2015 OU2 GROUNDWATER INVESTIGATION
VPB 158
BETHPAGE, NY

Prepared for:

Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic
9742 Maryland Ave.
Norfolk, VA 23511-3095

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CTO WE15

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List of Acronyms and Abbreviations

AOC	Area of Concern
bgs	below ground surface
COR	Continuously Operating Reference
DoD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency, United States
ft	feet
GOCO	Government-Owned Contractor-Operated
GPS	Global Positioning System
IDW	Investigation Derived Waste
IR	Installation Restoration
Katahdin	Katahdin Analytical Services, Inc.
NAD	North American Datum
NAVD	North American Vertical Datum
NAVFAC	Naval Facilities Engineering Command
NG	Northrop Grumman
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
POTW	Publicly Owned Treatment Works
PPE	Personal Protective Equipment
SAP	Sampling and analysis plan
SVOC	Semivolatile Organic Compounds
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
UFP	United Federal Programs
VOC	Volatile Organic Compounds
VPB	Vertical Profile Boring

1.0 PROJECT BACKGROUND

Resolution Consultants has prepared this Data Summary Report for the Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic under contract task order WE15 Contract N62470-11-D-8013. This report describes vertical profile boring (VPB) installation activities (specifically at the VPB 158 location) in 2015 for 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

This data summary report provides information on the installation of VPB 158. The purpose of the VPB 158 investigation was to ascertain contaminant levels and depths, and the western extent of the offsite plume south of Hempstead Turnpike and west of Wantaugh Avenue. VPB locations within the general vicinity of VPB 158 are shown in Figure 2. VPB 158 was completed to 930 feet (ft) below ground surface (bgs).

Field tasks were conducted in 2015 in accordance with the *United Federal Programs Sampling and Analysis Plan (UFP SAP)*, Bethpage, New York and the UFP SAP Addendum Installation of Vertical Profile Borings and Monitoring Wells (Resolution Consultants, 2013). The field investigation included completing one vertical profile boring, groundwater grab samples, geophysical logging and surveying.

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 Nassau County property. Access to the NWIRP is from South Oyster Bay Road.

1.3 Geology and Hydrogeology

Overburden at the site consists of well over 1,000 ft of Cretaceous 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, 1990); these deposits form the Upper Glacial Aquifer. Directly underlying this unit is the Magothy Formation with a thickness of 650 to 900 ft bgs observed onsite. 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 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

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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 course 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.

2.0 FIELD PROGRAM

Field investigation activities at VPB 158 consisted of drilling, sampling, soil/groundwater analysis, geophysical logging, and surveying. Drilling during this investigation was performed by Delta Well and Pump Company of Ronkonkoma, New York. A description of these tasks is provided below.

2.1 Vertical Profile Borings

One vertical profile boring (VPB 158) was completed during this field effort between January 9, 2015 and March 17, 2015. The total depth of VPB 158 was 930 ft. The location is shown in Figure 2 and details are summarized in Table 1.

2.1.1 Drilling

VPB 158 was installed by drilling an 8-inch diameter hole using mud rotary drilling techniques. Drilling mud consisted of potable water and polymer-free sodium bentonite or equivalent. Drilling mud was contained and re-circulated in baffled, high capacity mud tubs. A sand separator was used intermittently to remove fines from circulation.

2.1.2 Sampling

A total of nine split spoon samples were collected from ground surface to the bottom of the boring. A change in geology was observed by the field geologist at 863 ft bgs and four split spoon samples were subsequently collected to confirm the presence of the Raritan Clay. Samples were logged by the field geologist and screened for Volatile Organic Compounds (VOCs) utilizing a photoionization detector (PID). A detailed boring log for VPB 158 is included in Appendix A.

Groundwater grab samples were collected every 50 ft for the first 200 ft of borehole depth. After the first 200 ft, groundwater grab samples were collected approximately every 20 ft until the boring terminated in the Raritan. Groundwater grab samples were collected with a hydropunch sampler and analyzed for VOCs using Environmental Protection Agency (EPA) Method 8260C. The groundwater grab samples were analyzed by Katahdin Analytical Services (Katahdin), a Department of Defense (DoD), Environmental Laboratory Accreditation Program (ELAP), and New York State Department of Environmental Conservation (NYSDEC)-certified laboratory. During the collection of groundwater grab samples, field parameters were measured (pH, temperature, specific conductivity, oxidation reduction potential, dissolved oxygen, and turbidity). Data validation was performed by Resolution Consultants. Groundwater grab sample logs, data validation packages, and analytical data tables are included in Appendix A.

One soil sample was collected for laboratory analysis for total organic carbon (TOC) by EPA series SW-846 method 9060A. During drilling, air sampling was conducted under a Community Air Monitoring Plan. One air sample was collected per VPB using Summa canisters and submitted for laboratory analysis by EPA Method TO-15. All analyses were performed or sub-contracted by Katahdin. Data validation of both TOC and air data was performed by Resolution Consultants. Data validation packages and analytical data tables are included in Appendix A.

2.1.3 Geophysics

Borehole geophysical logs (gamma) were recorded after the borehole was drilled but prior to the removal of drill rods. A Mount Sopris Instrument model 2PGA-100 poly gamma was used. Starting at the top of the hole, the probe was advanced at a maximum rate of 12 ft per minute. A copy of the log was printed in the field for review once the probe reached the bottom of the borehole. The instrument was then raised to the top of the boring and a second log was generated and printed in the field. The down hole gamma log sheets and plots comparing the gamma log with trichloroethene (TCE) and tetrachloroethene (PCE) concentrations from hydropunch samples are included in Appendix A.

2.2 Decontamination and Investigation Derived Waste (IDW)

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 Teflon or polyethylene tubing, disposable gloves, and laboratory supplied sample bottles. Hand held equipment, split spoons, and the hydropunch were decontaminated using Liquinox and water wash, a potable water rinse, followed by a distilled water rinse. Water was collected in 5-gallon pails or 55-gallon drums.

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 boring installation was containerized and staged at NWIRP Bethpage. IDW solids were characterized and disposed of properly. Representative samples from each roll off were submitted to Katahdin for analysis of:

- Target Compound List (TCL) VOCs
- TCL Semi-volatile Organic Compounds (SVOCs)
- Toxicity Characteristic Leaching Procedure (TCLP) Metals

- Polychlorinated Biphenyls (PCBs)
- Total petroleum hydrocarbons
- Corrosivity
- Ignitability
- Reactive Cyanide
- Reactive Sulfide
- Paint Filter

IDW water was containerized in frac tanks and stored at NWIRP Bethpage for characterization and ultimate disposal to the Publicly Owned Treatment Works (POTW), in accordance with the facilities existing discharge permit. A representative water sample was collected from each frac tank and submitted to Katahdin for analysis of VOCs via Method SW 624, pH via Method SW 9040B, PCBs via Method 8082 and Total Metals via Method SW 846 (all waters). To the extent feasible, soil and water were not mixed. All analytical criteria were met for disposal of soil and water.

2.3 Surveying

A survey of the boring location was conducted at the end of 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) N.Y. 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 NYS Net Real Time Network.

A table of survey data (ground, latitude/longitude and northing/easting) and a survey map is included in Appendix A.

3.0 REFERENCES

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

Naval Facilities Engineering Command (NAVFAC), 2003. *Record of Decision Naval Weapons Industrial Reserve Plant Bethpage, New York, Operable Unit 2 – Groundwater*, NYS Registry: 1-30-003B. April.

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Resolution Consultants, 2013. UFP SAP Addendum*, Installation of Vertical Profile Borings and Monitoring Wells.* December.

Smolensky, D., and Feldman, S., 1990. *Geohydrology of the Bethpage-Hicksville-Levittown Area, Long Island, New York, U.S.* Geological Survey Water-Resourced Investigations Report 88-4135, 25 pp.

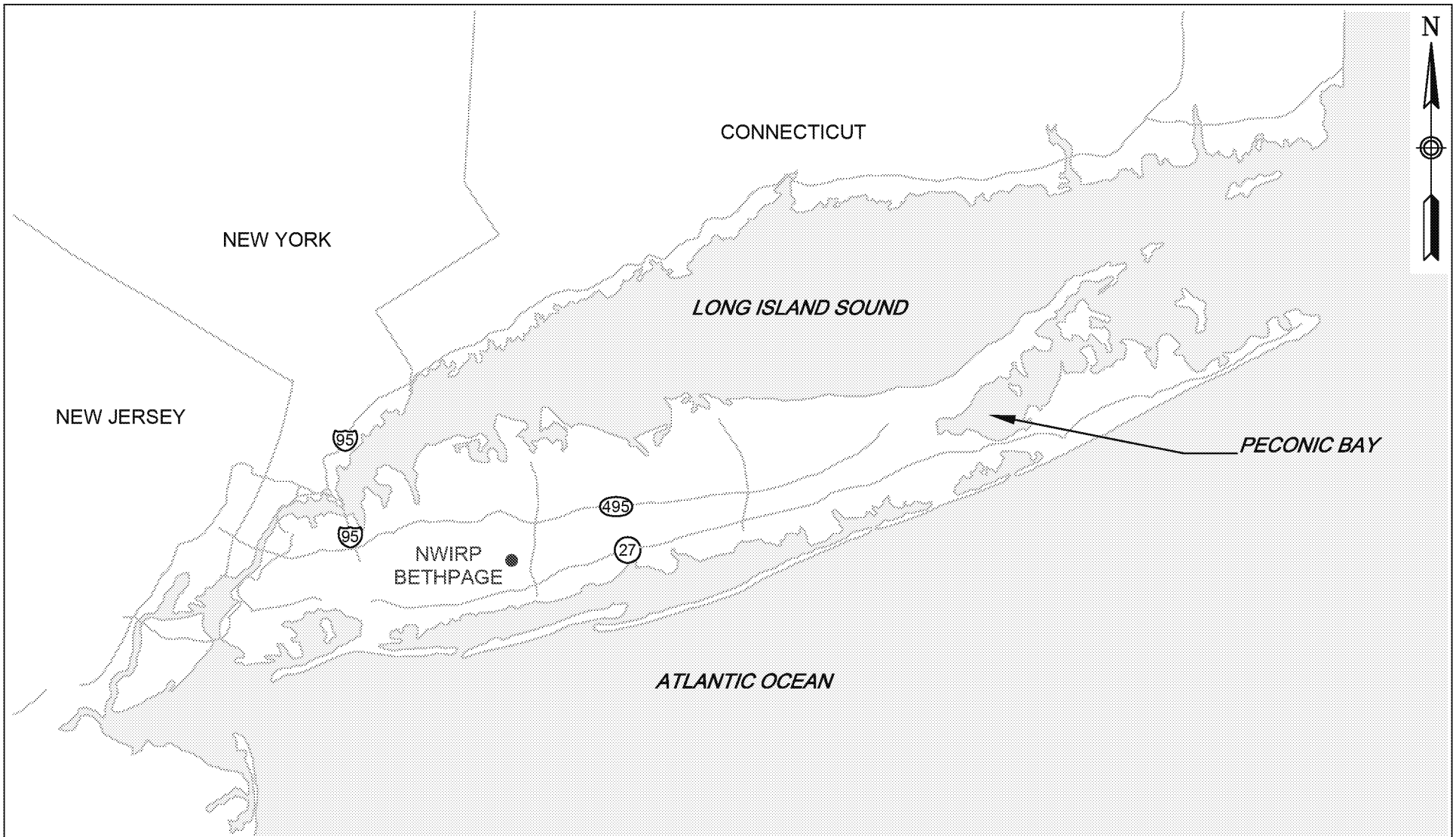
Tables

TABLE 1
VERTICAL PROFILE BORING SUMMARY
2015
OU2 GROUNDWATER INVESTIGATION
NWIRP BETHPAGE, NY

BORING	BORING START DATE	BORING COMPLETION DATE	GROUND ELEVATION (MSL)	TOTAL DEPTH (ft bgs)	SURFACE CASING SET AT (ft bgs)	NO. OF SPOON SAMPLES	GAMMA LOG (ft bgs)	NO. GW SAMPLES COLLECTED/ ATTEMPTED*	TOC SAMPLE DEPTHS (ft bgs)	DATE OF AIR SAMPLE	MONITORING WELLS INSTALLED AT LOCATION
VPB 158	1/9/2015	3/17/2015	75.07	930	53	9	928	36/42	158-160 and 643-645	3/2/2015	pending

