 to Groundwater, Class GA shall be limited and monitored by the operator as specified below:

Outfall Number and Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Average	Daily Maximum		Measurement Frequency	Sample Type
Outfall 001 - Treated Groundwater Remediation Discharge					
Flow, Total (Extraction Wells)	Monitor	700	GPM	Continuous	Meter
pH, Range	6.0 – 9.0		SU	Weekly	Grab
1,2-Dichloroethene, Total		5	µg/l	Weekly	Grab
1,1-Dichloroethene		5	µg/l	Weekly	Grab
1,1-Dichloroethane		5	µg/l	Weekly	Grab
1,1,2-Trichloroethane		5	µg/l	Weekly	Grab
1,1,2-Trichloro-1,2,2-Trifluoroethane		5	µg/l	Weekly	Grab
Trichloroethene		5	µg/l	Weekly	Grab
Tetrachloroethene		5	µg/l	Weekly	Grab
1,4-Dioxane		Monitor	µg/l	Weekly	Grab
Chloroform		7	µg/l	Weekly	Grab
Carbon Tetrachloride		5	µg/l	Weekly	Grab
Iron, Total		Monitor	mg/l	Weekly	Grab

Additional Conditions:

1. Discharge is not authorized until an engineering submission showing the method of treatment has been approved by the Department. The discharge rate may not exceed the effective or design treatment system's 700 GPM (403,200 GPD) capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

Henry Wilkie
 NYSDEC Project Engineer
 Division of Environmental Remediation, Remedial Action Bureau A, 11th Floor
 625 Broadway, Albany NY 12233-7015

With a copy sent to:

Regional Water Engineer, Region 1
 50 Circle Road
 SUNY at Stony Brook
 Stony Brook, New York 11790

2. Only site generated wastewater is authorized for treatment and discharge.
3. Authorization to discharge is valid only for the period noted above, but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date, to allow for a review of monitoring data and reassessment of monitoring requirements.
4. Both concentration (mg/l or µg/l) and mass loadings (lbs/day) must be reported to the Department for all parameters except flow and pH.

5. Any use of corrosion/scale inhibitors, biocidal-type compounds, or other water treatment chemicals used in the treatment process must be approved by the department prior to use.
6. This discharge and administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.

ANALYTICAL DATA DURING RE137 DEVELOPMENT (POST GAC TREATMENT)

2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

Location	Daily Maximum Discharge Limits for RE- 108 Hotspot Area Groundwater Extraction & Treatment System (Note 1)	RE137	RE137
Sample Date		3/2/2017	3/20/2017
Sample ID		IDWGW-03022017- GAC	IDWGW-032017- GAC
Sample type code		N	N
VOC 8260C	(ug/L)		
1,1,1-TRICHLOROETHANE	NL	<1.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	NL	<1.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	<1.0 U	<1.0 U
1,1,2-TRICHLOROETHANE	5	<1.0 U	<1.0 UJ
1,1-DICHLOROETHANE	5	<1.0 U	<1.0 U
1,1-DICHLOROETHENE	5	<1.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	NL	<1.0 U	<1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	NL	<1.0 U	<1.0 UJ
1,2-DIBROMOETHANE	NL	<1.0 U	<1.0 UJ
1,2-DICHLOROBENZENE	NL	<1.0 U	<1.0 U
1,2-DICHLOROETHANE	NL	<1.0 U	<1.0 U
1,2-DICHLOROPROPANE	NL	<1.0 U	<1.0 U
1,3-DICHLOROBENZENE	NL	<1.0 U	<1.0 U
1,4-DICHLOROBENZENE	NL	<1.0 U	<1.0 U
1,4-DIOXANE	NL	<100 U	<100 U
2-BUTANONE	NL	<1.0 U	<1.0 U
2-HEXANONE	NL	<1.0 U	<1.0 U
4-METHYL-2-PENTANONE	NL	<1.0 U	<1.0 UJ
ACETONE	NL	<5.0 U	<5.0 U
BENZENE	NL	<1.0 U	<1.0 U
BROMODICHLOROMETHANE	NL	<1.0 U	<1.0 U
BROMOFORM	NL	<1.0 U	<1.0 U
BROMOMETHANE	NL	<1.0 U	<1.0 U
CARBON DISULFIDE	NL	<1.0 U	<1.0 U
CARBON TETRACHLORIDE	5	<1.0 U	<1.0 U
CHLOROBENZENE	NL	<1.0 U	<1.0 U
CHLOROETHANE	NL	<1.0 U	<1.0 U
CHLOROFORM	7	<1.0 U	<1.0 U
CHLOROMETHANE	NL	<1.0 UJ	<1.0 U
CIS-1,2-DICHLOROETHENE	NL	<1.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	NL	<1.0 U	<1.0 U
CYCLOHEXANE	NL	<1.0 U	<1.0 U
DIBROMOCHLOROMETHANE	NL	<1.0 U	<1.0 U
DICHLORODIFLUOROMETHANE	NL	<1.0 U	<1.0 U
ETHYLBENZENE	NL	<1.0 U	<1.0 U
ISOPROPYLBENZENE	NL	<1.0 U	<1.0 U
M- AND P-XYLENE	NL	<1.0 U	<1.0 U
METHYL ACETATE	NL	<1.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	<1.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	NL	<1.0 U	<1.0 U
METHYLENE CHLORIDE	NL	<1.0 U	<1.0 U
O-XYLENE	NL	<1.0 U	<1.0 U
STYRENE	NL	<1.0 U	<1.0 U
TETRACHLOROETHENE	5	<1.0 U	<1.0 U
TOLUENE	NL	<1.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	NL	<1.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	NL	<1.0 U	<1.0 UJ
TRICHLOROETHENE	5	<1.0 U	<1.0 U
TRICHLOROFLUOROMETHANE	NL	<1.0 U	<1.0 U
VINYL CHLORIDE	NL	<1.0 U	<1.0 U
XYLENES, TOTAL	NL	<1.0 U	<1.0 U

ANALYTICAL DATA DURING RE137 DEVELOPMENT (POST GAC TREATMENT)
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System (Note 1)	RE137	RE137
Sample Date		3/2/2017	3/20/2017
Sample ID		IDWGW-03022017-GAC	IDWGW-032017-GAC
Sample type code		N	N
SVOCs 8270D	(ug/L)		
1,1-BIPHENYL	NL	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	NL	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	NL	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	NL	<5.0 UJ	<5.0 U
2,4-DINITROPHENOL	NL	<10.0 U	<10.0 UJ
2,4-DINITROTOLUENE	NL	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	NL	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	<5.0 U	<5.0 U
2-NITROANILINE	NL	<5.0 U	<5.0 U
2-NITROPHENOL	NL	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	NL	<5.0 U	<5.0 U
3-NITROANILINE	NL	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	<10.0 U	<10.0 UJ
4-BROMOPHENYL-PHENYLEETHER	NL	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	<5.0 U	<5.0 U
4-CHLOROANILINE	NL	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLEETHER	NL	<5.0 U	<5.0 U
4-NITROANILINE	NL	<5.0 U	<5.0 U
4-NITROPHENOL	NL	<10.0 UJ	<10.0 U
ACENAPHTHENE	NL	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	<5.0 U	<5.0 U
ACETOPHENONE	NL	<5.0 U	<5.0 U
ANTHRACENE	NL	<5.0 U	<5.0 U
ATRAZINE	NL	<5.0 U	<5.0 U
BENZALDEHYDE	NL	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	NL	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	NL	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	NL	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	<5.0 U	<5.0 U
CAPROLACTAM	NL	<5.0 U	<5.0 U
CARBAZOLE	NL	<5.0 U	<5.0 UJ
CHRYSENE	NL	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	<5.0 U	<5.0 U
DIBENZOFURAN	NL	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	NL	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	<5.0 U	<5.0 U
FLUORANTHENE	NL	<5.0 U	<5.0 U
FLUORENE	NL	<5.0 U	<5.0 U
HEXACHLOROBENZENE	NL	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	NL	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 DEVELOPMENT (POST GAC TREATMENT)

2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

Location	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System (Note 1)	RE137	RE137
Sample Date		3/2/2017	3/20/2017
Sample ID		IDWGW-03022017- GAC	IDWGW-032017- GAC
Sample type code		N	N
SVOCs 8270D	(ug/L)		
HEXACHLOROCYCLOPENTADIENE	NL	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	NL	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	<5.0 U	<5.0 U
ISOPHORONE	NL	<5.0 U	<5.0 U
NAPHTHALENE	NL	<5.0 U	<5.0 U
NITROBENZENE	NL	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	<5.0 U	<5.0 U
PENTACHLOROPHENOL	NL	<10.0 U	<10.0 UJ
PHENANTHRENE	NL	<5.0 U	<5.0 U
PHENOL	NL	<5.0 U	<5.0 U
PYRENE	NL	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 DEVELOPMENT (POST GAC TREATMENT)
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				Daily Maximum Discharge Limits for RE-108 Hotspot Area Groundwater Extraction & Treatment System (Note 1)	RE137	RE137
Sample Date					3/2/2017	3/20/2017
Sample ID					IDWGW-03022017-GAC	IDWGW-032017-GAC
Sample type code					N	N
Method	Analyte	Fraction	Units			
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	NL	1360	43.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	<10.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	NL	0.23	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	0.31	<0.10 U
4500_H+_B	pH	Total	PH	6.0 - 9.0	8.2 J	5.6 J
6010C	ALUMINUM	Dissolved	ug/L	NL	465	<200 U
6010C	ALUMINUM	Total	ug/L	NL	603	<200 U
6010C	ANTIMONY	Dissolved	ug/L	NL	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	NL	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	NL	54.3	<10.0 U
6010C	ARSENIC	Total	ug/L	NL	50.3	<10.0 U
6010C	BARIUM	Dissolved	ug/L	NL	<200 U	<200 U
6010C	BARIUM	Total	ug/L	NL	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	NL	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	NL	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	33800	6820
6010C	CALCIUM	Total	ug/L	NL	37800	7130
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	NL	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	NL	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	NL	<25.0 U	80.5
6010C	COPPER	Total	ug/L	NL	48.2	81.5
6010C	IRON	Dissolved	ug/L	Monitor	<100 U	<100 U
6010C	IRON	Total	ug/L	Monitor	139	<100 U
6010C	LEAD	Dissolved	ug/L	NL	<5.0 U	<5.0 U
6010C	LEAD	Total	ug/L	NL	<5.0 U	<5.0 U
6010C	MAGNESIUM	Dissolved	ug/L	NL	4480	1360
6010C	MAGNESIUM	Total	ug/L	NL	5100	1500
6010C	MANGANESE	Dissolved	ug/L	NL	285	187
6010C	MANGANESE	Total	ug/L	NL	334	190
6010C	NICKEL	Dissolved	ug/L	NL	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	NL	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	200000	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	219000	<5000 U
6010C	SELENIUM	Dissolved	ug/L	NL	14.6	<10.0 U
6010C	SELENIUM	Total	ug/L	NL	12.3	<10.0 U
6010C	SILVER	Dissolved	ug/L	NL	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	NL	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	NL	612000	9880
6010C	SODIUM	Total	ug/L	NL	647000	12100
6010C	THALLIUM	Dissolved	ug/L	NL	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	<20.0 U	66.2
6010C	ZINC	Total	ug/L	NL	<20.0 U	65.7
7470A	MERCURY	Dissolved	ug/L	NL	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	NL	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	<4.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 DEVELOPMENT (POST GAC TREATMENT)
2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

Notes:

1. Discharge Limits for NGC-USNAVY OU2 RE-108 Hotspot Area Groundwater Extraction & Treatment System per New York State Department of Environmental Conservation Division of Water (DER Site ID 1-30-003B, issued February 15, 2017).

NL = Not Listed

Bold = Detected; ***Bold and Italics*** = Not detected exceeds NYS Groundwater Standards or guidance value

Yellow highlighted values exceed Groundwater Standards or guidance value

Sample type codes: N - normal environmental sample, FD - field duplicate

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

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

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

Several volatile organic compound samples were diluted to bracket the concentration of the analyte within the calibration range of the instrument, therefore, raising the reporting limit for that sample.