* includes field duplicates

Figures

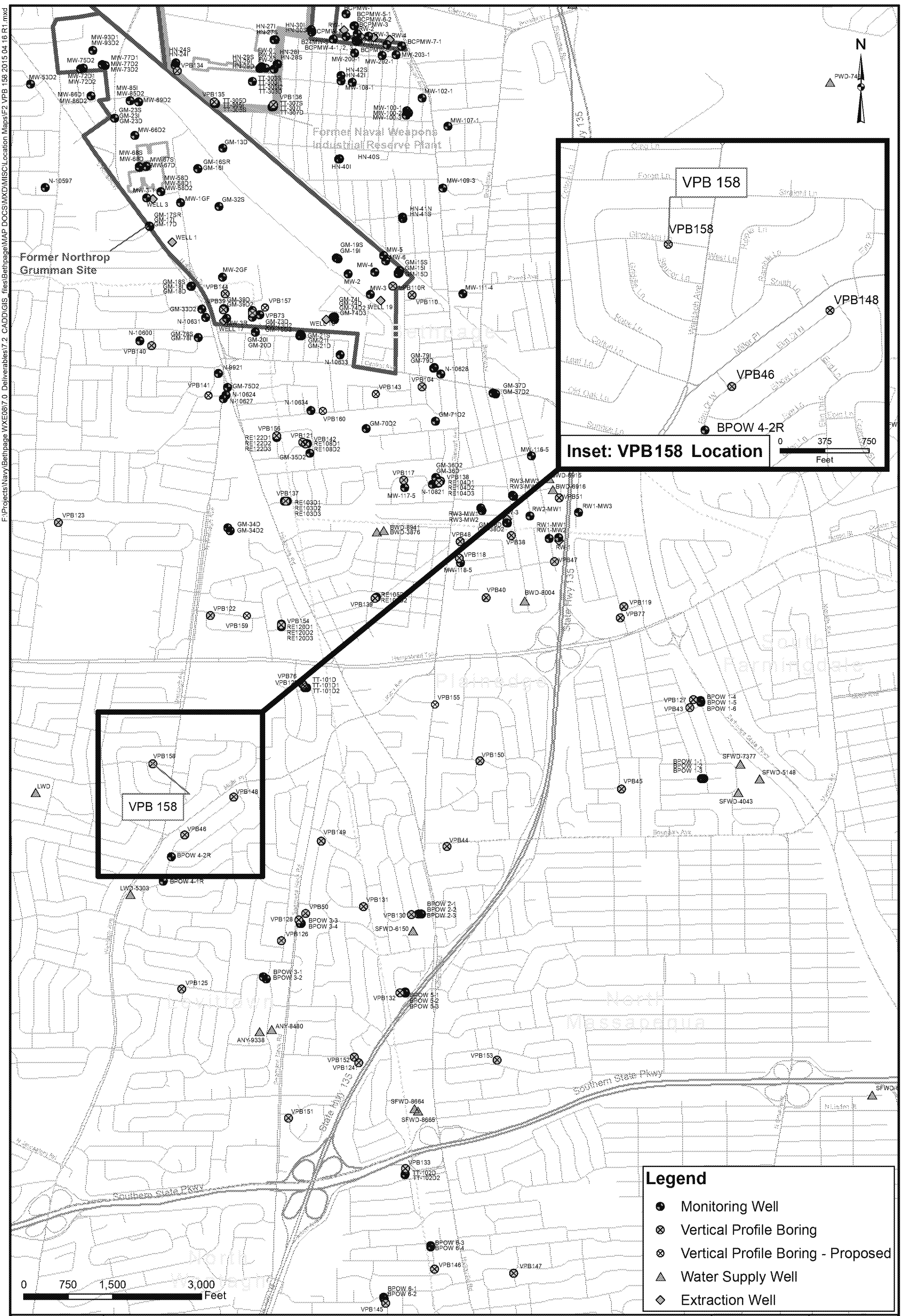


0 15 30
SCALE IN MILES

NAVFAC

GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

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



NAVFAC

VPB 158 LOCATION MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY: PS	DATE: 4/17/2015
APPROVED BY: —	DATE: —
FIGURE NO. 2	REV 0

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Appendix A

VPB 158

Section 1

VPB 158 Boring and Gamma Logs

Resolution Consultants

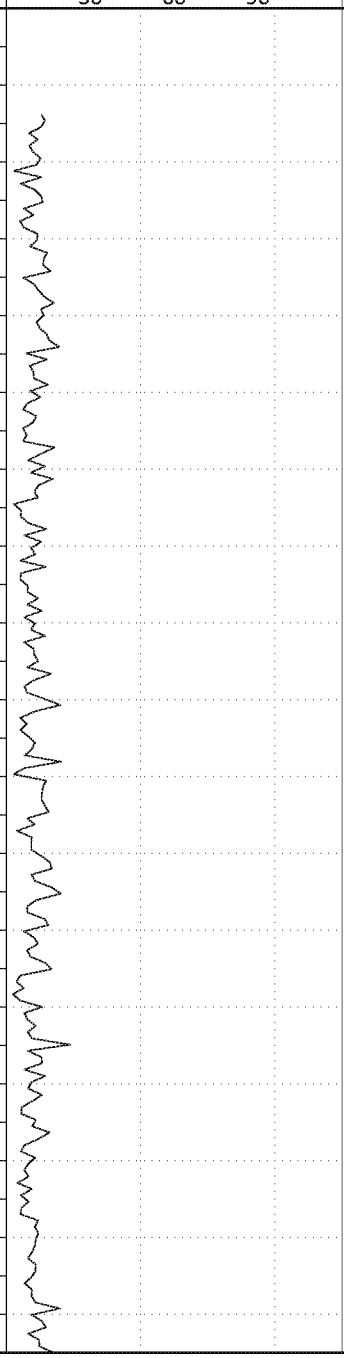
Boring Log

BORING #: VPB158

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		**Logged By:** Mike Zobel
Location: Gingham & Saucer Lane, Levittown, T.O. Hempstead, NY	**Northing:** 202259.1 **Easting:** 1122890	**Drilling Company:** Delta Well & Pump
Project #: 60266526	**Ground Elevation (ft amsl):** 75.07	**Well Screen Interval (ft):** NA
Start Date: 1/9/2015	**Drilling Method:** Auger (0-50' bgs) Mud Rotary (>50' bgs)	**Water Level (ft):** NA
Finish Date: 3/17/2015		**Total Depth (ft):** 930.0

Mud Rotary Drilling Note: Unless denoted by a splitspoon sample (indicated by the presence of a PID reading), boundaries between strata are approximate only and may be transitional because they are based on screened wash samples collected during mud rotary drilling at 5 ft. intervals.

DEPTH (ft)	Gamma Ray	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	30 60 90				Upper Glacial	SP-SM		Brown (7.5YR 4/2) poorly graded medium to coarse subangular SAND with Silt, trace fine subrounded gravel
6						SW		Light brown (10YR 6/6) well graded medium to coarse subangular SAND with fine Gravel, trace silt
12						SW		Light brown (10YR 6/6) well graded medium to coarse subangular SAND with fine Gravel, trace silt
16						SW		Light brown (10YR 6/6) well graded medium to coarse subangular SAND with fine Gravel, trace silt
22						SW		Light brown (10YR 6/6) well graded medium to coarse subangular SAND with fine Gravel, trace silt
26						SW		Light brown (10YR 6/6) well graded medium to coarse subangular SAND with fine Gravel, trace silt
32						SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt



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Boring Log

BORING #: VPB158

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
36–40					Upper Glacial	SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt
40–44						SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt
44–48						SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt
48–50			< 0.50	< 0.50				
50–52						SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt
52–56						SW		Light yellowish brown (2.5Y 6/4) well graded medium to coarse subangular SAND with fine Gravel, trace silt
56–60						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel
60–64						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel
64–70						SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND, trace fine subrounded Gravel, trace medium fat clay
70–74						SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND, trace fine subrounded Gravel, trace medium fat clay

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DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
76					Upper Glacial	SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND, trace fine subrounded Gravel, trace medium fat clay *(continued)*
78								
80						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel
82								
84						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay and fine subrounded gravel
86								
88								
90						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay and fine subrounded gravel
92								
94						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel, iron nodules
96								
98								
100			< 0.50	< 0.50		SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel, iron nodules
102					Magothy			
104						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel, iron nodules
106								
108								
110						SW-SC		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with medium fat Clay, trace fine subrounded gravel, iron nodules
112								
114						SW		Brownish yellow (10YR 7/3) well graded fine to coarse subangular SAND, trace fine subrounded Gravel, iron nodules, trace medium fat clay

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Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
116–118					Magothy	SW		Brownish yellow (10YR 7/3) well graded fine to coarse subangular SAND, trace fine subrounded Gravel, iron nodules, trace medium fat clay *(continued)*
118–124						SP-SC		Brownish yellow (10YR 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace fine subrounded gravel, iron nodules
124–128						SP-SC		Brownish yellow (10YR 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace fine subrounded gravel, iron nodules
128–132						SP-SC		Brownish yellow (10YR 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace fine subrounded gravel, iron nodules
132–138						SP-SC		Brownish yellow (10YR 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace fine subrounded gravel, iron nodules
138–142						SP-SC		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND with soft fat Clay
142–148						SM		Light gray (10YR 7/2) Silty fine to medium subangular SAND
148–152			9.3	1.1		SM		Light gray (10YR 7/2) Silty fine to medium subangular SAND
152–154						SM		Light gray (10YR 7/2) Silty fine to medium subangular SAND, trace fine subangular gravel

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DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
156–158					Magothy	SM		Light gray (10YR 7/2) Silty fine to medium subangular SAND, trace fine subangular gravel *(continued)*
158–160		0				SP		Banded (0.25"-1") light gray (10YR 7/1), very pale brown (10YR 8/4) and reddish yellow (7.5YR 7/8) poorly graded fine to medium subangular SAND, trace Silt
160–162						SP		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND, trace Silt, trace fine subanular gravel
162–166						SP-SM		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND with Silt
166–170						SP-SM		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND with Silt
170–174						SP		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND, trace Silt
174–180						SP		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND, trace Silt
180–186						SP-SC		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND with soft fat Clay
186–192						SP-SC		Light gray (10YR 7/2) poorly graded fine to medium subangular SAND with soft fat Clay, trace fine subangular gravel
192–194						SC		Light gray (10YR 7/2) soft fat Clayey fine to medium subangular SAND, trace fine subangular gravel

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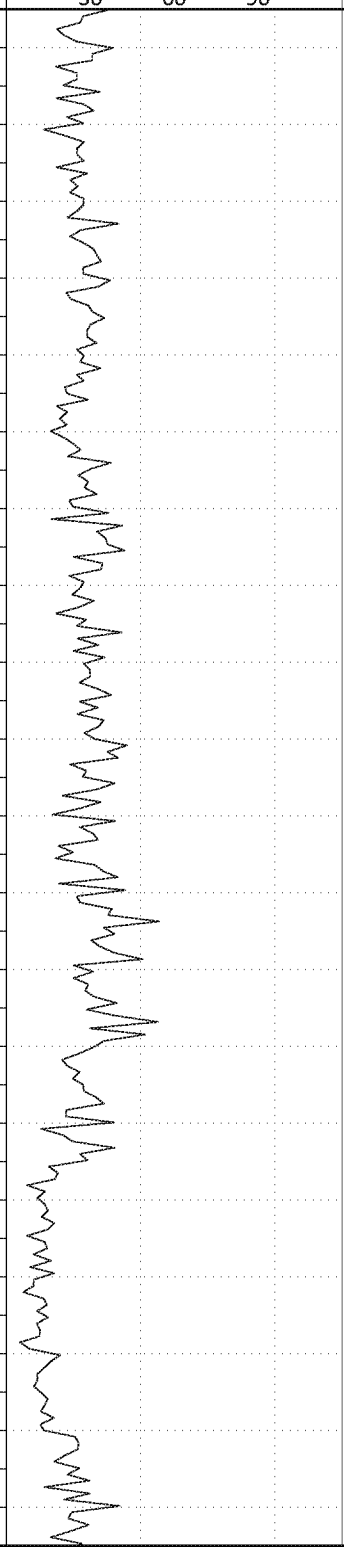

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
196–198				Magothy	SC	Light gray (10YR 7/2) soft fat Clayey fine to medium subangular SAND, trace fine subangular gravel *(continued)*
198–200		35	2.3		SC	Light gray (10YR 7/2) soft fat Clayey fine to medium subangular SAND
200–204					SC	Light gray (2.5Y 7/1) soft fat Clayey fine to medium subangular SAND
204–208					SC	Light gray (2.5Y 7/1) soft fat Clayey fine to medium subangular SAND
208–214					SC	Light gray (2.5Y 7/1) soft fat Clayey fine to medium subangular SAND with fine subrounded gravel
214–220		36	2.3		SC	Yellow (10YR 7/6) soft fat Clayey fine SAND, trace lignite, iron nodules
220–226					SP-SC	Yellow (10YR 7/6) poorly graded fine to medium SAND with soft fat Clay, trace lignite, iron nodules
226–232					SP-SC	Yellow (10YR 7/8) poorly graded fine SAND with soft fat Clay, trace lignite, iron nodules
232–234					SM	Yellow (10YR 7/8) Silty poorly graded fine SAND, trace lignite, iron nodules

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Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
236–238					Magothy	SM		Yellow (10YR 7/8) Silty poorly graded fine SAND, trace lignite, iron nodules *(continued)*
238–242						MH		Yellow (10YR 7/8) fine Sandy SILT
242–246			0.74	< 0.50		MH		Yellow (10YR 7/6) fine Sandy SILT, trace lignite
246–250						CH		Yellow (10YR 7/6) fine Sandy soft fat CLAY, trace lignite
250–254						CH		Yellow (10YR 7/6) fine Sandy soft fat CLAY, trace lignite
254–260			2.4	< 2.0		CH		Yellow (10YR 7/6) fine Sandy soft fat CLAY, trace lignite
260–264						CH		Yellow (10YR 7/6) fine Sandy soft fat CLAY, trace lignite
264–270						CH		Yellow (10YR 7/6) stiff fat CLAY, trace medium Sand, trace lignite
270–274						CH		Yellow (10YR 7/6) stiff fat CLAY, trace medium Sand, trace lignite

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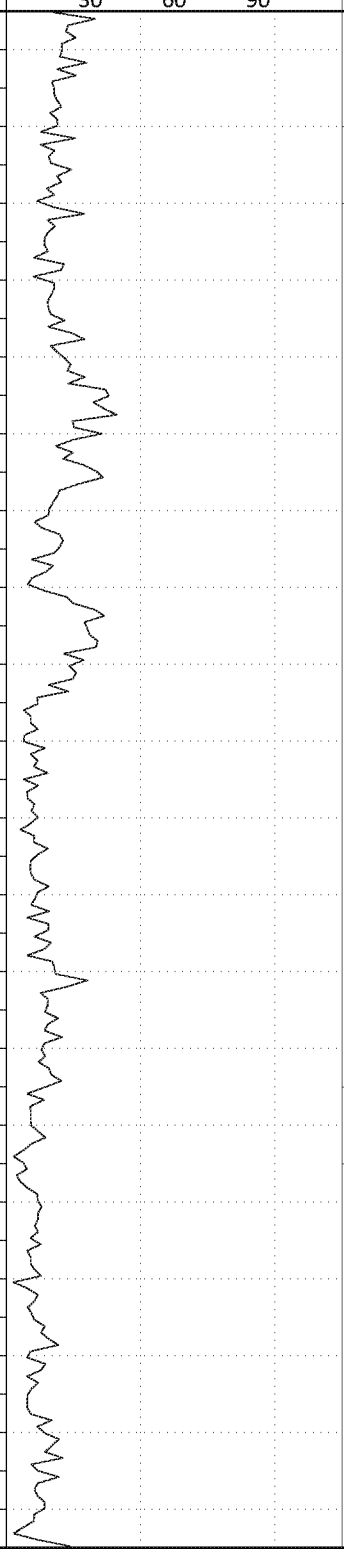


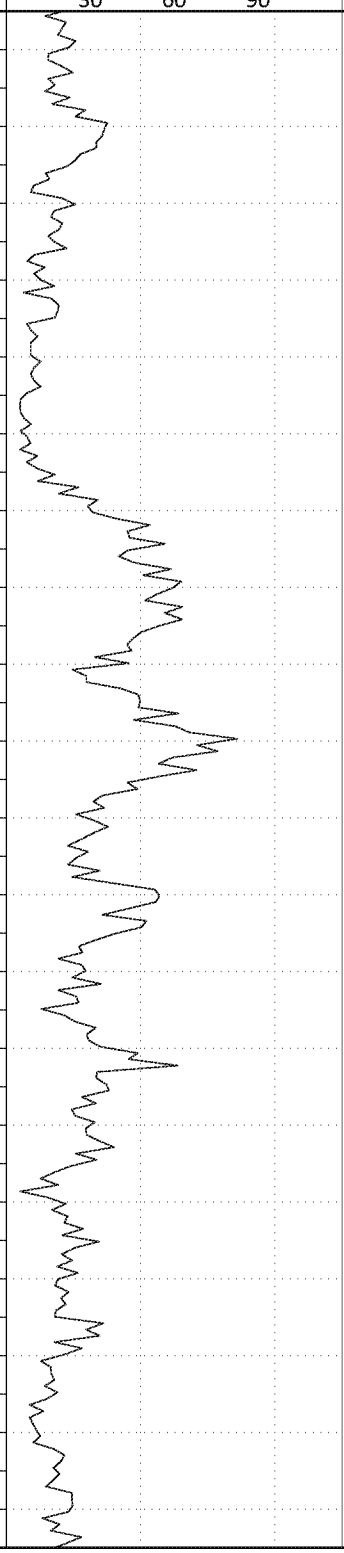
DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
276–278				Magothy	CH		Yellow (10YR 7/6) stiff fat CLAY, trace medium Sand, trace lignite *(continued)*
278–280	0	0.31	< 0.50		SC		Pale brown (2.5Y 7/3) soft fat Clayey fine to medium SAND, trace lignite
280–282					SP-SC		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace lignite
282–288					SP-SC		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace lignite
288–292					SP-SC		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND with soft fat Clay, trace lignite
292–298					SP		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND, trace soft fat Clay
298–302		65	< 0.50		SP		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND, trace soft fat Clay
302–304	0				SP-SC		Pale brown (2.5Y 7/3) poorly graded fine to medium subangular SAND with soft fat Clay
304–308					SP		Light gray (2.5Y 7/2) poorly graded fine to medium subangular SAND, trace soft fat Clay, trace lignite
308–312					SP		Light gray (2.5Y 7/2) poorly graded fine to medium subangular SAND, trace soft fat Clay, trace lignite
312–314					SP		Light gray (2.5Y 7/2) poorly graded fine to medium subangular SAND, trace soft fat Clay

(Continued Next Page)

Resolution Consultants

Boring Log

BORING #: VPB158

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
316					Magothy	SP		Light gray (2.5Y 7/2) poorly graded fine to medium subangular SAND, trace soft fat Clay *(continued)*
318								
320			140	< 0.50		SC		Light gray (Gley1 7/N) soft fat Clayey fine to medium subangular SAND
322								
324						CH		Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, trace lignite
326								
328								
330						CH		Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
332								
334						CH		Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
336								
338								
340			0.36	< 0.50		CH		Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
342								
344						SC		Gray (Gley1 6/N) stiff fat Clayey fine to medium subangular SAND, trace lignite
346								
348								
350						SC		Gray (Gley1 6/N) stiff fat Clayey fine to medium subangular SAND, trace lignite
352								
354						SC		Gray (Gley1 6/N) stiff fat Clayey fine to medium subangular SAND, trace lignite

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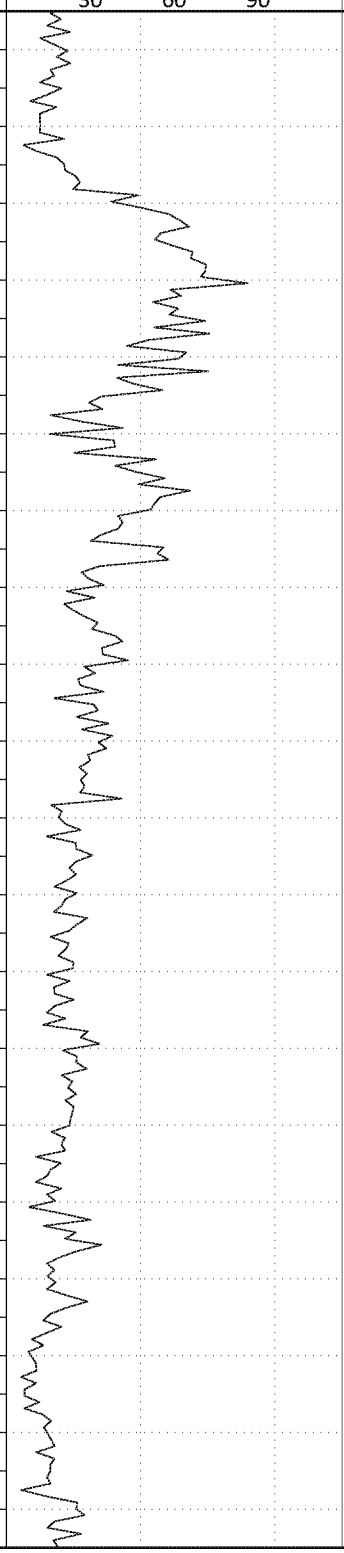

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
356–358				Magothy	SC	Gray (Gley1 6/N) stiff fat Clayey fine to medium subangular SAND, trace lignite *(continued)*
358–360		< 0.50	< 0.50		CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
360–364					CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
364–368					CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
368–372					CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
372–376					CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
376–378					CH	Gray (Gley1 6/N) stiff fat CLAY with fine to medium Sand, few lignite
378–380		< 0.50	< 0.50		SC	Gray (2.5Y 6/31) medium fat Clayey fine to medium subangular SAND, trace lignite
380–384					SM	Very dark gray (Gley1 3/N) Silty fine SAND, trace lignite
384–388					SM	Very dark gray (Gley1 3/N) Silty fine SAND, trace lignite
388–394					SM	Dark gray (Gley1 4/N) Silty fine SAND, trace lignite

(Continued Next Page)

Resolution Consultants

Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
396					Magothy	SM		Dark gray (Gley1 4/N) Silty fine SAND, trace lignite *(continued)*
398								
400			< 10	< 10		SM		Dark gray (Gley1 4/N) Silty fine SAND, trace lignite
402								
404						CH		Dark gray (Gley1 4/N) fine Sandy stiff fat CLAY, trace lignite
406								
408								
410						CH		Dark gray (Gley1 4/N) fine Sandy stiff fat CLAY, trace lignite
412								
414						CH		Dark gray (2.5Y 4/1) fine Sandy medium fat CLAY
416								
418								
420			< 0.50	< 0.50		SC		Dark gray (2.5Y 4/1) soft fat Clayey fine to medium SAND
422								
424						CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY
426								
428								
430						SC		Gray (Gley1 5/N) soft fat Clayey fine to medium SAND
432								
434						CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY