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/11/2017	4/11/2017
Sample ID			RE137-INF- 041117-0830	RE137-EFF- 041117-0835	RE137-INF- 041117-1400	RE137-EFF- 041117-1405
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	33.4	<1.0 U	24.6 J	<1.0 UJ
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 UJ
1,1-DICHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
2-HEXANONE	50	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
4-METHYL-2-PENTANONE	NL	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
ACETONE	50	NL	<50.0 UJ	<5.0 UJ	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 UJ
BROMOMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 UJ
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 UJ
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROFORM	7	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DICHLORODIFLUOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 UJ
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 UJ	<1.0 UJ
TOLUENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1950	<1.0 U	1670	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 UJ	<1.0 UJ
VINYL CHLORIDE	2	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041117-2000	RE137-EFF- 041117-2005	RE137-INF- 041217-0205	RE137-EFF- 041217-0210
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	25.3 J	<1.0 UJ	21.0 J	<1.0 UJ
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
2-HEXANONE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
4-METHYL-2-PENTANONE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ACETONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROFORM	7	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DICHLORODIFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
TOLUENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1680	<1.0 U	1590	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
VINYL CHLORIDE	2	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041217-0800	RE137-EFF- 041217-0805	RE137-INF- 041217-1400	RE137-EFF- 041217-1405
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	30.6 J	<1.0 UJ	29.4 J	<1.0 UJ
1,1,2-TRICHLOROETHANE	1	5	1.4	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	1.6	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	5.8	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMOETHANE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<1.0 UJ	<1.0 U	<50.0 U	<5.0 U
2-HEXANONE	50	NL	<1.0 U	<1.0 U	<50.0 U	<5.0 U
4-METHYL-2-PENTANONE	NL	NL	<1.0 U	<1.0 U	<50.0 U	<5.0 U
ACETONE	50	NL	<5.0 U	<5.0 U	<50.0 U	<5.0 U
BENZENE	1	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<1.0 U	<1.0 UJ	<10.0 UJ	<1.0 UJ
BROMOMETHANE	5	NL	<1.0 U	<1.0 UJ	<10.0 UJ	<1.0 UJ
CARBON DISULFIDE	60	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	2.5	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<1.0 U	<1.0 UJ	<10.0 UJ	<1.0 UJ
CHLOROFORM	7	NL	1.8	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	4.5	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
DICHLORODIFLUOROMETHANE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	3.9 J	<1.0 U	<10.0 U	<1.0 U
TOLUENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1770	<1.0 U	1970	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<1.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
VINYL CHLORIDE	2	NL	<1.0 U	<1.0 U	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<2.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041217-2000	RE137-EFF- 041217-2005	RE137-INF- 041317-0205	RE137-EFF- 041317-0210
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	27.3 J	<1.0 UJ	27.7 J	<1.0 UJ
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
2-HEXANONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
4-METHYL-2-PENTANONE	NL	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
ACETONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
BROMOMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CHLOROFORM	7	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DICHLORODIFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TOLUENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1970	<1.0 U	1970	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
VINYL CHLORIDE	2	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041317-0805	RE137-EFF- 041317-0810	RE137-INF- 041317-1400	RE137-EFF- 041317-1405
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	32.9 J	<1.0 UJ	30.8	<1.0 U
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	11.3	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 UJ	<1.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 U	<1.0 U	<10.0 UJ	<1.0 UJ
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<50.0 U	<5.0 U	<50.0 UJ	<5.0 UJ
2-HEXANONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
4-METHYL-2-PENTANONE	NL	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
ACETONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
BROMOMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CHLOROFORM	7	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 UJ	<1.0 UJ
DICHLORODIFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TOLUENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1910	<1.0 U	1870	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 U	<1.0 U
VINYL CHLORIDE	2	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/14/2017	4/14/2017
Sample ID			RE137-INF- 041317-2000	RE137-EFF- 041317-2005	RE137-INF- 041417-0205	RE137-EFF- 041417-0210
Sample type code			N	N	N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	29	<1.0 U	28	<1.0 U
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2,4-TRICHLOROBENZENE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,3-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DICHLOROBENZENE	3	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U	<100 U	<100 U
2-BUTANONE	50	NL	<50.0 UJ	<5.0 UJ	<50.0 UJ	<5.0 UJ
2-HEXANONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
4-METHYL-2-PENTANONE	NL	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
ACETONE	50	NL	<50.0 U	<5.0 U	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
BROMOMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
CHLOROFORM	7	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ	<10.0 UJ	<1.0 UJ
DICHLORODIFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TOLUENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1820	<1.0 U	1970	<1.0 U
TRICHLOROFLUOROMETHANE	5	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
VINYL CHLORIDE	2	NL	<10.0 U	<1.0 U	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137
Sample Date			4/14/2017	4/14/2017
Sample ID			RE137-INF- 041417-0810	RE137-EFF- 041417-0815
Sample type code			N	N
VOC 8260C	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1,1-TRICHLOROETHANE	5	NL	<10.0 U	<1.0 U
1,1,2,2-TETRACHLOROETHANE	5	NL	<10.0 U	<1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	31.3	<1.0 U
1,1,2-TRICHLOROETHANE	1	5	<10.0 U	<1.0 U
1,1-DICHLOROETHANE	5	5	<10.0 U	<1.0 U
1,1-DICHLOROETHENE	5	5	<10.0 U	<1.0 U
1,2,4-TRICHLOROENZENE	5	NL	<10.0 UJ	<1.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	NL	<10.0 UJ	<1.0 UJ
1,2-DIBROMOETHANE	NL	NL	<10.0 U	<1.0 U
1,2-DICHLOROENZENE	3	NL	<10.0 U	<1.0 U
1,2-DICHLOROETHANE	5	NL	<10.0 U	<1.0 U
1,2-DICHLOROPROPANE	1	NL	<10.0 U	<1.0 U
1,3-DICHLOROENZENE	3	NL	<10.0 U	<1.0 U
1,4-DICHLOROENZENE	3	NL	<10.0 U	<1.0 U
1,4-DIOXANE	NL	NL	<100 U	<100 U
2-BUTANONE	50	NL	<50.0 UJ	<5.0 UJ
2-HEXANONE	50	NL	<50.0 U	<5.0 U
4-METHYL-2-PENTANONE	NL	NL	<50.0 U	<5.0 U
ACETONE	50	NL	<50.0 U	<5.0 U
BENZENE	1	NL	<10.0 U	<1.0 U
BROMODICHLOROMETHANE	50	NL	<10.0 U	<1.0 U
BROMOFORM	50	NL	<10.0 UJ	<1.0 UJ
BROMOMETHANE	5	NL	<10.0 UJ	<1.0 UJ
CARBON DISULFIDE	60	NL	<10.0 U	<1.0 U
CARBON TETRACHLORIDE	5	5	<10.0 U	<1.0 U
CHLOROENZENE	5	NL	<10.0 U	<1.0 U
CHLOROETHANE	5	NL	<10.0 UJ	<1.0 UJ
CHLOROFORM	7	NL	<10.0 U	<1.0 U
CHLOROMETHANE	5	NL	<10.0 U	<1.0 U
CIS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U
CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U
DIBROMOCHLOROMETHANE	5	NL	<10.0 UJ	<1.0 UJ
DICHLORODIFLUOROMETHANE	5	NL	<10.0 U	<1.0 U
ETHYLBENZENE	5	NL	<10.0 U	<1.0 U
ISOPROPYLBENZENE	5	NL	<10.0 U	<1.0 U
M- AND P-XYLENE	NL	NL	<10.0 U	<1.0 U
METHYL ACETATE	NL	NL	<10.0 U	<1.0 U
METHYL CYCLOHEXANE	NL	NL	<10.0 U	<1.0 U
METHYL TERT-BUTYL ETHER	10	NL	<10.0 U	<1.0 U
METHYLENE CHLORIDE	5	NL	<10.0 U	<1.0 U
O-XYLENE	NL	NL	<10.0 U	<1.0 U
STYRENE	5	NL	<10.0 U	<1.0 U
TETRACHLOROETHENE	5	5	<10.0 U	<1.0 U
TOLUENE	5	NL	<10.0 U	<1.0 U
TRANS-1,2-DICHLOROETHENE	5	NL	<10.0 U	<1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	NL	<10.0 U	<1.0 U
TRICHLOROETHENE	5	5	1740	<1.0 U
TRICHLOROFUOROMETHANE	5	NL	<10.0 U	<1.0 U
VINYL CHLORIDE	2	NL	<10.0 U	<1.0 U
XYLENES, TOTAL	5	NL	<20.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/11/2017	4/11/2017
Sample ID			RE137-INF- 041117-0830	RE137-EFF- 041117-0835	RE137-INF- 041117-1400	RE137-EFF- 041117-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	12.0	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/11/2017	4/11/2017
Sample ID			RE137-INF- 041117-0830	RE137-EFF- 041117-0835	RE137-INF- 041117-1400	RE137-EFF- 041117-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041117-2000	RE137-EFF- 041117-2005	RE137-INF- 041217-0205	RE137-EFF- 041217-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
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Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/11/2017	4/11/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041117-2000	RE137-EFF- 041117-2005	RE137-INF- 041217-0205	RE137-EFF- 041217-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041217-0800	RE137-EFF- 041217-0805	RE137-INF- 041217-1400	RE137-EFF- 041217-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 UJ	<10.0 UJ
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/12/2017	4/12/2017
Sample ID			RE137-INF- 041217-0800	RE137-EFF- 041217-0805	RE137-INF- 041217-1400	RE137-EFF- 041217-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 UJ	<10.0 UJ	<10.0 U	<10.0 U
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
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Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041217-2000	RE137-EFF- 041217-2005	RE137-INF- 041317-0205	RE137-EFF- 041317-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/12/2017	4/12/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041217-2000	RE137-EFF- 041217-2005	RE137-INF- 041317-0205	RE137-EFF- 041317-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041317-0805	RE137-EFF- 041317-0810	RE137-INF- 041317-1400	RE137-EFF- 041317-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
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 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/13/2017	4/13/2017
Sample ID			RE137-INF- 041317-0805	RE137-EFF- 041317-0810	RE137-INF- 041317-1400	RE137-EFF- 041317-1405
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
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Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/14/2017	4/14/2017
Sample ID			RE137-INF- 041317-2000	RE137-EFF- 041317-2005	RE137-INF- 041417-0205	RE137-EFF- 041417-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBENZENE	0.04	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
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 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date			4/13/2017	4/13/2017	4/14/2017	4/14/2017
Sample ID			RE137-INF- 041317-2000	RE137-EFF- 041317-2005	RE137-INF- 041417-0205	RE137-EFF- 041417-0210
Sample type code			N	N	N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
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Location Sample Date Sample ID Sample type code	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137
			4/14/2017	4/14/2017
			RE137-INF- 041417-0810	RE137-EFF- 041417-0815
			N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-BIPHENYL	5	NL	<5.0 U	<5.0 U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	NL	<5.0 U	<5.0 U
2,4,5-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U
2,4,6-TRICHLOROPHENOL	NL	NL	<5.0 U	<5.0 U
2,4-DICHLOROPHENOL	1	NL	<5.0 U	<5.0 U
2,4-DIMETHYLPHENOL	1	NL	<5.0 U	<5.0 U
2,4-DINITROPHENOL	1	NL	<10.0 U	<10.0 U
2,4-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U
2,6-DINITROTOLUENE	5	NL	<5.0 U	<5.0 U
2-CHLORONAPHTHALENE	NL	NL	<5.0 U	<5.0 U
2-CHLOROPHENOL	NL	NL	<5.0 U	<5.0 U
2-METHYLNAPHTHALENE	NL	NL	<5.0 U	<5.0 U
2-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U
2-NITROANILINE	5	NL	<5.0 U	<5.0 U
2-NITROPHENOL	NL	NL	<5.0 U	<5.0 U
3- AND 4-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U
3,3-DICHLOROBENZIDINE	5	NL	<5.0 U	<5.0 U
3-NITROANILINE	5	NL	<5.0 U	<5.0 U
4,6-DINITRO-2-METHYLPHENOL	NL	NL	<10.0 U	<10.0 U
4-BROMOPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U
4-CHLORO-3-METHYLPHENOL	NL	NL	<5.0 U	<5.0 U
4-CHLOROANILINE	5	NL	<5.0 U	<5.0 U
4-CHLOROPHENYL-PHENYLETHER	NL	NL	<5.0 U	<5.0 U
4-NITROANILINE	5	NL	<5.0 U	<5.0 U
4-NITROPHENOL	NL	NL	<10.0 UJ	<10.0 UJ
ACENAPHTHENE	NL	NL	<5.0 U	<5.0 U
ACENAPHTHYLENE	NL	NL	<5.0 U	<5.0 U
ACETOPHENONE	NL	NL	<5.0 U	<5.0 U
ANTHRACENE	NL	NL	<5.0 U	<5.0 U
ATRAZINE	7.5	NL	<5.0 U	<5.0 U
BENZALDEHYDE	NL	NL	<5.0 U	<5.0 U
BENZO[A]ANTHRACENE	NL	NL	<5.0 U	<5.0 U
BENZO[A]PYRENE	NL	NL	<5.0 U	<5.0 U
BENZO[B]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U
BENZO[G,H,I]PERYLENE	NL	NL	<5.0 U	<5.0 U
BENZO[K]FLUORANTHENE	NL	NL	<5.0 U	<5.0 U
BIS(2-CHLOROETHOXY)METHANE	5	NL	<5.0 U	<5.0 U
BIS(2-CHLOROETHYL)ETHER	1	NL	<5.0 U	<5.0 U
BIS(2-ETHYLHEXYL)PHTHALATE	5	NL	<5.0 U	<5.0 U
BUTYLBENZYLPHTHALATE	NL	NL	<5.0 U	<5.0 U
CAPROLACTAM	NL	NL	<5.0 U	<5.0 U
CARBAZOLE	NL	NL	<5.0 U	<5.0 U
CHRYSENE	NL	NL	<5.0 U	<5.0 U
DIBENZ[A,H]ANTHRACENE	NL	NL	<5.0 U	<5.0 U
DIBENZOFURAN	NL	NL	<5.0 U	<5.0 U
DIETHYLPHTHALATE	NL	NL	<5.0 U	<5.0 U
DIMETHYL PHTHALATE	NL	NL	<5.0 U	<5.0 U
DI-N-BUTYLPHTHALATE	50	NL	<5.0 U	<5.0 U
DI-N-OCTYLPHTHALATE	NL	NL	<5.0 U	<5.0 U
FLUORANTHENE	NL	NL	<5.0 U	<5.0 U
FLUORENE	NL	NL	<5.0 U	<5.0 U
HEXACHLOROENZENE	0.04	NL	<5.0 U	<5.0 U
HEXACHLOROBUTADIENE	0.5	NL	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location	NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137
Sample Date			4/14/2017	4/14/2017
Sample ID			RE137-INF- 041417-0810	RE137-EFF- 041417-0815
Sample type code			N	N
SVOCs 8270D	(ug/L)	(ug/L)	(ug/L)	(ug/L)
HEXACHLOROCYCLOPENTADIENE	5	NL	<5.0 UJ	<5.0 UJ
HEXACHLOROETHANE	5	NL	<5.0 U	<5.0 U
INDENO[1,2,3-CD]PYRENE	NL	NL	<5.0 U	<5.0 U
ISOPHORONE	NL	NL	<5.0 U	<5.0 U
NAPHTHALENE	NL	NL	<5.0 U	<5.0 U
NITROBENZENE	0.4	NL	<5.0 U	<5.0 U
N-NITROSODINPROPYLAMINE	NL	NL	<5.0 U	<5.0 U
N-NITROSODIPHENYLAMINE	NL	NL	<5.0 U	<5.0 U
PENTACHLOROPHENOL	1	NL	<10.0 U	<10.0 U
PHENANTHRENE	NL	NL	<5.0 U	<5.0 U
PHENOL	1	NL	<5.0 U	<5.0 U
PYRENE	NL	NL	<5.0 U	<5.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
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Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/11/2017	4/11/2017	4/11/2017	4/11/2017
Sample ID						RE137-INF- 041117-0830	RE137-EFF- 041117-0835	RE137-INF- 041117-1400	RE137-EFF- 041117-1405
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	60.0	49.0	79.0	66.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<10.0 U	<10.0 U	<4.0 U	<2.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	0.13	<0.10 U	<0.10 U	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.1 J	6.1 J	4.3 J	5.0 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3200	5190	3270	4250
6010C	CALCIUM	Total	ug/L	NL	NL	3330	6610	3250	4300
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	<25.0 U	38.4	<25.0 U	160
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	57.9	<25.0 U	181
6010C	IRON	Dissolved	ug/L	300	Monitor	189	<100 U	192	<100 U
6010C	IRON	Total	ug/L	300	Monitor	257	327	241	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	7.7	<5.0 U	<5.0 U
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	34.9	<5.0 U	<5.0 U
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1240	1260	1230	1280
6010C	MAGNESIUM	Total	ug/L	NL	NL	1250	1310	1300	1320
6010C	MANGANESE	Dissolved	ug/L	300	NL	19.0	149	<10.0 U	72.7
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	199	<10.0 U	72.3
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	11400	11700	10800	10700
6010C	SODIUM	Total	ug/L	20000	NL	12100	12500	11100	11300
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	99.8	182	171	143
6010C	ZINC	Total	ug/L	NL	NL	60.7	135	37.2	69.4
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/11/2017	4/11/2017	4/12/2017	4/12/2017
Sample ID						RE137-INF- 041117-2000	RE137-EFF- 041117-2005	RE137-INF- 041217-0205	RE137-EFF- 041217-0210
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	58.0	58.0	61.0	73.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	<0.10 U	<0.10 U	0.11	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.1 J	4.7 J	4.0 J	4.4 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3240	4030	3290	3860
6010C	CALCIUM	Total	ug/L	NL	NL	3310	4100	3140	3800
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	<25.0 U	172	<25.0 U	156
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	186	<25.0 U	168
6010C	IRON	Dissolved	ug/L	300	Monitor	191	<100 U	185	<100 U
6010C	IRON	Total	ug/L	300	Monitor	225	<100 U	214	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1280	1280	1270	1270
6010C	MAGNESIUM	Total	ug/L	NL	NL	1340	1320	1260	1290
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	52.0	<10.0 U	39.3
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	51.1	<10.0 U	37.2
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10600	10500	10500	10400
6010C	SODIUM	Total	ug/L	20000	NL	11300	11300	10700	10800
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	62.1	66.3	44.4	53.2
6010C	ZINC	Total	ug/L	NL	NL	36.1	64.5	31.1	45.0
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
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Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/12/2017	4/12/2017	4/12/2017	4/12/2017
Sample ID						RE137-INF- 041217-0800	RE137-EFF- 041217-0805	RE137-INF- 041217-1400	RE137-EFF- 041217-1405
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	55.0	55.0	67.0	63.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<4.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	<0.10 U	<0.10 U	0.18	0.23
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.3 J	4.4 J	4.4 J	4.6 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3260	3730	3310	3720
6010C	CALCIUM	Total	ug/L	NL	NL	3160	3740	3190	3560
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	<25.0 U	154	42.4	161
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	160	<25.0 U	155
6010C	IRON	Dissolved	ug/L	300	Monitor	176	<100 U	152	<100 U
6010C	IRON	Total	ug/L	300	Monitor	209	<100 U	201	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	6.2	<5.0 U	<5.0 U
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	5.2	<5.0 U	7.5
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1280	1280	1250	1290
6010C	MAGNESIUM	Total	ug/L	NL	NL	1310	1270	1260	1280
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	32.9	<10.0 U	28.5
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	31.7	<10.0 U	26.6
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10600	10400	10400	10400
6010C	SODIUM	Total	ug/L	20000	NL	10700	11100	11000	10900
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	80.8	126	222	60.0
6010C	ZINC	Total	ug/L	NL	NL	42.4	54.8	33.4	63.2
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/12/2017	4/12/2017	4/13/2017	4/13/2017
Sample ID						RE137-INF- 041217-2000	RE137-EFF- 041217-2005	RE137-INF- 041317-0205	RE137-EFF- 041317-0210
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	52.0	72.0	69.0	72.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<4.0 U	<4.0 U	<4.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	0.13	0.11	<0.10 U	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.3 J	4.5 J	4.1 J	4.3 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	942
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3330	3680	3300	3660
6010C	CALCIUM	Total	ug/L	NL	NL	3200	3570	3170	3440
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	28.0	142	<25.0 U	124
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	136	<25.0 U	113
6010C	IRON	Dissolved	ug/L	300	Monitor	163	<100 U	166	<100 U
6010C	IRON	Total	ug/L	300	Monitor	190	<100 U	179	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	5.4
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1290	1280	1280	1280
6010C	MAGNESIUM	Total	ug/L	NL	NL	1310	1290	1290	1290
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	25.8	<10.0 U	22.8
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	24.4	<10.0 U	20.7
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10400	10400	10400	10400
6010C	SODIUM	Total	ug/L	20000	NL	11200	11200	11200	11000
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	37.8	53.9	36.0	52.0
6010C	ZINC	Total	ug/L	NL	NL	44.3	58.7	39.3	47.9
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/13/2017	4/13/2017	4/13/2017	4/13/2017
Sample ID						RE137-INF- 041317-0805	RE137-EFF- 041317-0810	RE137-INF- 041317-1400	RE137-EFF- 041317-1405
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	74.0	72.0	27.0	35.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<4.0 U	<4.0 U	<4.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.1 J	4.3 J	4.2 J	4.3 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3260	3620	3190	3330
6010C	CALCIUM	Total	ug/L	NL	NL	3040	3340	3140	3480
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	<25.0 U	117	<25.0 U	101
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	105	<25.0 U	113
6010C	IRON	Dissolved	ug/L	300	Monitor	152	<100 U	133	<100 U
6010C	IRON	Total	ug/L	300	Monitor	168	<100 U	175	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	7.7
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	13.7
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1280	1270	1240	1230
6010C	MAGNESIUM	Total	ug/L	NL	NL	1220	1240	1250	1320
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	20.9	<10.0 U	18.2
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	18.3	<10.0 U	18.7
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10300	10300	10400	10500
6010C	SODIUM	Total	ug/L	20000	NL	10800	10900	10800	11000
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	35.0	47.1	51.5	71.0
6010C	ZINC	Total	ug/L	NL	NL	32.9	46.2	39.1	67.6
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	8.0	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137	RE137	RE137
Sample Date						4/13/2017	4/13/2017	4/14/2017	4/14/2017
Sample ID						RE137-INF- 041317-2000	RE137-EFF- 041317-2005	RE137-INF- 041417-0205	RE137-EFF- 041417-0210
Sample type code						N	N	N	N
Method	Analyte	Fraction	Units						
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	34.0	40.0	39.0	40.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<4.0 U	<4.0 U	<4.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.1 J	4.2 J	4.0 J	4.2 J
6010C	ALUMINUM	Dissolved	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ALUMINUM	Total	ug/L	NL	NL	<200 U	<200 U	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3050	3300	3090	3180
6010C	CALCIUM	Total	ug/L	NL	NL	3210	3400	3200	3300
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	<25.0 U	91.5	<25.0 U	91.1
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	96.4	<25.0 U	95.2
6010C	IRON	Dissolved	ug/L	300	Monitor	136	<100 U	126	<100 U
6010C	IRON	Total	ug/L	300	Monitor	170	<100 U	172	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	7.2
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	<5.0 U	<5.0 U	6.6
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1280	1250	1200	1190
6010C	MAGNESIUM	Total	ug/L	NL	NL	1290	1270	1320	1260
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	16.6	<10.0 U	15.2
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	16.8	<10.0 U	15.2
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10300	10400	10400	10000
6010C	SODIUM	Total	ug/L	20000	NL	10900	10800	10800	10600
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	50.6	59.2	51.8	61.8
6010C	ZINC	Total	ug/L	NL	NL	33.2	56.7	40.6	52.3
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
 2017 OU2 GROUNDWATER INVESTIGATION
 NWIRP BETHPAGE, NY