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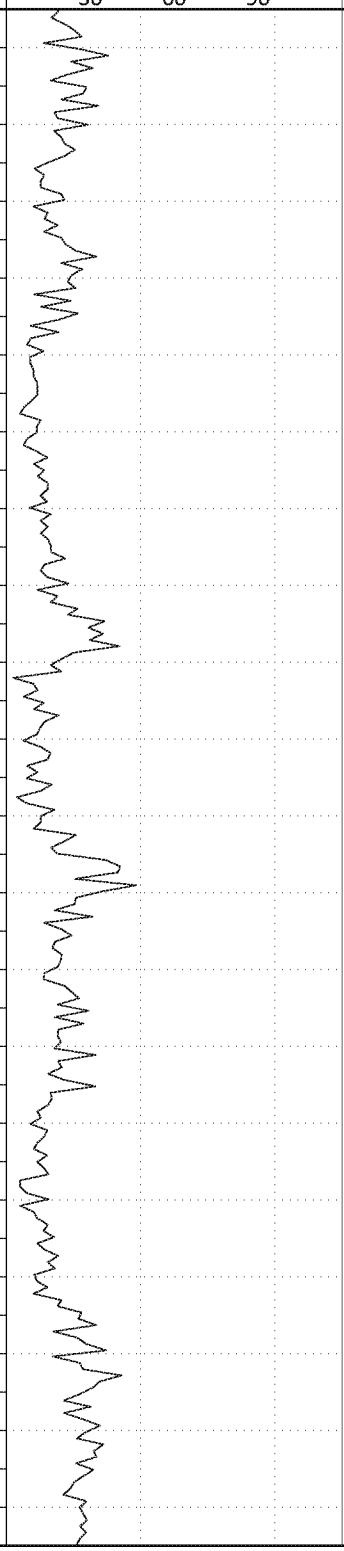
Resolution Consultants

Boring Log

BORING #: VPB158

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
436					Magothy	CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY *(continued)*
438								
440			< 0.50	< 0.50		SC		Gray (Gley 1 5/N) soft fat Clayey fine SAND
442								
444						SC		Olive gray (5Y 4/2) soft fat Clayey fine SAND
446								
448								
450						CH		Dark grayish brown (2.5Y 4/2) fine Sandy soft fat CLAY
452								
454						SC		Dark gray (2.5Y 4/1) soft fat Clayey fine to medium SAND
456								
458								
460			0.79	< 0.50		SC		Dark gray (2.5Y 4/1) soft fat Clayey fine to medium SAND
462								
464						SC		Dark gray (2.5Y 4/1) soft fat Clayey fine SAND
466								
468								
470						SM		Very dark gray (Gley1 3/N) Silty fine SAND, trace lignite
472								
474						SC		Light olive brown (2.5Y 5/4) soft fat Clayey fine to medium SAND

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DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
476–478					Magothy	SC		Light olive brown (2.5Y 5/4) soft fat Clayey fine to medium SAND *(continued)*
478–484						CH		Black (5Y 3/2) stiff fat CLAY, few lignite
484–488						CL		Dark grayish brown (2.5Y 4/2) fine Sandy lean CLAY, few lignite
488–494						SC		Olive gray (5Y 4/2) soft fat Clayey fine SAND
494–498						SP-SC		Gray (Gley1 6/N) poorly graded fine to medium subangular SAND with soft fat Clay, trace lignite
498–502			< 0.50	< 0.50		SM		Gray (Gley 1 6/N) Silty fine to medium subangular SAND
502–508						SW		Brownish yellow (10YR 7/3) well graded fine to coarse subangular SAND, trace lignite
508–514						SM		Light brown (10YR 6/6) Silty fine subangular SAND
514						SM		Light brown (10YR 6/6) Silty fine subangular SAND

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Boring Log

BORING #: VPB158

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
516					Magothy	SM		Light brown (10YR 6/6) Silty fine subangular SAND *(continued)*
518								
520			< 0.50	< 0.50		SM		Pale brown (2.5Y 7/3) Silty fine subangular SAND
522								
524						SM		Pale brown (2.5Y 7/3) Silty fine subangular SAND, trace lignite
526								
528								
530						MH		Gray (2.5Y 5/1) fine Sandy SILT
532								
534						MH		Gray (2.5Y 5/1) fine Sandy SILT
536								
538								
540			< 0.50	< 0.50		SP-SM		Gray (2.5Y 5/1) poorly graded fine subangular SAND with Silt
542								
544		0				SP-SM		Gray (2.5Y 5/1) poorly graded fine subangular SAND with Silt
546						SP-SM		Gray (2.5Y 5/1) poorly graded fine subangular SAND with Silt
548								
550						SP-SM		Gray (2.5Y 5/1) poorly graded fine subangular SAND with Silt
552								
554						SP-SC		Gray (Gley1 5/N) poorly graded fine subangular SAND with soft fat Clay

(Continued Next Page)

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
556					Magothy	SP-SC		Gray (Gley1 5/N) poorly graded fine subangular SAND with soft fat Clay *(continued)*
558								
560			< 0.50	< 0.50		SP-SC		Gray (Gley1 5/N) poorly graded fine subangular SAND with soft fat Clay
562								
564						SC		Gray (Gley1 5/N) soft fat Clayey poorly graded fine subangular SAND
566								
568								
570						SP		Gray (Gley 1 5/N) poorly graded fine subangular SAND, trace soft fat Clay
572								
574						SC		Gray (Gley1 5/N) soft fat Clayey poorly graded fine subangular SAND
576								
578								
580			< 0.50	< 0.50		SC		Gray (Gley1 5/N) soft fat Clayey poorly graded fine subangular SAND
582								
584						SW-SC		Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
586								
588								
590						SW-SC		Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
592								
594						SC		Gray (2.5Y 5/1) soft fat Clayey well graded fine to coarse subangular SAND

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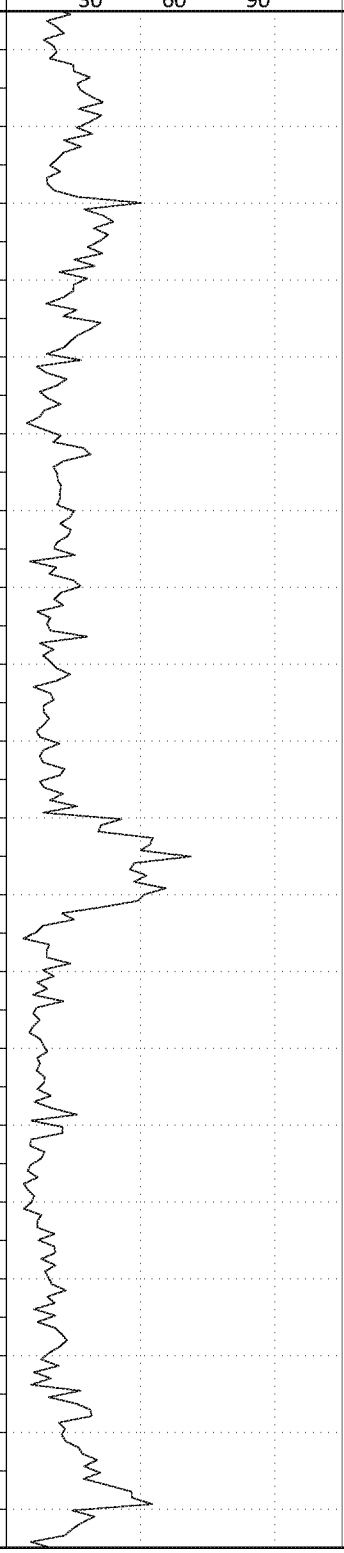
Boring Log

BORING #: VPB158



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
596–598				Magothy	SC	Gray (2.5Y 5/1) soft fat Clayey well graded fine to coarse subangular SAND *(continued)*
598–600		< 0.50	< 0.50		SC	Gray (2.5Y 5/1) soft fat Clayey well graded fine to coarse subangular SAND
600–608					SC	Gray (2.5Y 5/1) soft fat Clayey well graded fine to coarse subangular SAND
608–612					SW-SC	Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
612–618					SW-SC	Gray (Gley1 5/N) well graded fine to coarse subangular SAND with medium fat Clay
618–622					SW-SC	Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
622–628					SW-SC	Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
628–632					CH	Gray (Gley 1 5/N) stiff fat CLAY with fine to coarse subangular Sand
632–634					SW-SC	Gray (Gley1 5/N) well graded fine to coarse subangular SAND with stiff fat Clay

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DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
636					Magothy	SW-SC		Gray (Gley1 5/N) well graded fine to coarse subangular SAND with stiff fat Clay *(continued)*
638								
640			< 0.50	< 0.50		SW-SC		Gray (Gley1 5/N) well graded fine to coarse subangular SAND with soft fat Clay
642								
644		0				SW		Gray (Gley1 5/N) well graded fine to coarse subangular SAND, trace with soft fat Clay
646						SW		White (10YR 8.5/1) well graded medium to coarse subrounded SAND with fine subrounded Gravel and soft fat clay
648								
650						GW		White (10YR 8.5/1) well graded fine subrounded GRAVEL with medium to coarse subrounded Sand and soft fat clay
652								
654						SW		White (10YR 8.5/1) well graded medium to coarse subrounded SAND with fine subrounded Gravel and soft fat clay
656								
658								
660			< 0.50	< 0.50		SW-SC		Light gray (Gley1 7/N) well graded fine to coarse subangular SAND with soft fat Clay and fine subangular gravel
662								
664						SW-SC		Light gray (Gley1 7/N) well graded fine to coarse subangular SAND with soft fat Clay and fine subangular gravel
666								
668								
670						SC		Light gray (Gley1 7/N) soft fat Clayey fine to coarse subangular SAND, trace fine subangular gravel
672								
674						SC		Light gray (Gley1 7/N) soft fat Clayey fine to coarse subangular SAND, trace fine subangular gravel

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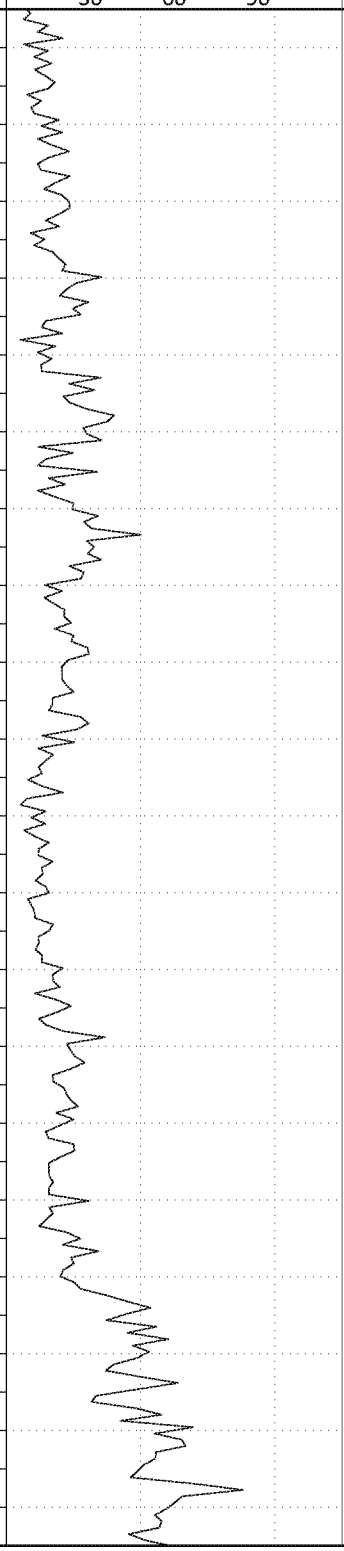

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
676–678				Magothy	SC	Light gray (Gley1 7/N) soft fat Clayey fine to coarse subangular SAND, trace fine subangular gravel *(continued)*
678–680		< 0.50	< 0.50		CH	Light gray (Gley1 7/N) fine to medium Sandy medium fat CLAY
680–684					CH	Light gray (Gley1 7/N) fine to medium Sandy medium fat CLAY
684–690					SC	light gray (Gley1 7/N) soft fat Clayey fine to coarse subangular SAND
690–694					SC	light gray (Gley1 7/N) soft fat Clayey fine to coarse subangular SAND
694–700		< 0.50	< 0.50		SP-SC	Light gray (Gley1 7/N) poorly graded medium to coarse subangular SAND with medium fat Clay
700–704					SP-SC	Light gray (Gley1 7/N) poorly graded medium to coarse subangular SAND with medium fat Clay
704–710					CH	White (10YR 9.5/1) medium fat CLAY with medium to coarse subangular Sand
710–714					CH	White (10YR 9.5/1) medium fat CLAY with medium to coarse subangular Sand

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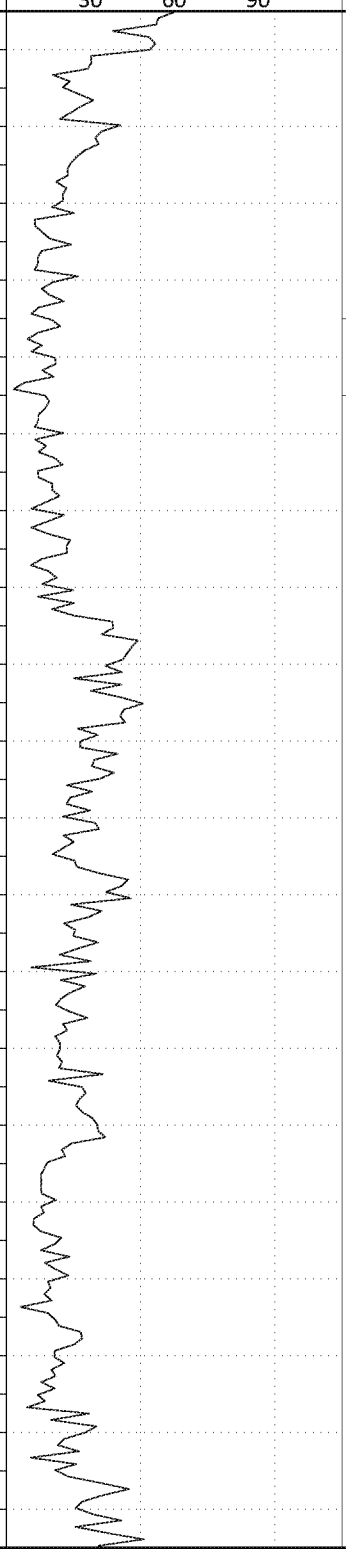

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
716–718				Magothy	CH		White (10YR 9.5/1) medium fat CLAY with medium to coarse subangular Sand *(continued)*
718–724		< 0.50	< 0.50		CH		White (10YR 8/1) fine Sandy medium fat CLAY, trace coarse subrounded sand
724–726	0				SC		White (10YR 8/1) poorly graded medium fat Clayey fine SAND, trace coarse subrounded sand
726–728					SC		White (10YR 8/1) poorly graded medium fat Clayey fine SAND, trace coarse subrounded sand
728–732					CH		White (10YR 8/1) fine Sandy medium fat CLAY, trace coarse subrounded sand
732–738					CH		White (10YR 8/1) fine Sandy medium fat CLAY, trace coarse subrounded sand
738–742					CH		White (10YR 8/1) fine Sandy medium fat CLAY, trace medium subangular sand
742–748					CH		White (10YR 8/1) fine Sandy medium fat CLAY, trace medium subangular sand
748–752					SC		White (10YR 8/1) medium fat Clayey fine SAND, trace medium subangular sand
752–754					SC		White (10YR 8/1) medium fat Clayey fine SAND, trace medium subangular sand

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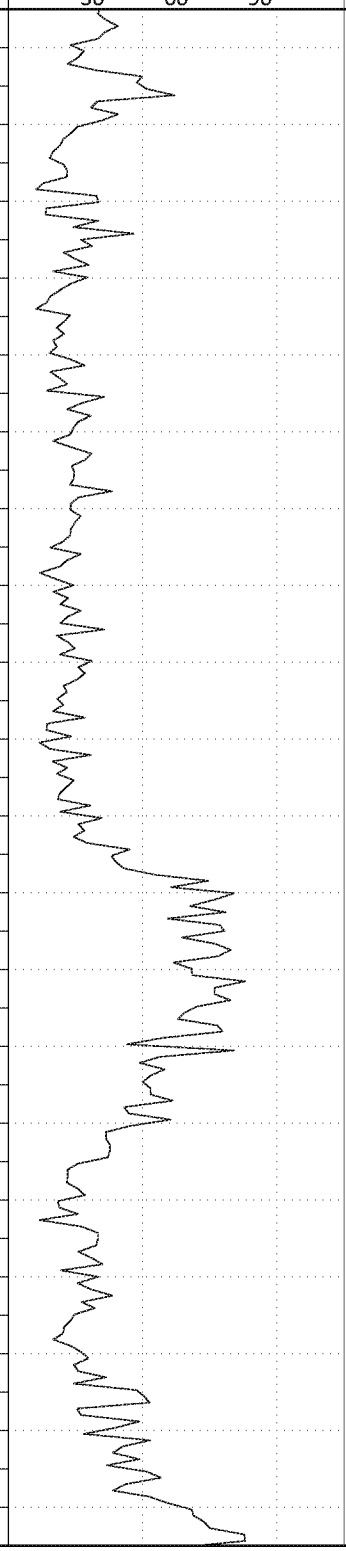

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
756–758				Magothy	SC		White (10YR 8/1) medium fat Clayey fine SAND, trace medium subangular sand *(continued)*
758–764					SC		Gray (Gley1 6/N) soft fat Clayey fine to medium SAND
764–770					CH		Gray (Gley1 6/N) fine Sandy soft fat CLAY, trace lignite
770–774					SC		Gray (Gley1 6/N) soft fat Clayey fine to medium SAND, trace lignite
774–778					SC		Gray (Gley1 6/N) soft fat Clayey fine SAND, trace lignite
778–784					CH		Gray (Gley1 6/N) fine Sandy medium fat CLAY, trace lignite
784–790					CH		Gray (Gley1 6/N) fine Sandy medium fat CLAY, trace lignite
790–794					CH		Gray (Gley1 6/N) fine Sandy medium fat CLAY, trace lignite
794					CH		Light gray (Gley1 7/N) stiff fat CLAY, trace lignite

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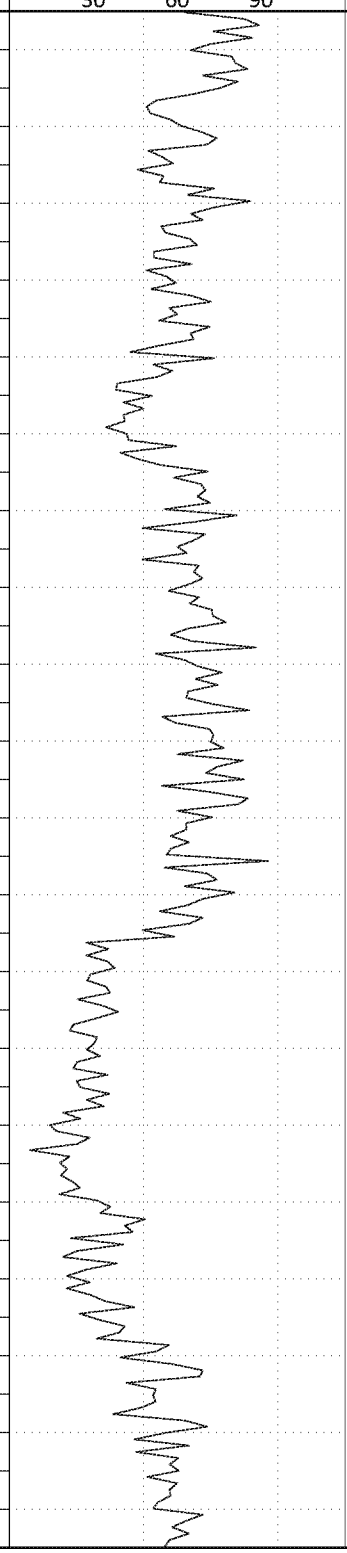

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
796–798				Magothy	CH		Light gray (Gley1 7/N) stiff fat CLAY, trace lignite *(continued)*
798–800		< 2.0	< 2.0		CH		White (Gley1 8/N) stiff fat CLAY, trace lignite
800–804					CH		Light gray (Gley1 7/N) stiff fat CLAY, trace lignite
804–808					CH		Gray (Gley1 6/N) stiff fat CLAY
808–814					CH		Gray (Gley1 6/N) medium fat CLAY
814–820		< 0.50	< 0.50		CH		Light gray (Gley1 7/N) stiff fat CLAY, trace lignite
820–824					SW		Pale Brown (2.5YR 7/4) well graded fine to coarse subangular SAND
824–832					SW		Pale Brown (2.5YR 7/4) well graded fine to coarse subangular SAND, trace lignite
832–834					CH		Light Gray (Gley1 7/N) fine Sandy medium fat CLAY

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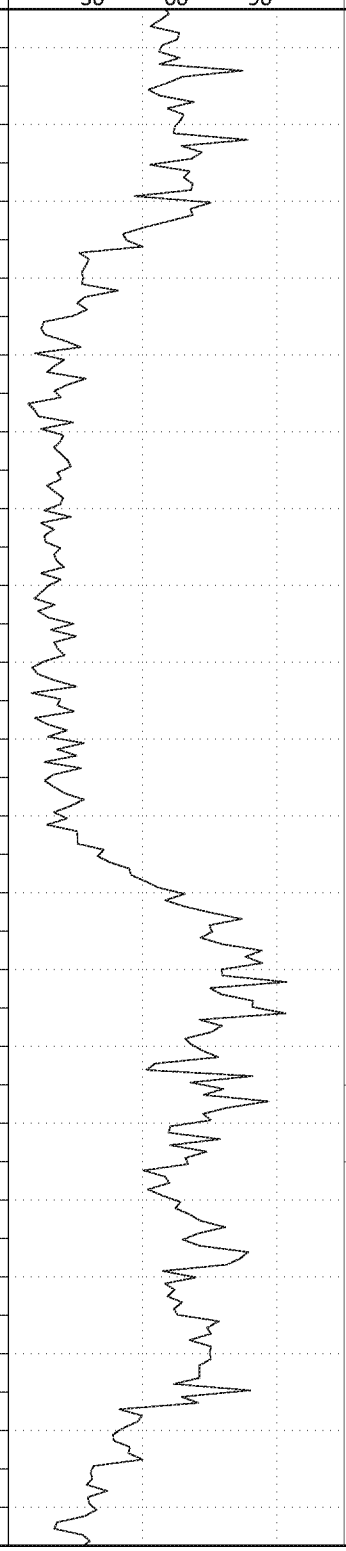
Resolution Consultants

Boring Log

BORING #: VPB158



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
836–838				Magothy	CH	Light Gray (Gley1 7/N) fine Sandy medium fat CLAY *(continued)*
838–842		< 0.50	< 0.50		SP-SM	Brown (7.5Y 3/1) poorly graded fine subangular SAND with silt
842–848					SC	Gray (Gley1 6/N) soft fat Clayey fine to medium SAND
848–854					SW	Light brown (5YR 5/2) well graded fine to coarse subrounded SAND with subrounded gravel
854–858					SW	Light brown (5YR 5/2) well graded fine to coarse subrounded SAND
858–860		< 0.50	< 0.50	Raritan	CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
860–864					CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
864–866	0				CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
866–868					CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
868–870					CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
870–872					CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite
872–874					CH	Gray (Gley1 6/N) stiff fat CLAY, trace lignite

(Continued Next Page)

Resolution Consultants

Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
876–878					Raritan	CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite *(continued)*
878–880			< 2.0	< 2.0		CH		Gray (Gley1 6/N) stiff fat CLAY
880–884						CH		Gray (Gley1 6/N) stiff fat CLAY
884–888						CH		Gray (Gley1 6/N) stiff fat CLAY
888–892						CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
892–896						CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
896–900			< 2.0	< 2.0		CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
900–904						CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
904–908						CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
908–912						CH		Gray (Gley1 6/N) stiff fat CLAY, trace lignite
912–914						CH		Pale red (10R 6/2) stiff fat CLAY, trace lignite