Location				NYSDEC Groundwater Guidance or Standard Value [applies to INF] (Note 1)	Daily Maximum Discharge Limits for Groundwater Extraction & Treatment System [applies to EFF] (Note 2)	RE137	RE137
Sample Date						4/14/2017	4/14/2017
Sample ID						RE137-INF- 041417-0810	RE137-EFF- 041417-0815
Sample type code						N	N
Method	Analyte	Fraction	Units				
2540C	TOTAL DISSOLVED SOLIDS	Total	mg/L	500	NL	29.0	47.0
2540D	TOTAL SUSPENDED SOLIDS	Total	mg/L	NL	NL	<4.0 U	<4.0 U
350.1	AMMONIA	Total	mg/L	2000	NL	<0.10 U	<0.10 U
351.2	NITROGEN, TOTAL	Total	mg/L	NL	NL	<0.10 U	<0.10 U
4500_H+_B	pH	Total	PH	NL	6.0 - 9.0	4.0 J	4.2 J
6010C	ALUMINIUM	Dissolved	ug/L	NL	NL	<200 U	<200 U
6010C	ALUMINIUM	Total	ug/L	NL	NL	<200 U	<200 U
6010C	ANTIMONY	Dissolved	ug/L	3	NL	<60.0 U	<60.0 U
6010C	ANTIMONY	Total	ug/L	3	NL	<60.0 U	<60.0 U
6010C	ARSENIC	Dissolved	ug/L	25	NL	<10.0 U	<10.0 U
6010C	ARSENIC	Total	ug/L	25	NL	<10.0 U	<10.0 U
6010C	BARIUM	Dissolved	ug/L	1000	NL	<200 U	<200 U
6010C	BARIUM	Total	ug/L	1000	NL	<200 U	<200 U
6010C	BERYLLIUM	Dissolved	ug/L	NL	NL	<5.0 U	<5.0 U
6010C	BERYLLIUM	Total	ug/L	NL	NL	<5.0 U	<5.0 U
6010C	CADMIUM	Dissolved	ug/L	5	NL	<2.5 U	<2.5 U
6010C	CADMIUM	Total	ug/L	5	NL	<2.5 U	<2.5 U
6010C	CALCIUM	Dissolved	ug/L	NL	NL	3060	3270
6010C	CALCIUM	Total	ug/L	NL	NL	3270	3370
6010C	CHROMIUM, TOTAL	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U
6010C	CHROMIUM, TOTAL	Total	ug/L	50	NL	<10.0 U	<10.0 U
6010C	COBALT	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U
6010C	COBALT	Total	ug/L	NL	NL	<50.0 U	<50.0 U
6010C	COPPER	Dissolved	ug/L	200	NL	67.4	83.4
6010C	COPPER	Total	ug/L	200	NL	<25.0 U	117
6010C	IRON	Dissolved	ug/L	300	Monitor	131	<100 U
6010C	IRON	Total	ug/L	300	Monitor	161	<100 U
6010C	LEAD	Dissolved	ug/L	25	NL	<5.0 U	5.1
6010C	LEAD	Total	ug/L	25	NL	<5.0 U	5.8
6010C	MAGNESIUM	Dissolved	ug/L	NL	NL	1230	1200
6010C	MAGNESIUM	Total	ug/L	NL	NL	1280	1300
6010C	MANGANESE	Dissolved	ug/L	300	NL	<10.0 U	15.7
6010C	MANGANESE	Total	ug/L	300	NL	<10.0 U	15.1
6010C	NICKEL	Dissolved	ug/L	100	NL	<40.0 U	<40.0 U
6010C	NICKEL	Total	ug/L	100	NL	<40.0 U	<40.0 U
6010C	POTASSIUM	Dissolved	ug/L	NL	NL	<5000 U	<5000 U
6010C	POTASSIUM	Total	ug/L	NL	NL	<5000 U	<5000 U
6010C	SELENIUM	Dissolved	ug/L	10	NL	<10.0 U	<10.0 U
6010C	SELENIUM	Total	ug/L	10	NL	<10.0 U	<10.0 U
6010C	SILVER	Dissolved	ug/L	50	NL	<10.0 U	<10.0 U
6010C	SILVER	Total	ug/L	50	NL	<10.0 U	<10.0 U
6010C	SODIUM	Dissolved	ug/L	20000	NL	10200	10400
6010C	SODIUM	Total	ug/L	20000	NL	11200	10800
6010C	THALLIUM	Dissolved	ug/L	NL	NL	<10.0 U	<10.0 U
6010C	THALLIUM	Total	ug/L	NL	NL	<10.0 U	<10.0 U
6010C	VANADIUM	Dissolved	ug/L	NL	NL	<50.0 U	<50.0 U
6010C	VANADIUM	Total	ug/L	NL	NL	<50.0 U	<50.0 U
6010C	ZINC	Dissolved	ug/L	NL	NL	105	68.6
6010C	ZINC	Total	ug/L	NL	NL	43.0	51.0
7470A	MERCURY	Dissolved	ug/L	0.7	NL	<0.20 U	<0.20 U
7470A	MERCURY	Total	ug/L	0.7	NL	<0.20 U	<0.20 U
SM5210B	BIOCHEMICAL OXYGEN DEMAND	Total	mg/L	NL	NL	<2.0 U	<2.0 U