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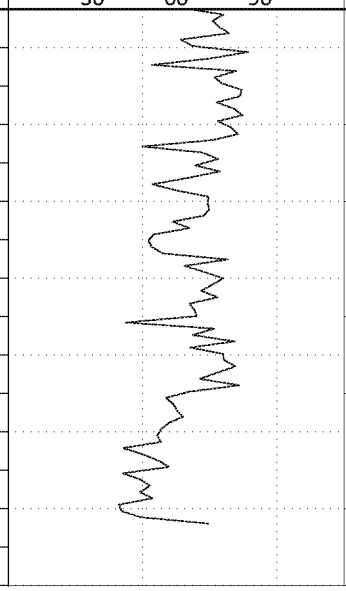
Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
916					Raritan	CH		Pale red (10R 6/2) stiff fat CLAY, trace lignite *(continued)*
918								
920		0				CH		Gray (Gley1 6/N), white (2.5Y 9/1), and red (10R 5/6) stiff fat CLAY, trace lignite
922						CH		Pale red (10R 6/2) stiff fat CLAY, trace lignite
924		0				CH		Light gray (Gley1 7/N) and red (7.5R 5/6) stiff fat CLAY
926						CH		Red (7.5R 5/6) stiff fat CLAY
928						CH		Red (10R 5/6) and white (Gley1 8/1) stiff fat CLAY
930		0						

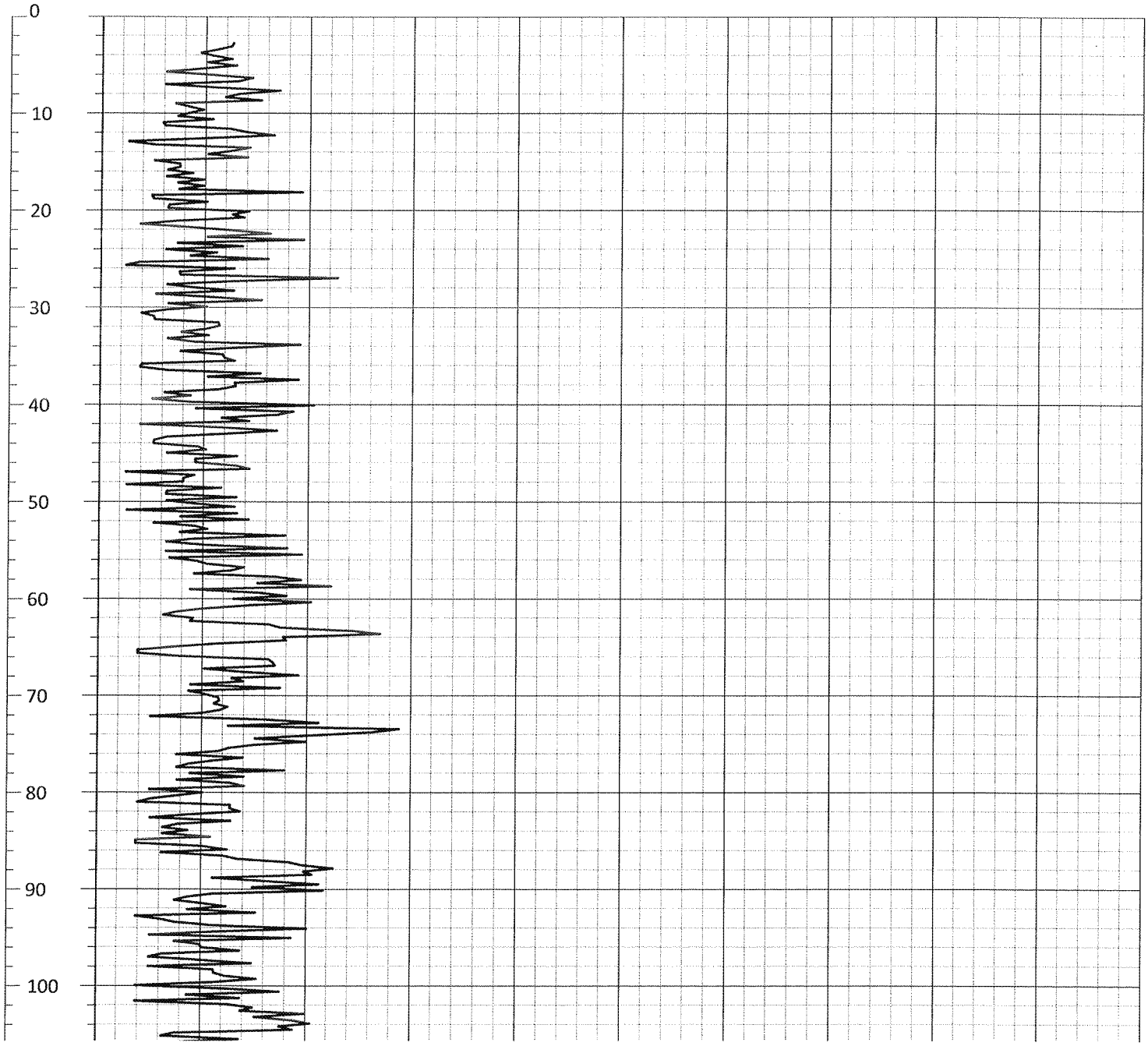
End of boring at 930.0 ft. bgs.

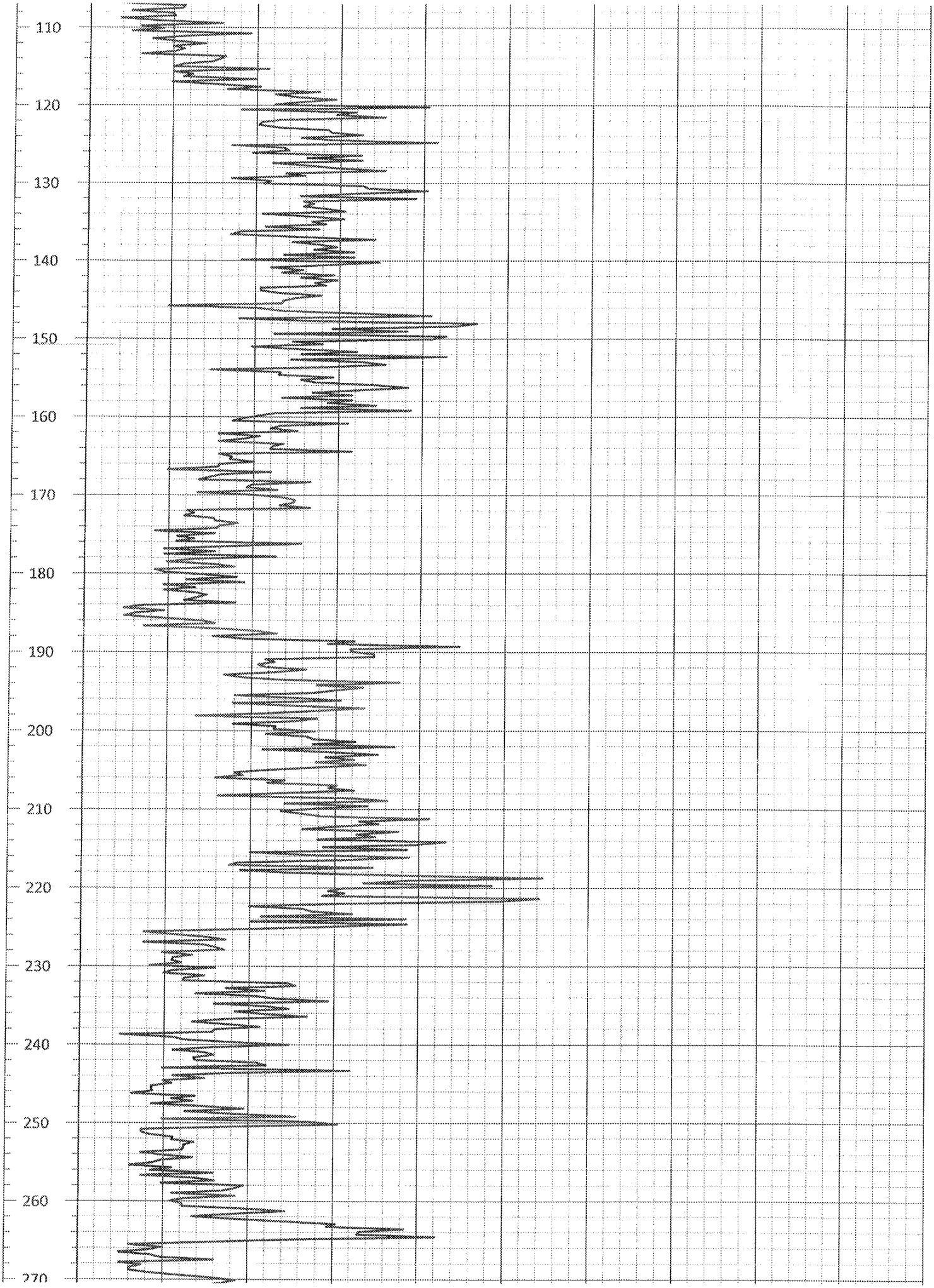
DOWN HOLE RUN

COMPANY:	DELTA WELL & PUMP CO., INC.
LOCATION:	NWIRP BETHPAGE

Well: VPB158		Depth Driller:
		Depth Logger:
Date: 03/04/2015	Time:	Logged by: CMO
File Name: 739		Witness: MIKE

Depth (ft.)	GAMMA (cps)	
	0.0	100.0

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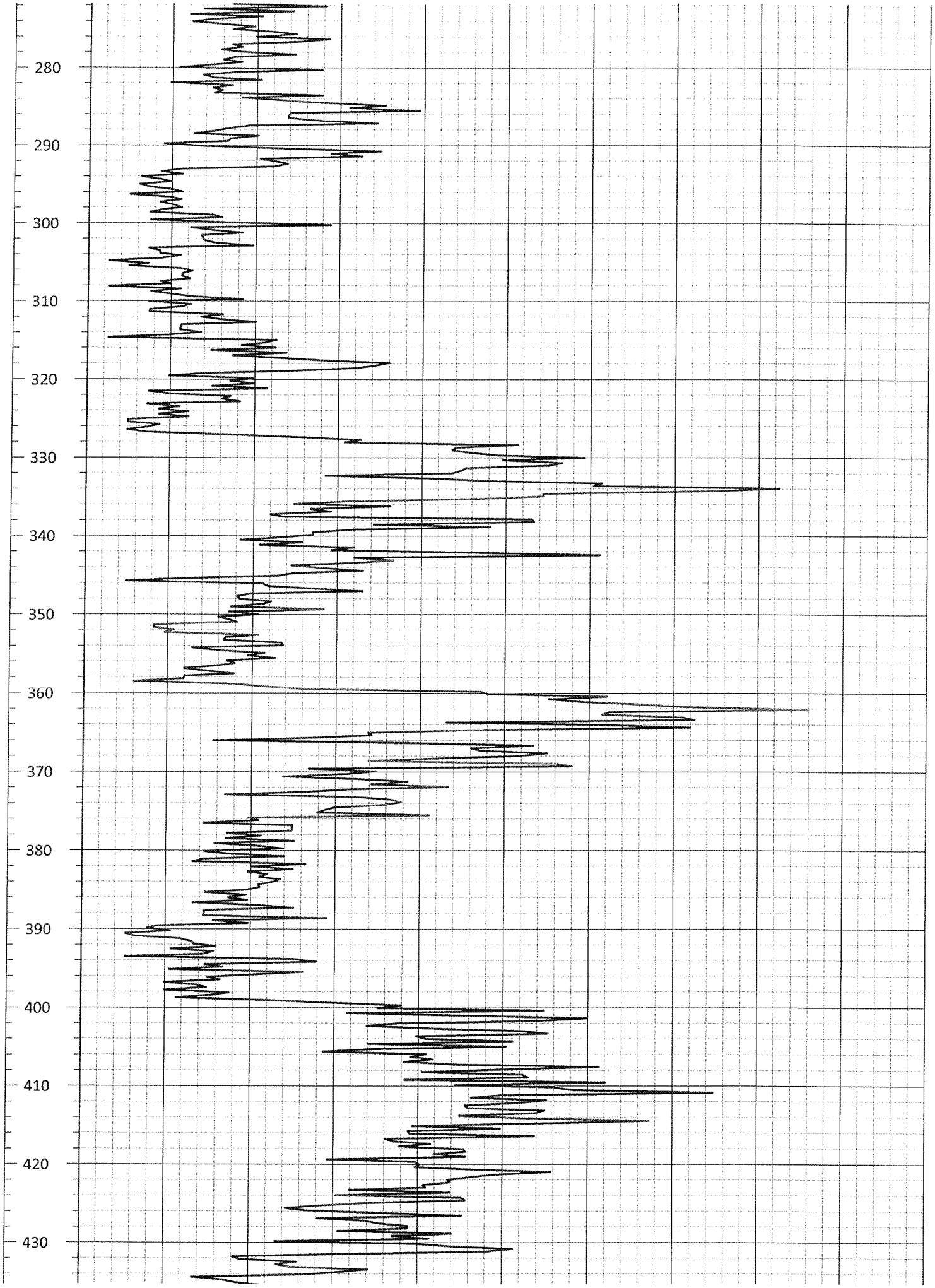
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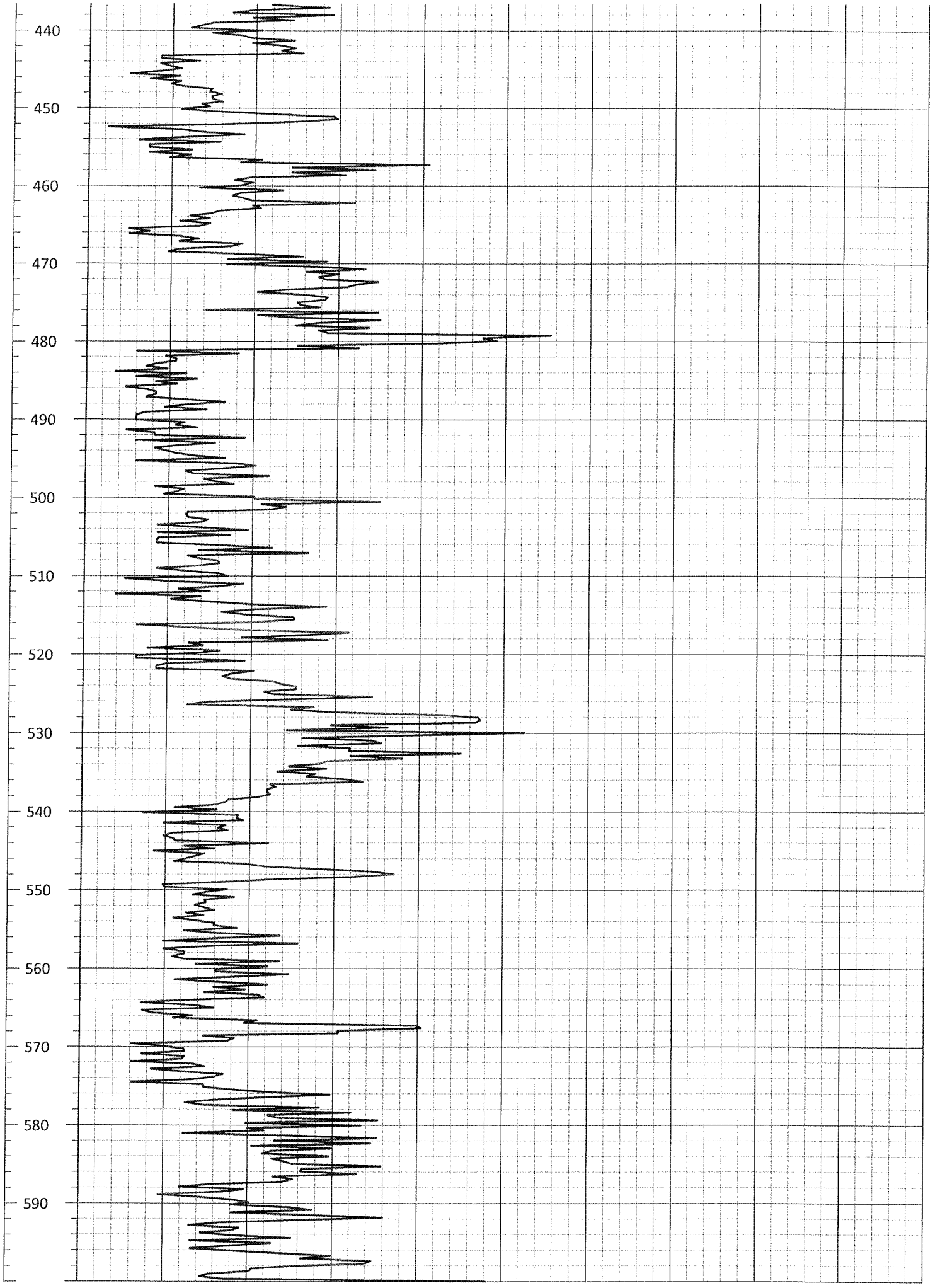
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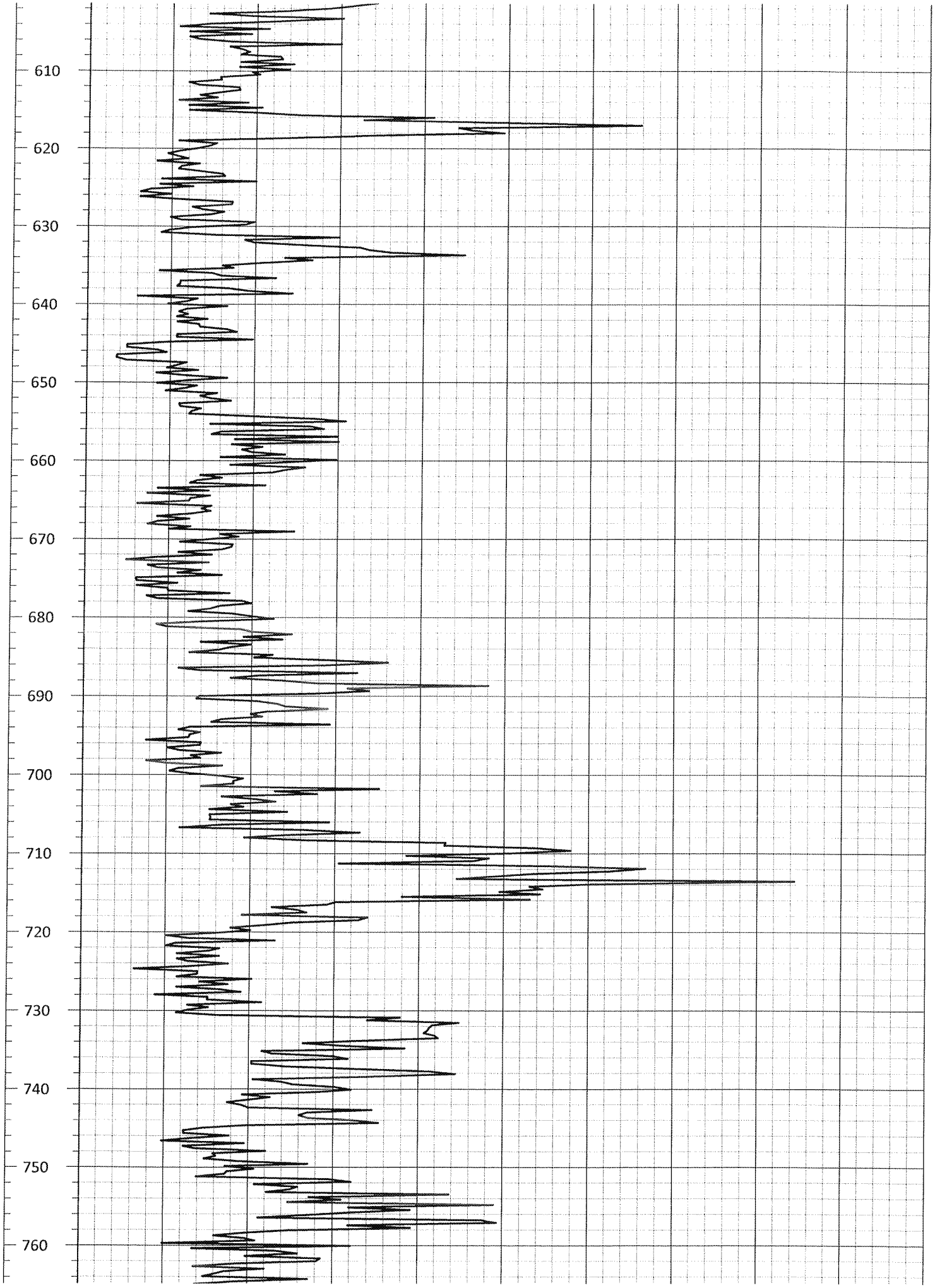
580
590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620
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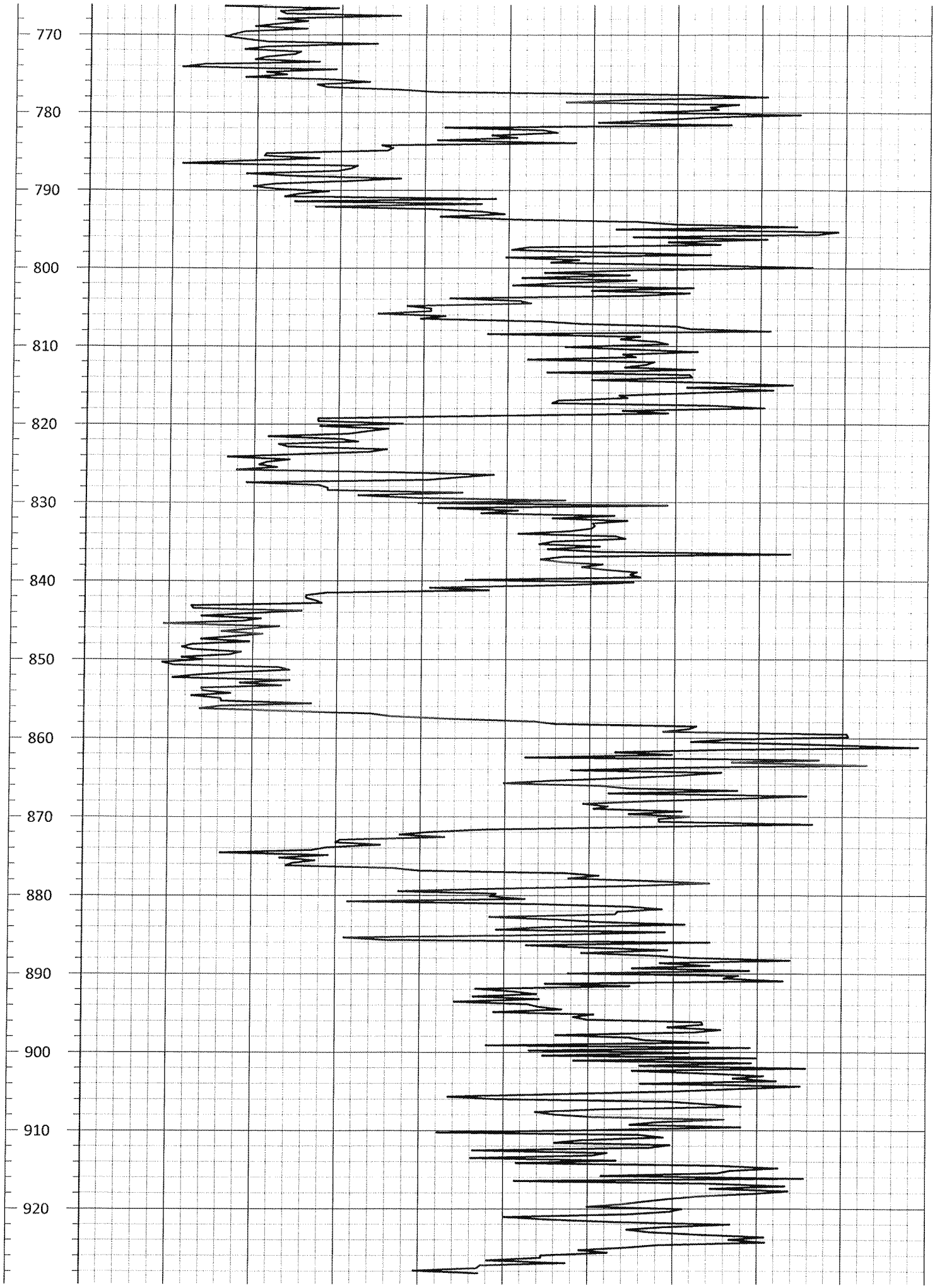
660
670
680
690
700
710
720
730
740
750
760