ANALYTICAL DATA DURING RE137 CONSTANT RATE TEST
2017 OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

Notes:

1. New York State Department of Environmental Conservation Division of Water Technical and Operation Guidance series (6 NYCRR 700-706, Part 703.5 summarized in TOGS 1.1.1). Ambient water quality standards and groundwater effluent limitations, class GA; NL = Not Listed

2. Discharge Limits for NGC-USNAVY OU2 RE-108 Hotspot Area Groundwater Extraction & Treatment System per New York State Department of Environmental Conservation Division of Water (DER Site ID 1-30-003B, issued February 15, 2017). NL = Not Listed

Bold = Detected; ***Bold and Italics*** = Not detected exceeds NYS Groundwater Standards or guidance value
Yellow highlighted values exceed Groundwater Standards or guidance value

Sample type codes: N - normal environmental sample, FD - field duplicate

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

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

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

Several volatile organic compound samples were diluted to bracket the concentration of the analyte within the calibration range of the instrument, therefore, raising the reporting limit for that sample.

Section 7

Analytical Data Validation



DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage
Laboratory:	Katahdin Analytical
Sample Delivery Group:	BETHPAGE RE137
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C, Semi volatile Organic Compounds (SVOCs) by U.S. EPA SW-846 Method 8270D, Total and Dissolved Metals by U.S. EPA SW-846 Method 6010C, Total and Dissolved Mercury by U.S. EPA SW-846 Method 7470A, Total Dissolved Solids (TDS) by Method 2540C, Total Suspended Solids (TSS) by Method 2540D, Ammonia by Method 350.1, Nitrogen by Method 351.2, pH by Method 4500_H+B, and Biochemical Oxygen Demand by Method 5210B.
Validation Level:	3
Project Number:	0888812477.SA.DV
Prepared by:	Dana Miller/Resolution Consultants
File Name:	BETHPAGE RE137

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage Site on 2 March to 14 April 2017 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York.* (Resolution Consultants, April 2013).
- *UFP SAP Addendum, Installation of Vertical Profile Borings and Monitoring Wells, Operable Unit 2, NWIRP Bethpage, New York.* (Resolution Consultants, November 2013).
- *UFP SAP Addendum, Inclusion of Additional Target Analytes for Volatile Organics Analyses, NWIRP Bethpage OU2, Bethpage, New York.* (Resolution Consultants, August 2014).

Sample ID	Lab ID	Sample Date	Sample Type
IDWGW-03022017-GAC	7012530001	3/2/2017	Post GAC Treatment
IDWGW-032017-GAC	7013736001	3/20/2017	Post GAC Treatment
RE137-GW-032817-INF	7014326001	3/28/2017	Influent
RE137-INF-041117-0830	7015463001	4/11/2017	Influent
RE137-EFF-041117-0835	7015463002	4/11/2017	Effluent
RE137-INF-041117-1400	7015463004	4/11/2017	Influent
RE137-EFF-041117-1405	7015463005	4/11/2017	Effluent
RE137-INF-041217-0800	7015463006	4/12/2017	Influent

Sample ID	Lab ID	Sample Date	Sample Type
RE137-EFF-041217-0805	7015463007	4/12/2017	Effluent
RE137-INF-041117-2000	7015463008	4/11/2017	Influent
RE137-EFF-041117-2005	7015463009	4/11/2017	Effluent
RE137-INF-041217-0205	7015463010	4/12/2017	Influent
RE137-EFF-041217-0210	7015463011	4/12/2017	Effluent
RE137-INF-041217-1400	7015777002	4/12/2017	Influent
RE137-EFF-041217-1405	7015777003	4/12/2017	Effluent
RE137-INF-041217-2000	7015777005	4/12/2017	Influent
RE137-EFF-041217-2005	7015777006	4/12/2017	Effluent
RE137-INF-041317-0205	7015777007	4/13/2017	Influent
RE137-EFF-041317-0210	7015777008	4/13/2017	Effluent
RE137-INF-041317-0805	7015777010	4/13/2017	Influent
RE137-EFF-041317-0810	7015777011	4/13/2017	Effluent
RE137-INF-041317-1400	7015908001	4/13/2017	Influent
RE137-EFF-041317-1405	7015908002	4/13/2017	Effluent
RE137-INF-041317-2000	7015908005	4/13/2017	Influent
RE137-EFF-041317-2005	7015908006	4/13/2017	Effluent
RE137-INF-041417-0205	7015908008	4/14/2017	Influent
RE137-EFF-041417-0210	7015908009	4/14/2017	Effluent
RE137-INF-041417-0810	7015908011	4/14/2017	Influent
RE137-EFF-041417-0815	7015908012	4/14/2017	Effluent

Data validation activities were conducted using the following guidance documents: *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (NFG, January 2010), and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

The data were evaluated based on the following parameters (where applicable to the method):

- X Holding times and sample preservation
- ✓ Gas chromatography/Mass spectrometer performance checks

- X Initial calibration (ICAL) /initial calibration verification (ICV)/continuing calibration verification (CCV)
- ✓ Laboratory blanks/field blanks/equipment blanks/trip blanks
- ✓ Surrogate spike recoveries
- X Matrix spike and/or matrix spike duplicate results
- X Laboratory control sample/laboratory control sample duplicate results
- ✓ Field duplicates
- ✓ Internal standards
- ✓ Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. Acceptable data parameters for which all criteria were met and no qualification was performed and non-conformance or other issues that were noted during validation, but did not result in qualification of data are not discussed further. The symbol (X) indicates that a QC non-conformance resulted in the qualification of data. Any QC non-conformance that resulted in the qualification of data is discussed below.

RESULTS

Initial Calibration/Continuing Calibration Verification

Calibration data were reviewed for conformance with the QC acceptance criteria to ensure that:

- The ICAL percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met
- The ICV standard percent recovery acceptance criteria were met
- The CCV method percent difference or percent drift and response factor acceptance criteria were met
- The retention time method acceptance criteria were met

Data qualification to the analytes associated with the specific ICAL was as follows:

ICAL Linearity Non-conformance:

Criteria	Actions	
	Detected Results	Non-detected Results
%RSD >15% and quantitation based on mean response factor	J	UJ

Notes:

%RSD = Relative standard deviation
 J = Estimated
 UJ = Undetected and estimated

Data qualification to the analytes associated with the specific ICV was as follows:

ICV Recovery Non-conformance:

Criteria	Actions	
	Detected Results	Non-detected Results
Recovery > 120%	J	UJ
Recovery < 80%	J	UJ

Notes:

J = Estimated
 UJ = Undetected and estimated

Data qualification to the analytes associated with the specific CCV was as follows:

CCV Linearity Non-conformance:

Criteria	Actions	
	Detected Results	Non-detected Results
%Difference or %Drift > 20%	J	UJ

Notes:

J = Estimated
 UJ = Undetected and estimated

Matrix Spike/Matrix Spike Duplicate Results

MS/MSDs are generated to provide information about the effect of each sample matrix on the sample preparation and the measurement methodology. MS/MSD percent %Rs assess the effect of the sample matrix on the accuracy of the analytical results and %Rs above the laboratory control limit could indicate a potential high result bias while %Rs below QC limits could indicate a potential low result bias. The relative percent differences (RPDs) between the MS and MSD results are evaluated to assess sample precision. The MS/MSD %Rs and RPDs were reviewed for conformance with the QC acceptance criteria. Data qualification to the analytes associated with the specific MS/MSD non-conformances were as follows:

Matrix Spike/Matrix Spike Duplicate Non-Conformances Chart:

Criteria	Action	
	Detected Compounds	Non-Detected Compounds
%R or RPD > Upper Limit	J	No qualification
20% ≤ %R < Lower Limit	J	UJ
%R < 20%	J	Rejected

Notes:

- %R = Percent recovery
- RPD = Relative percent difference
- J = Estimated
- UJ = Undetected and estimated

Laboratory Control Samples / Laboratory Control Sample Duplicate

LCS %Rs is used to monitor the overall accuracy and performance of each step during analysis, including sample preparation. The laboratory analyzed LCSs in duplicate when matrix spike/matrix spike duplicates were not reported. In these instances, the laboratory determined precision between the duplicated values. Data qualification to the analytes associated with the specific LCS/LCS duplicate was as follows:

Laboratory Control Sample / Laboratory Control Sample Duplicate Non-conformance Chart:

Criteria	Action	
	Detected	Non-detected
% R or RPD > UL	J	No qualification
%R < LL	J	UJ
%R < 20%	J	Rejected

Notes:

- %R = Percent recovery
- RPD = Relative percent difference
- UL = Upper limit
- LL = Lower limit
- J = Estimated
- UJ = Undetected and estimated

Qualifications Actions

The data were reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or

non-target analytes was checked to confirm that the results and/or sample-specific limit of quantitation and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. EPA and Department of Defense guidelines. Attachment A provides a summary of all qualified results during this data review.

ATTACHMENTS

Attachment A: Qualified Results Summary during Data Review

Attachment A
Qualified Results Summary during Data Review

Table A-1
Qualified Results Summary during Data Review

SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	PH	4.4	PH	H3,H6	J	J	h
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	1,4-DIOXANE	100	UG_L	U,CC	J	J	c
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	TETRACHLOROETHENE	3.8	UG_L	CC	J	J	c
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	2,2'-OXYBIS(1-CHLOROPROPANE)	5	UG_L	U,CC	J	UJ	c
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	CARBAZOLE	5	UG_L	U,CC	J	UJ	c
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7014326	RE137-GW-032817-INF	7014326001	3/28/2017	1	2-NITROANILINE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	PH	6.1	PH	H3,H6	J	J	h
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	4-METHYL-2-PENTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	2-HEXANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	ACETONE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	CHLOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	VINYL CHLORIDE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	1,1-DICHLOROETHANE	1	UG_L	U,L2	J	UJ	l
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	DICHLORODIFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	2-BUTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	METHYL ACETATE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-0835	7015463002	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	PH	5	PH	H3,H6	J	J	h
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	TETRACHLOROETHENE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	BROMOMETHANE	1	UG_L	U,L1,M0	J	UJ	m
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	CARBON DISULFIDE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	BROMOFORM	1	UG_L	U,M1	J	UJ	m
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	1,1-DICHLOROETHANE	1	UG_L	U,M1	J	UJ	m
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	2-BUTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	METHYL ACETATE	1	UG_L	U,L1,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-1405	7015463005	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	PH	4.7	PH	H3,H6	J	J	h
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	TETRACHLOROETHENE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	2-BUTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c

Table A-1
Qualified Results Summary during Data Review

SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041117-2005	7015463009	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	PH	4.4	PH	H3,H6	J	J	h
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	TETRACHLOROETHENE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	2-BUTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0210	7015463011	4/12/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	TETRACHLOROETHENE	3.9	UG_L	CC	J	J	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	30.6	UG_L	CC	J	J	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	2-BUTANONE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-EFF-041217-0805	7015463007	4/12/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	1	PH	4.1	PH	H3,H6	J	J	h
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	4-METHYL-2-PENTANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	2-HEXANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	ACETONE	50	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	BROMOMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	CHLOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	VINYL CHLORIDE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	1,1-DICHLOROETHANE	10	UG_L	U,L2	J	UJ	l
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	DICHLORODIFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	2-BUTANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	10	METHYL ACETATE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-0830	7015463001	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	10	TETRACHLOROETHENE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	24.6	UG_L	CC	J	J	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	10	2-BUTANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c

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Qualified Results Summary during Data Review

SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015463	RE137-INF-041117-1400	7015463004	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	1	PH	4.1	PH	H3,H6	J	J	h
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	10	TETRACHLOROETHENE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	25.3	UG_L	CC	J	J	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	10	2-BUTANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041117-2000	7015463008	4/11/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	1	PH	4	PH	H3,H6	J	J	h
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	10	TETRACHLOROETHENE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	21	UG_L	CC	J	J	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	10	2-BUTANONE	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0205	7015463010	4/12/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	PH	4.4	PH	H3,H6	J	J	h
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	CHLOROETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	BROMOFORM	1	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	2,6-DINITROTOLUENE	5	UG_L	U,L1,IC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7015463	RE137-INF-041217-0800	7015463006	4/12/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	PH	4.6	PH	H3,H6	J	J	h
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	CHLOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	BROMOFORM	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-1405	7015777003	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	PH	4.5	PH	H3,H6	J	J	h
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	CHLOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	BROMOFORM	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c

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SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041217-2005	7015777006	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	CHLOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	BROMOFORM	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0210	7015777008	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	BROMOMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	CHLOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	BROMOFORM	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	TRICHLOROFLUOROMETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-EFF-041317-0810	7015777011	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	1	PH	4.4	PH	H3,H6	J	J	h
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	10	BROMOMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	10	CHLOROETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	10	BROMOFORM	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	29.4	UG_L	CC	J	J	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-1400	7015777002	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	10	BROMOMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	10	CHLOROETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	10	BROMOFORM	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	27.3	UG_L	CC	J	J	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041217-2000	7015777005	4/12/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	1	PH	4.1	PH	H3,H6	J	J	h
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	10	BROMOMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	10	CHLOROETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	10	BROMOFORM	10	UG_L	U,CC	J	UJ	c

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SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	27.7	UG_L	CC	J	J	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0205	7015777007	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	1	PH	4.1	PH	H3,H6	J	J	h
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	10	BROMOMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	10	CHLOROETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	10	BROMOFORM	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	10	TRICHLOROFLUOROMETHANE	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	32.9	UG_L	CC	J	J	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015777	RE137-INF-041317-0805	7015777010	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	PH	4.3	PH	H3,H6	J	J	h
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	1,2,4-TRICHLOROBENZENE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	DIBROMOCHLOROMETHANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	BROMOMETHANE	1	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	CHLOROETHANE	1	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	BROMOFORM	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	2-BUTANONE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	1,2-DIBROMO-3-CHLOROPROPANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-EFF-041317-1405	7015908002	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	PH	4.2	PH	H3,H6	J	J	h
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	1,2,4-TRICHLOROBENZENE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	DIBROMOCHLOROMETHANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	BROMOMETHANE	1	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	CHLOROETHANE	1	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	BROMOFORM	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	2-BUTANONE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	1,2-DIBROMO-3-CHLOROPROPANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-EFF-041317-2005	7015908006	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	PH	4.2	PH	H3,H6	J	J	h
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	1,2,4-TRICHLOROBENZENE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	DIBROMOCHLOROMETHANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	BROMOMETHANE	1	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	CHLOROETHANE	1	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	BROMOFORM	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	2-BUTANONE	5	UG_L	U,IC	J	UJ	c

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SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	1,2-DIBROMO-3-CHLOROPROPANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-EFF-041417-0210	7015908009	4/14/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	PH	4.2	PH	H3,H6	J	J	h
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	1,2,4-TRICHLOROBENZENE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	DIBROMOCHLOROMETHANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	BROMOMETHANE	1	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	CHLOROETHANE	1	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	BROMOFORM	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	2-BUTANONE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	1,2-DIBROMO-3-CHLOROPROPANE	1	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-EFF-041417-0815	7015908012	4/14/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	1	PH	4.2	PH	H3,H6	J	J	h
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	1,2,4-TRICHLOROBENZENE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	DIBROMOCHLOROMETHANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	BROMOMETHANE	10	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	CHLOROETHANE	10	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	BROMOFORM	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	2-BUTANONE	50	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	10	1,2-DIBROMO-3-CHLOROPROPANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-INF-041317-1400	7015908001	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	1	PH	4.1	PH	H3,H6	J	J	h
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	1,2,4-TRICHLOROBENZENE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	DIBROMOCHLOROMETHANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	BROMOMETHANE	10	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	CHLOROETHANE	10	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	BROMOFORM	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	2-BUTANONE	50	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	10	1,2-DIBROMO-3-CHLOROPROPANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-INF-041317-2000	7015908005	4/13/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	1	PH	4	PH	H3,H6	J	J	h
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	1,2,4-TRICHLOROBENZENE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	DIBROMOCHLOROMETHANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	BROMOMETHANE	10	UG_L	U,L1,IC	J	UJ	c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	CHLOROETHANE	10	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	BROMOFORM	10	UG_L	U,L2,CC	J	UJ	l,c

Table A-1
Qualified Results Summary during Data Review

SDG	Sample ID	Lab ID	Sample Date	DF	Analyte	Result	Units	Lab Qualifiers	Validator Qualifier	Final Qualifier	RC
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	2-BUTANONE	50	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	10	1,2-DIBROMO-3-CHLOROPROPANE	10	UG_L	U,L2,CC	J	UJ	l,c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-INF-041417-0205	7015908008	4/14/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	1	PH	4	PH	H3,H6	J	J	h
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	1,2,4-TRICHLOROBENZENE	10	UG_L	U,L2,CC,M0	J	UJ	l,c,m
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	DIBROMOCHLOROMETHANE	10	UG_L	U,L2,CC,M0	J	UJ	l,c,m
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	BROMOMETHANE	10	UG_L	U,L1,M0,IC	J	UJ	c
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	CHLOROETHANE	10	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	BROMOFORM	10	UG_L	U,L2,CC,M0	J	UJ	l,c,m
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	2-BUTANONE	50	UG_L	U,IC	J	UJ	c
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	10	1,2-DIBROMO-3-CHLOROPROPANE	10	UG_L	U,L2,CC,M0	J	UJ	l,c,m
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	1	4-NITROPHENOL	10	UG_L	U,CC	J	UJ	c
7015908	RE137-INF-041417-0810	7015908011	4/14/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,IC	J	UJ	c
7012530	IDWGW-03022017-GAC	7012530001	3/2/2017	1	PH	8.2	PH	H3,H6	J	J	h
7012530	IDWGW-03022017-GAC	7012530001	3/2/2017	1	CHLOROMETHANE	1	UG_L	U,L2	J	UJ	l
7012530	IDWGW-03022017-GAC	7012530001	3/2/2017	1	4-NITROPHENOL	10	UG_L	U,IC	J	UJ	c
7012530	IDWGW-03022017-GAC	7012530001	3/2/2017	1	2,4-DIMETHYLPHENOL	5	UG_L	U,L2	J	UJ	l
7012530	IDWGW-03022017-GAC	7012530001	3/2/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC,IC	J	UJ	c
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	PH	5.6	PH	H3,H6	J	J	h
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	TRANS-1,3-DICHLOROPROPENE	1	UG_L	U,M1	J	UJ	m
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	1,2-DIBROMOETHANE	1	UG_L	U,M1	J	UJ	m
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	4-METHYL-2-PENTANONE	1	UG_L	U,M0	J	UJ	l,m
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	1,1,2-TRICHLOROETHANE	1	UG_L	U,M1	J	UJ	m
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	1,2-DIBROMO-3-CHLOROPROPANE	1	UG_L	U,M1	J	UJ	m
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	2,4-DINITROPHENOL	10	UG_L	U,CC	J	UJ	c
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	4,6-DINITRO-2-METHYLPHENOL	10	UG_L	U,CC	J	UJ	c
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	HEXACHLOROCYCLOPENTADIENE	5	UG_L	U,CC	J	UJ	c
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	CARBAZOLE	5	UG_L	U,CC	J	UJ	c
7013736	IDWGW-032017-GAC	7013736001	3/20/2017	1	PENTACHLOROPHENOL	10	UG_L	U,CC	J	UJ	c

Notes:

- ID = Identification
- DF = Dilution factor
- RC = Reason code
- UG_L = Micrograms per liter
- U = **Undetected** — The analyte was analyzed but undetected or was qualified as undetected during data review due to blank artifacts.
- J = **Estimated Value** — One or more quality control parameters were outside control limits or the analyte concentration was less than the limit of quantitation.
- UJ = **Undetected and Estimated** — The analyte was analyzed but undetected and was estimated because of a quality control outlier.
- CC = Indicates that the continuing calibration was outside of the control limits (laboratory qualifier).
- IC = Indicates that the initial calibration was outside of the control limits (laboratory qualifier).

- H3,H6= Indicates that the sample was received outside of holding time and the sample was analyzed outside of holding time (laboratory qualifier).
- M = Indicates that the analyte was outside of the control limits in the matrix spike/matrix spike duplicate prepared and/or analyzed concurrently with the native sample (laboratory qualifier).
- L = Indicates that the analyte was outside of control limits in the lab control sample/lab control sample duplicate and/or analyzed concurrently with the native sample (laboratory qualifier).
- UL = Indicates that the analyte was analyzed but undetected and outside of control limits in the lab control sample/lab control sample duplicate (laboratory qualifier).

Qualification Reason Codes (multiple reason codes may be applied):

- c = Calibration issue
- h = Holding time
- l = Laboratory control sample recovery
- m = Matrix spike/matrix spike duplicate percent recovery

Section 8

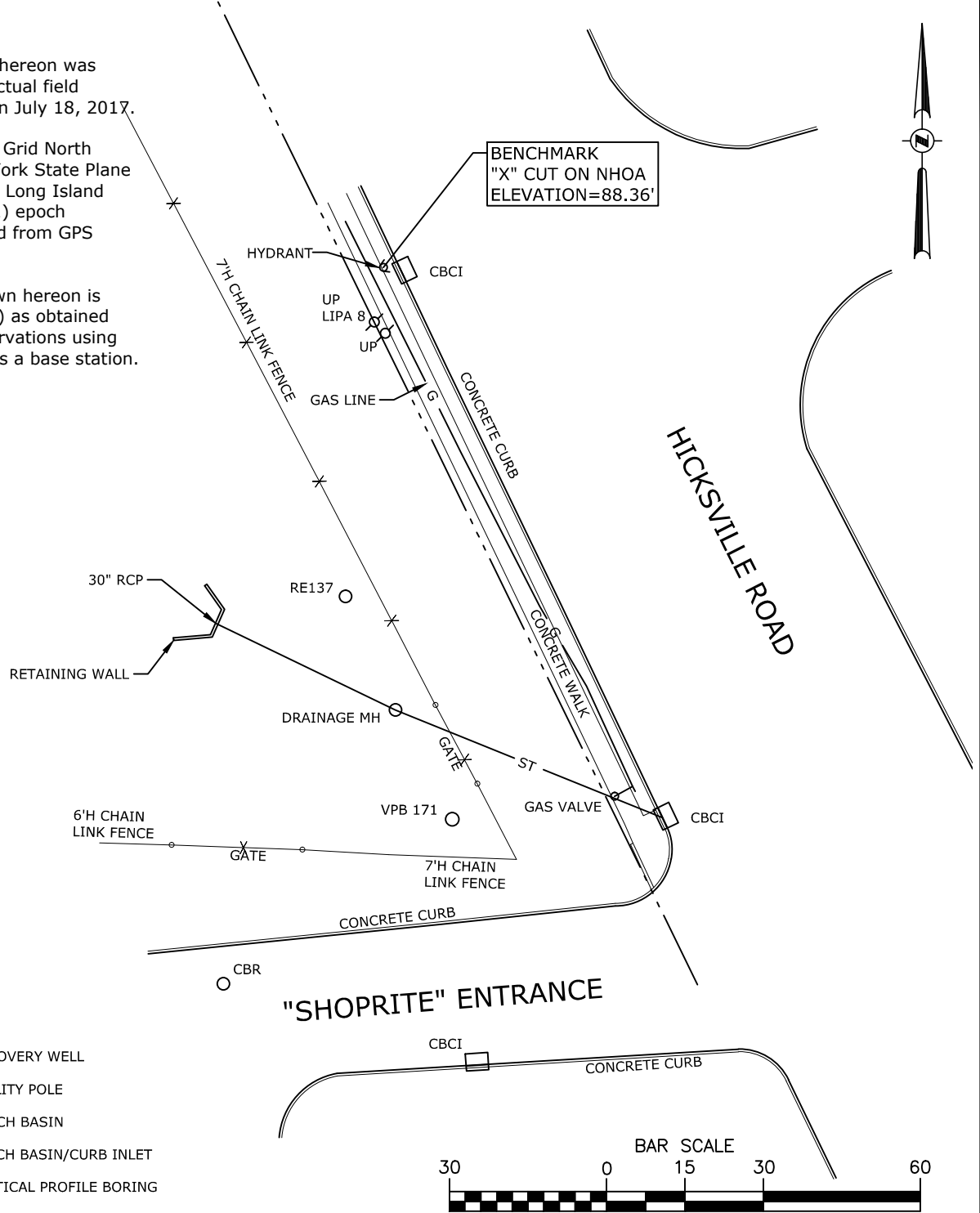
Survey

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

Description	Northing	Easting	Latitude	Longitude	Ground	Top of Manhole	Top of 12" Casing
RE137	204415.54	1125692.43	N40-43-35.83	W73-29-22.88	85.53	85.79	85.15
VPB 171	204372.97	1125712.85	N40-43-35.41	W73-29-22.61	85.19	NA	NA

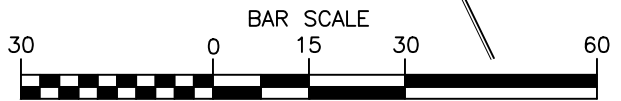
Map Notes

- Information shown hereon was compiled from an actual field survey conducted on July 18, 2017.
- North orientation is Grid North based on the New York State Plane Coordinate System, Long Island Zone, NAD 83(2011) epoch 2010.00 as obtained from GPS observations.
- Vertical datum shown hereon is NAVD 88(Geoid12A) as obtained from RTK GPS observations using the Queens CORS as a base station.



Legend

- RE137 RECOVERY WELL
- ⊗ UP UTILITY POLE
- CBR CATCH BASIN
- CBCI CATCH BASIN/CURB INLET
- VPB VERTICAL PROFILE BORING



DWG NO. 17-438

Date	RECORD OF WORK	Appr.
9/11/17	SHOW NEW 7'H CHAIN LINK FENCE & VPB 171 LOCATION	
Drafter: MDD		Checker:
Appr. by: WJN		Proj. No. 14.4121

**RECOVERY WELL SURVEY LOCATION RE137
176 HICKSVILLE ROAD**

TOWN OF BETHPAGE NASSAU COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

SCALE: 1"=30' DATE: JULY 18, 2017

Appendix B
Geologic Cross Sections derived from
Environmental Sequence Stratigraphy (ESS)

Appendix B. Geologic Cross Sections derived from Environmental Sequence Stratigraphy

Resolution Consultants reviewed the geologic data and regional literature at the Naval Weapons Industrial Reserve Plant at Bethpage, New York and developed four representative base-wide cross sections to support development of a CSM. The cross sections are presented in Figure 1 - Figure 4. The cross sections provide geologic context for groundwater and analytical data and can be used as the framework upon which new and existing datasets (groundwater, analytical chemistry, geophysical data, etc.) can be analyzed to better understand groundwater flow-paths and contaminant transport and storage zones. As such, these sections are an integral component of an effective CSM.

The cross sections were developed using ESS. The ESS approach examines subsurface data in the context of the depositional environments and petroleum industry best practices of sequence stratigraphy and facies models. Shown for each boring included in the stratigraphic analysis are a vertical series of colored blocks which correspond to boring log lithology and a continuous data curve (in red or as a scan of a paper document, which corresponds to the gamma log). These colored blocks represent vertical grain size distribution and are the basis for the correlations between the data points.

The color coded blocks correspond to the graphic grainsize scale as shown in the cross-sections' keys. The width of the block increases with relative grainsize. Block color indicates the textural classification of the sediment (e.g., yellow for sand, green for silt, blue for clay) as written in the field notes of the core logging geologist (see the cross section keys for further definition).

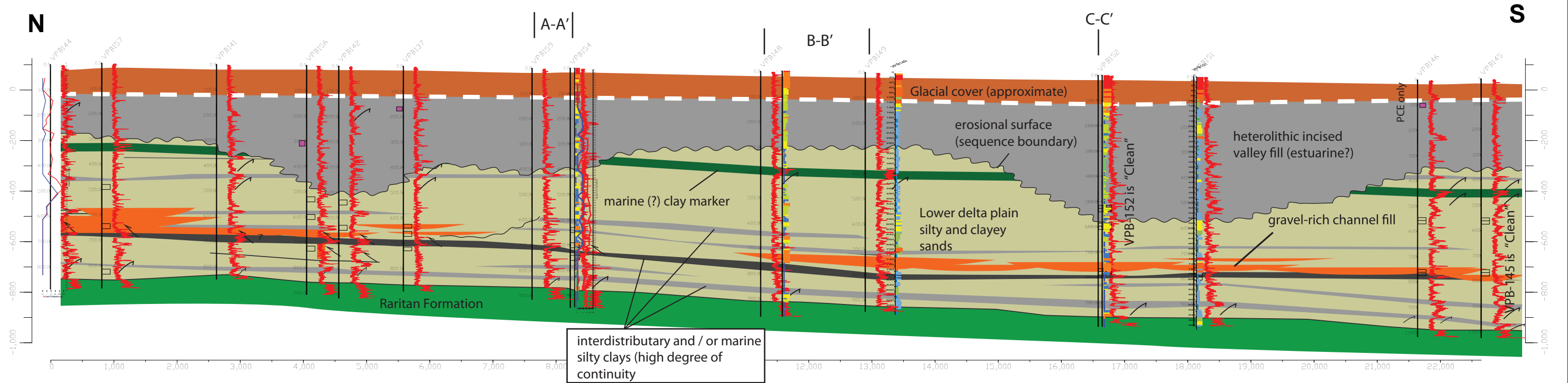
Logs of natural gamma emissions are a common proxy for grainsize. They typically are used as a correlation aide because repetitive spatially extensive trends in grainsize are easily identified visually when curves are examined along a given section. In non-granitic aquifer material, the chemistry of minerals found in clays result in higher concentrations of gamma emitting anions as opposed to the quartz, heavy minerals, and lithic fragments that generally predominate the coarser size fractions. Thus, peaks in the gamma logs can be indicative of clay layers and in general as gamma count per second increases, the grainsize decreases. Gamma logs should always be "calibrated" by comparing side by side with a lithologic log at representative locations. Good agreement between gamma logs and lithology logs were noted in the data points used for the ESS sections at Bethpage.

The previously established general hydrostratigraphy at Bethpage consists of the basal Raritan confining unit, the Magothy aquifer, and the shallow glacial aquifer. The stratigraphy shown in the sections presented in this technical memo is consistent with this general model but additionally shows the Magothy to consist of basal zone gravel-rich channel fills (orange in sections); extensive, planar marine clays (thin units shown in grey and dark green); and silty sands of inter-distributary and delta front origins (shown in tan). Additionally, an erosional incision into the lower delta plain sediments is observed throughout the site (portrayed in sections as a wavy solid black line). Above this, the Magothy sediments are more likely estuarine "incised valley fill" as indicated by the more heterogeneous gamma ray character. In some locations, such as VPB139 on section A-A', there appears to be clear lithologic control on contaminant distribution within the estuarine facies where the higher TCE and PCE concentrations occur in the coarser lithologic zones.

The depositional axis of the incised valley fill likely trends north-south/southeast. The incision is clearly indicated on all sections via the correlation of a prominent clay layer shown in sections in dark green. Where this clay is missing in the gamma logs, it is likely that it was eroded during a lowstand of sea level. Additionally, while relatively planar in their geometry, the major units dip gently south-south east. This is an important geologic characteristic to consider when comparing analytical results because hydrologic zones separated by thin confining layers within the Magothy may be accessed by screens of similar depth.

One of the most important benefits of the ESS approach is to develop and refine the CSM. ESS facilitates an understanding of the geology governing groundwater occurrence and movement, and provides an element for refining the approaches for assessment and remediation. The ESS results from this effort suggest that a modern analog (a modern geological setting that allows an understanding of the ancient environment) for the Magothy depositional environments is the Mackenzie River Delta, shown in Figure 5. Basal gravel zones are represented by the braided river deposits of the Toklat River, Alaska, in Figure 6.

Environmental Sequence Stratigraphy Cross Section



GRAIN SIZE LOG INDEX*

* not all grainsize categories shown in the comprehensive key are present at the site. Site sediments are predominately fine (clays, sandy clays, silts, and fine to medium sand)

Clay	Silty Sand (Medium Sand with 10-20% Fines)
Clay with 10% Sand	Clayey Sand (Medium Sand with 10-20% Fines)
Clay with 20% Sand	Fine Sand with Fine Gravel
Clay with 30% Sand	Fine Sand with Medium Gravel
Clay with 40% Sand	Fine Sand with Coarse Gravel
Clay with Fine Gravel	Medium Sand
Clay with Medium Gravel	Silty Sand (Coarse Sand with 50% Fines)
Clay with Coarse Gravel	Clayey Sand (Coarse Sand with 50% Fines)
Silt	Silty Sand (Coarse Sand with 40% Fines)
Silt with 10% Sand	Clayey Sand (Coarse Sand with 40% Fines)
Silt with 20% Sand	Silty Sand (Coarse Sand with 30% Fines)
Sandy Silt	Clayey Sand (Coarse Sand with 30% Fines)
Silty Sand	Silty Sand (Coarse Sand with 10-20% Fines)
Silty Sand	Clayey Sand (Coarse Sand with 10-20% Fines)
Silty Sand (Fine Sand with 40% Fines)	Medium Sand with Fine Gravel
Clayey Sand (Fine Sand with 40% Fines)	Medium Sand with Medium Gravel
Silty Sand (Fine Sand with 30% Fines)	Medium Sand with Coarse Gravel
Clayey Sand (Fine Sand with 30% Fines)	Coarse Sand
Silty Sand (Fine Sand with 10-20% Fines)	Coarse Sand with Fine Gravel
Clayey Sand (Fine Sand with 10-20% Fines)	Coarse Sand with Medium Gravel
Gravelly Silt (Silt with Fine Gravel)	Coarse Sand with Coarse Gravel
Gravelly Silt (Silt with Medium Gravel)	Clayey/Silty Gravel (Fine gravel with clay/silt)
Gravelly Silt (Silt with Coarse Gravel)	Clayey/Silty Gravel (Medium gravel with clay/silt)
Fine Sand	Clayey/Silty Gravel (Coarse gravel with clay/silt)
Silty Sand (Medium Sand with 50% Fines)	Sandy Gravel (Fine Gravel with Sand)
Clayey Sand (Medium Sand with 50% Fines)	Sandy Gravel (Medium Gravel with Sand)
Silty Sand (Medium Sand with 40% Fines)	Sandy Gravel (Coarse Gravel with Sand)
Clayey Sand (Medium Sand with 40% Fines)	Fine Gravel
Silty Sand (Medium Sand with 30% Fines)	Medium Gravel
Clayey Sand (Medium Sand with 30% Fines)	Coarse Gravel

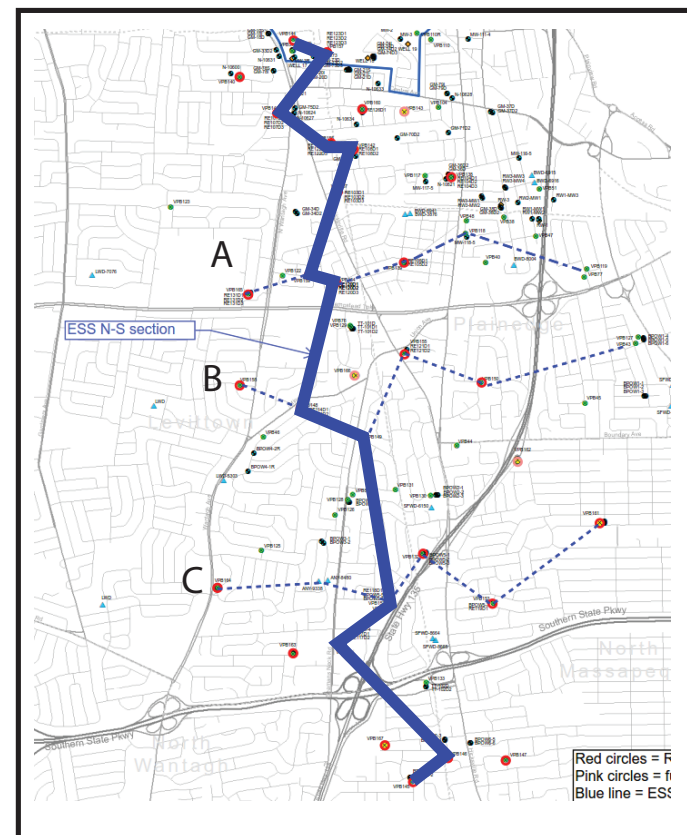


Figure 1. Cross Section N-S

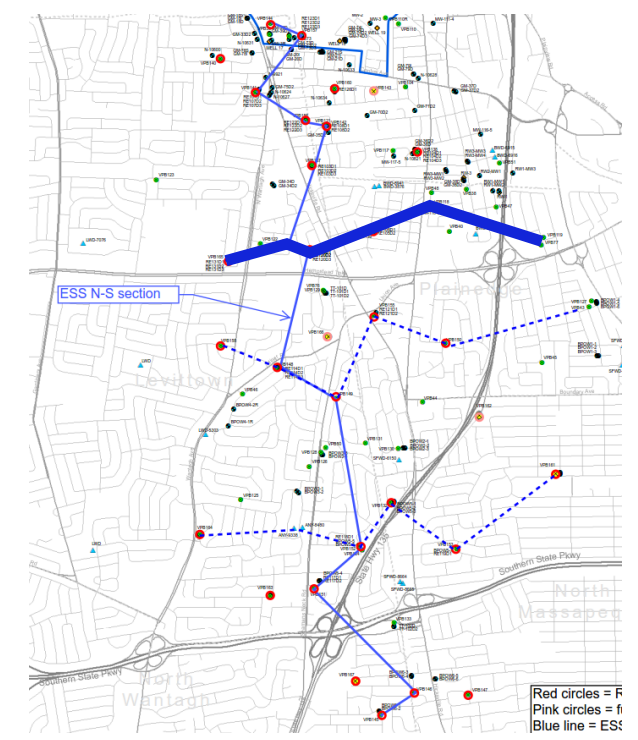
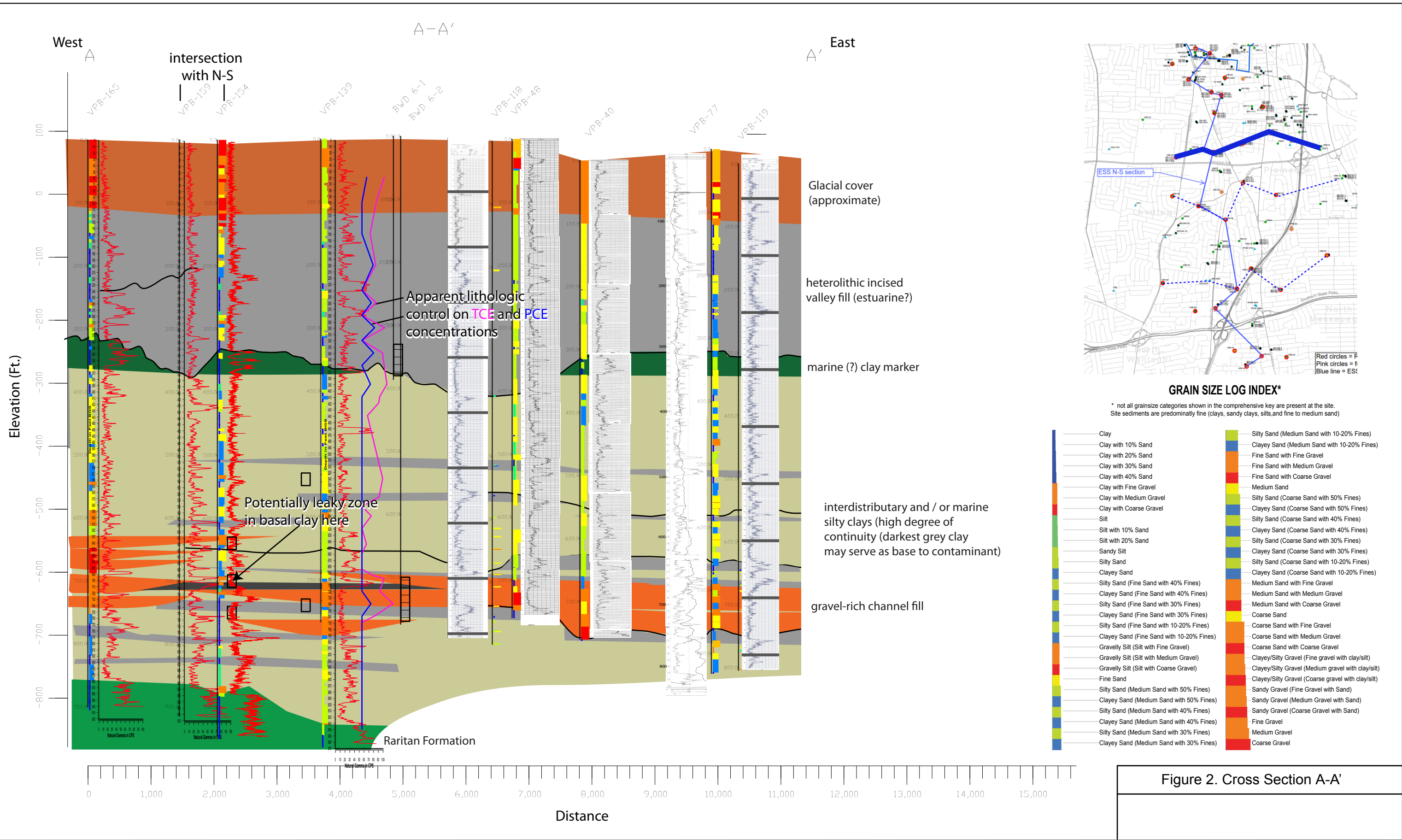
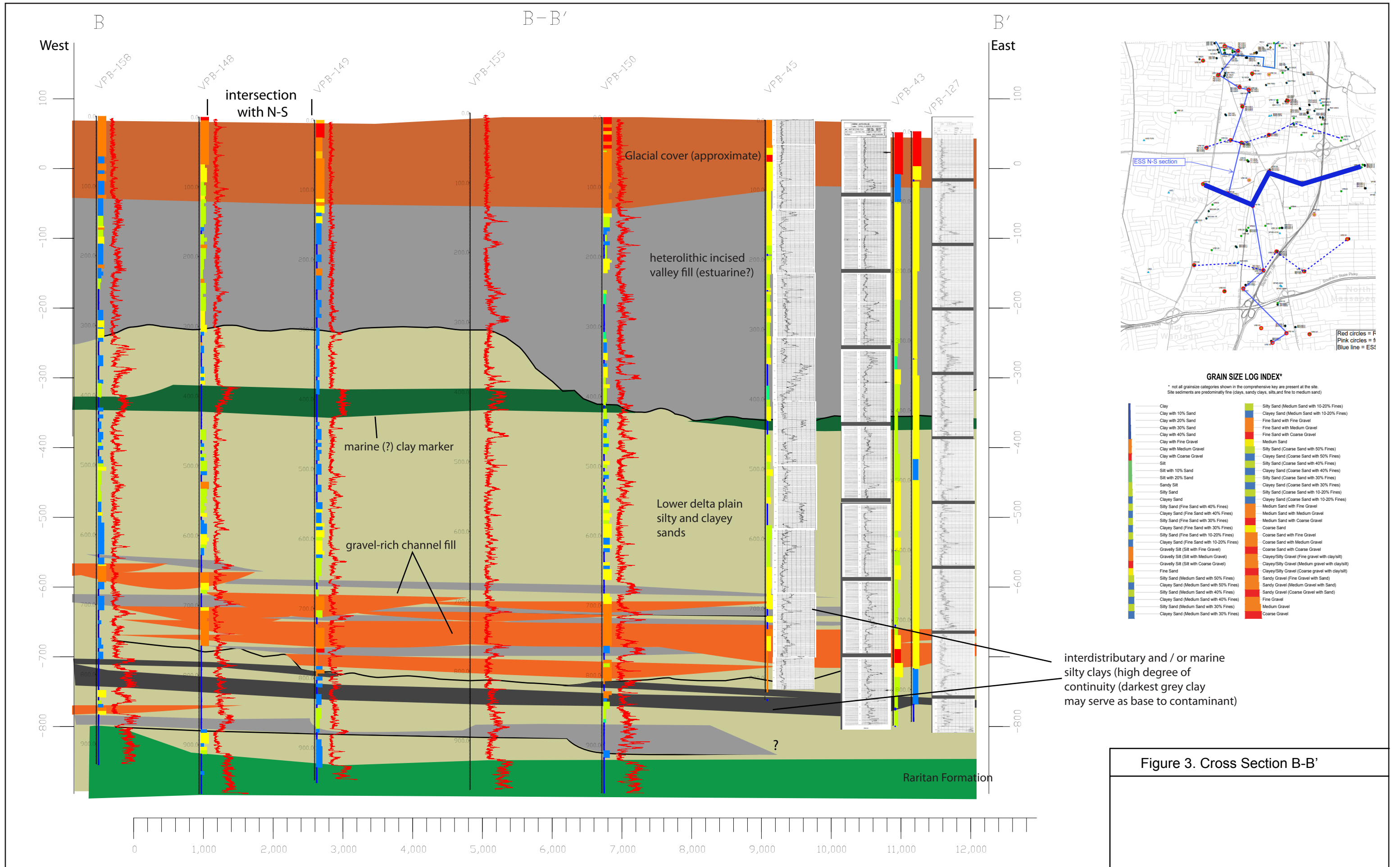
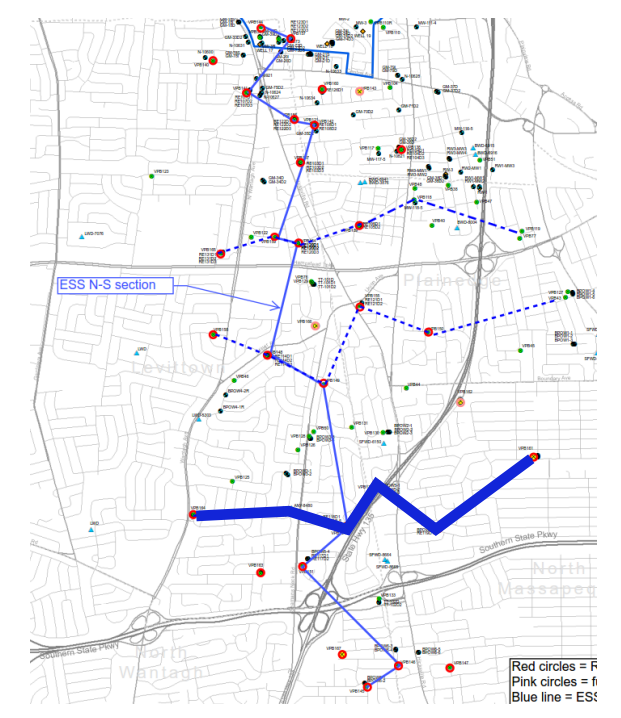
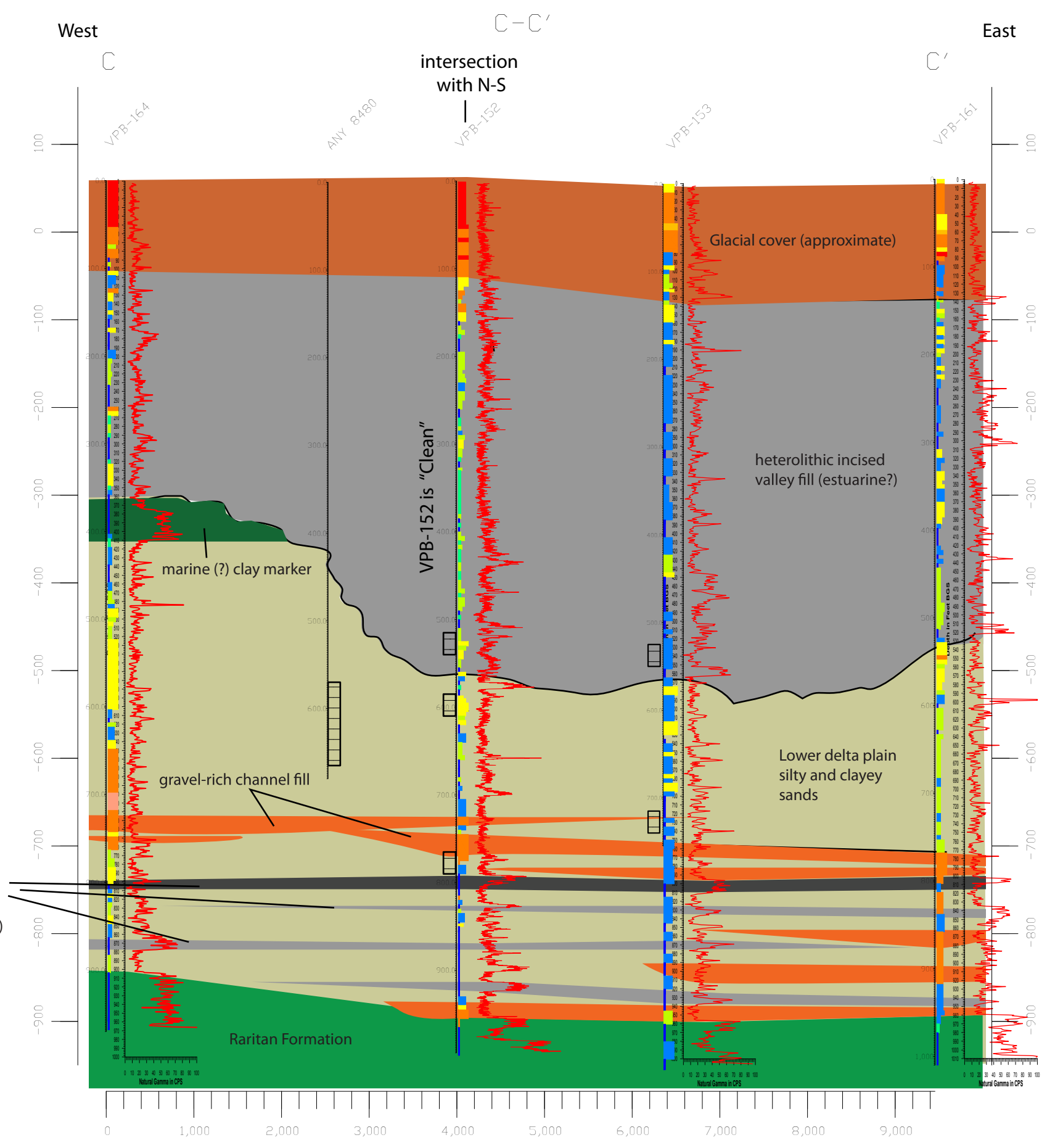


Figure 2. Cross Section A-A'





GRAIN SIZE LOG INDEX*

* not all grainsize categories shown in the comprehensive key are present at the site. Site sediments are predominately fine (clays, sandy clays, silts, and fine to medium sand)

- | | |
|---|--|
| Clay | Silty Sand (Medium Sand with 10-20% Fines) |
| Clay with 10% Sand | Clayey Sand (Medium Sand with 10-20% Fines) |
| Clay with 20% Sand | Fine Sand with Fine Gravel |
| Clay with 30% Sand | Fine Sand with Medium Gravel |
| Clay with 40% Sand | Fine Sand with Coarse Gravel |
| Clay with Fine Gravel | Medium Sand |
| Clay with Medium Gravel | Silty Sand (Coarse Sand with 50% Fines) |
| Clay with Coarse Gravel | Clayey Sand (Coarse Sand with 50% Fines) |
| Silt | Silty Sand (Coarse Sand with 40% Fines) |
| Silt with 10% Sand | Clayey Sand (Coarse Sand with 40% Fines) |
| Silt with 20% Sand | Silty Sand (Coarse Sand with 30% Fines) |
| Sandy Silt | Clayey Sand (Coarse Sand with 30% Fines) |
| Silty Sand | Silty Sand (Coarse Sand with 10-20% Fines) |
| Clayey Sand | Clayey Sand (Coarse Sand with 10-20% Fines) |
| Silty Sand (Fine Sand with 40% Fines) | Medium Sand with Fine Gravel |
| Clayey Sand (Fine Sand with 40% Fines) | Medium Sand with Medium Gravel |
| Silty Sand (Fine Sand with 30% Fines) | Medium Sand with Coarse Gravel |
| Clayey Sand (Fine Sand with 30% Fines) | Coarse Sand |
| Silty Sand (Fine Sand with 10-20% Fines) | Coarse Sand with Fine Gravel |
| Clayey Sand (Fine Sand with 10-20% Fines) | Coarse Sand with Medium Gravel |
| Gravelly Silt (Silt with Fine Gravel) | Coarse Sand with Coarse Gravel |
| Gravelly Silt (Silt with Medium Gravel) | Clayey/Silty Gravel (Fine gravel with clay/silt) |
| Gravelly Silt (Silt with Coarse Gravel) | Clayey/Silty Gravel (Medium gravel with clay/silt) |
| Fine Sand | Clayey/Silty Gravel (Coarse gravel with clay/silt) |
| Silty Sand (Medium Sand with 50% Fines) | Sandy Gravel (Fine Gravel with Sand) |
| Clayey Sand (Medium Sand with 50% Fines) | Sandy Gravel (Medium Gravel with Sand) |
| Silty Sand (Medium Sand with 40% Fines) | Sandy Gravel (Coarse Gravel with Sand) |
| Clayey Sand (Medium Sand with 40% Fines) | Fine Gravel |
| Silty Sand (Medium Sand with 30% Fines) | Medium Gravel |
| Clayey Sand (Medium Sand with 30% Fines) | Coarse Gravel |

interdistributary and / or marine silty clays (high degree of continuity (darkest grey clay may serve as base to contaminant))

Figure 4. Cross Section C-C'



Figure 5. Mackenzie River Delta Depositional Environment

Source: Thermal Emission and Reflection Radiometer image from NASA's TERRA satellite, August 4, 2005, Mackenzie River, Canada. Image from GSFC/METI/ERSDAC/JAROS and the US/Japan ASTER Science Team. <http://earthobservatory.nasa.gov/IOTD/view.php?id=8320>





Figure 6. Braided River Depositional Environment

Source: East Fork Toklat River, Alaska Range, Denali National Park <https://pubs.usgs.gov/of/2004/1216/b/b.html>