770
780
790
800
810
820
830
840
850
860
870
880
890
900
910
920

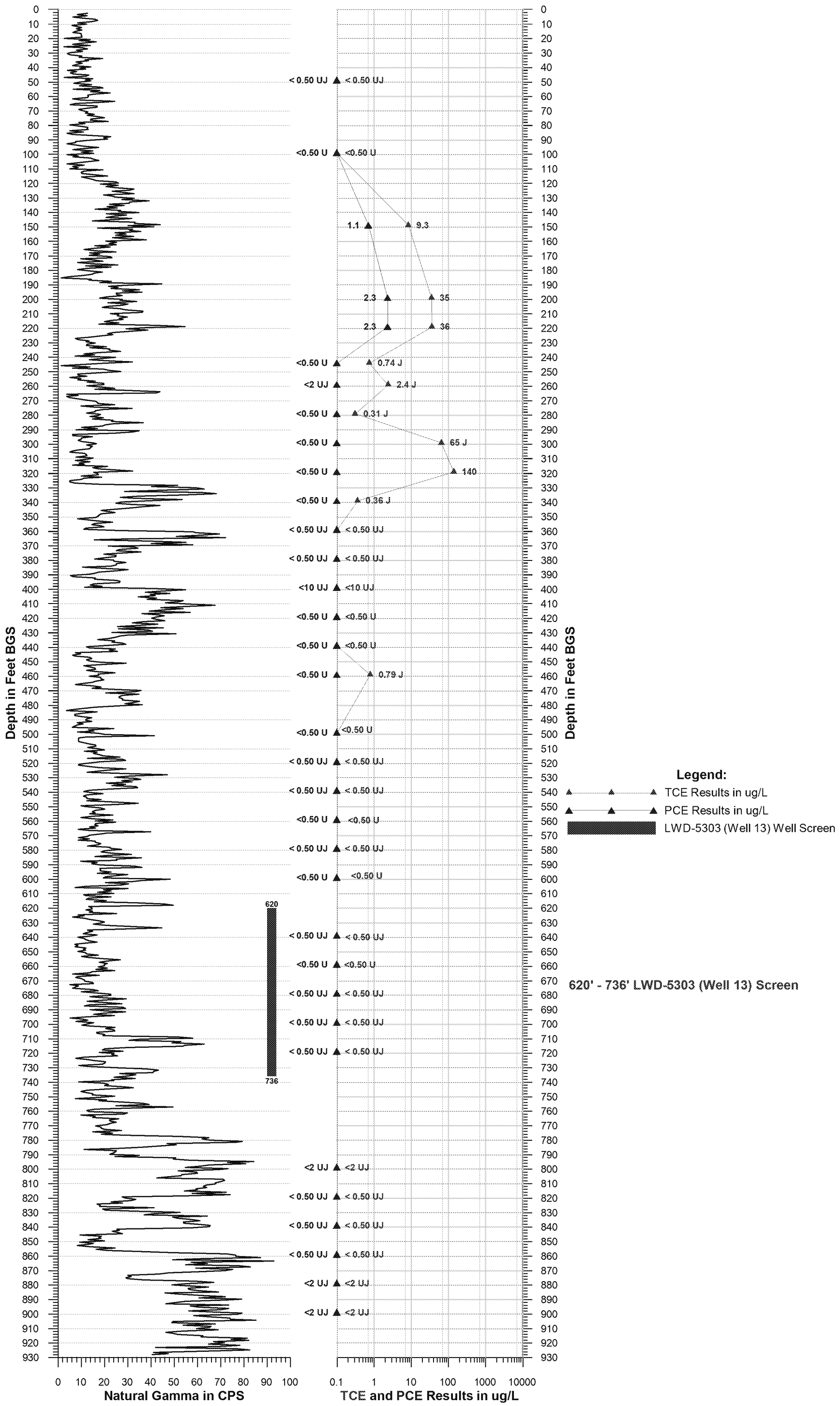
930

Depth (ft.)	0.0 GAMMA (cps) 100.0

Section 2

VPB 158 Gamma and PCE/TCE Plot

Vertical Profile Boring VPB-158
Downward Run - March 4, 2015
Validated Analytical Data



Section 3

VPB 158 Groundwater Sample Log Sheets

Hydropunch Sample

Client: Navy (ResCon)
Project No: 60266526
Site Location: [illegible] Bethpage
Weather Conds:

Date:
VPB: ~~[illegible]~~ 158
Collector(s): MZ

Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
1-19-15	13[illegible]	12.31	6.42	157	3.21	57.3	497	48	50	cloudy
DUP/MS/MSD * 1-19-15	1540	11.88	6.51	207	1.69	44.1	365	98	100	cloudy
1-22-15	1210	11.14	6.48	219	2.18	29.4	618	148	150	cloudy
1-23-15	1030	11.61	6.59	245	1.10	18.2	472	195	200	clear
1-23-15	1700	11.18	6.35	290	2.42	19.3	589	215	220	brown
1-29-15	1315	7.36	6.05	343	2.18	25.6	518	243	245	light brown
~~[illegible]~~ 1-29-15	1530	7.24	6.20	316	1.60	22.3	612	258	260	brown
1-30-15	1110	9.44	6.11	328	2.30	19.8	>1,100	278	280	brown
1-30-15	1545	9.20	6.18	290	1.98	22.8	>1,100	298	300	brown
2-2-15	1155	10.55	6.22	294	1.04	47.2	416	318	320	light gray
2-2-15	1415	10.28	6.26	293	0.89	45.1	>1,100	338	340	gray
2-4-15	1135	11.08	6.24	271	2.62	44.8	481	358	360	gray
2-4-15	1345	10.45	6.40	258	1.80	47.6	379	378	380	cloudy
2-5-15	0945	10.60	6.19	213	2.73	40.2	>1,100	398	400	dark gray
2-5-15	1220	9.39	6.23	172	2.14	59.3	362	418	420	cloudy
2-5-15	1440	9.27	6.17	186	1.41	53.1	>1,100	438	440	cloudy
2-6-15	1115	6.01	6.53	113	6.41	69.4	>1,100	458	460	cloudy
2-9-15	1715	5.03	6.93	220	3.08	68.2	>1,100	498	500	cloudy
2-10-15	1030	7.18	6.85	235	3.14	72.1	>1,100	518	520	gray
2-10-15	1320	6.35	6.71	194	2.41	56.4	764	538	540	gray
2-10-15	1545	5.42	6.63	180	2.55	61.7	>1,100	558	560	gray
2-11-15	1115	7.03	6.48	217	1.93	64.8	>1,100	578	580	gray

Hydropunch Sample

Client: Navy (Rescan)
Project No: 60266576
Site Location: NWIRP Bethpage
Weather Conds:

Date :
VPB: 155
Collector(s): MZ

	Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
DUP *	2-11-15	1340	7.62	6.58	198	1.93	62.1	>1,100	598	600	gray
	2-12-14	1345	6.88	6.41	207	1.82	48.1	>1,100	~~638~~	~~640~~	gray
	~~2-13-14~~ 2-18-15	1200	7.31	6.80	223	1.74	69.3	>1,100	658	660	cloudy
	2-18-15	1420	9.14	6.74	228	2.05	71.2	>1,100	678	680	gray/brown
	2-19-15	1030	—	—	Not	enough	sample for	readings	694	700	gray/brown
	2-25-15	1030	—	—	Not	enough	sample for	readings	798	800	gray
	2-25-15	1310	10.65	6.89	372	0.68	-42.4	>1,100	818	820	gray
	2/26/2015	1120	—	—	NOT	ENOUGH	SAMPLES	FOR	READINGS	—	gray
	2/26/2015	1340	—	—	NOT	ENOUGH	SAMPLE	FOR	READINGS	—	gray
	2-27-15	1145	—	—	Not	enough	sample	for	readings	878	880	gray
MS/MSD *	3-2-15	1240	11.14	6.35	299	0.51	-48.2	>1,100	898	900	cloudy

Section 4

VPB 158 Analytical Data Validation

- Analytical Data Sheets
- Chain of Custody Records
- Validation Letter and Table

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katah	din Analytical	
Sample Delivery Group:	SI0700	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 03/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI0700_8260C

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 29 January to 2 February 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-012915-243-245 Gr	oundwater	8260C
VPB158-GW-012915-258-260	Groundwater	8260C
VPB158-GW-013015-278-280	Groundwater	8260C
VPB158-GW-013015-298-300	Groundwater 8260C	
VPB158-TRIPBLANK-020215	Trip Blank	8260C
VPB158-GW-020215-318-320	Groundwater 8260C	

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Co mpounds by Gas Chro matography/Mass Spectrometry* (U.S . EPA , 20 06), *U.S. Environmental P rotection Agen cy (U .S. EP A) Contract L aboratory Prog ram Nat ional Functional Guidelines f or Su perfund Or ganic Me thods Da ta Review* (NFG, June 2008), and Depar tment 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):

✗	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration/continuing calibration verification
✗	Laboratory blanks/trip blanks
✗	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;
- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;
- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in all samples; and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil and not very much liquid:

- VPB158-GW-012915-258-260 had each vial decanted, compounded into one vial and analyzed at a dilution of 1:4.

Positive and non-detected results for the sample VPB158-GW-012915-258-260 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;
- the initial calibration verification standard percent recovery acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

ICV Recovery Non-conformance:

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

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

ICV and CCV non-conformances are summarized in Attachment A in Table's A-2 and A-3.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent vari ability in the data, or if a problem was an isolated occurrence that di d not aff ect th e data . Samples were flagge d in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. Trip blank non-conformances are summarized in Attachment A in Table A-4.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Trip, Field, or Equipment	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the bl ank result wi th a U or reject the sample resu lt as unusabl e R
		≥ 2x LOQ and ≥ blank contamination	If the r esult is <2x bla nk result, report the sample result U. If the result is > 2x blank result, no qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:

LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

Surrogate Spike Recoveries

Surrogates provide information n eeded to assess th e a ccuracy of a nalyses. K nown amounts of surrogate com pounds, or com pounds wh ich a re n ot lik ely t o b e f ound in th e a ctual sam ples, are added to each organic sample to check for accuracy. If surrogate percent recoveries (%Rs) are close

to the known concentrations, the reported target compound concentrations are assumed to be accurate. Data qualification on the basis of surrogate recovery was as follows:

Surrogate Recovery Non-conformance Chart:

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

Notes:

%R =		Percent recovery
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

Surrogate recovery non-conformance is summarized in Attachment A in Table A-5.

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 MS/MSDs were not reported in individual SDGs. 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 R	

Notes:

%R =		Percent recovery
RPD	=	Relative percent difference
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

LCS / LCSD non-conformance is summarized in Attachment A in Table A-6.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-012915-258-260	1,1,1-TRICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,1,2,2-TETRACHLOROETHANE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,1,2-TRICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,1-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,1-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,2,4-TRICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	3	UJ
8260C	VPB158-GW-012915-258-260	1,2-DIBROMOETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,2-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,2-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,2-DICHLOROETHENE, TOTAL	UG_L	4	UJ
8260C	VPB158-GW-012915-258-260	1,2-DICHLOROPROPANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,3-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	1,4-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	2-BUTANONE UG_	L	10	UJ
8260C	VPB158-GW-012915-258-260	2-HEXANONE UG_	L	10	UJ
8260C	VPB158-GW-012915-258-260	4-METHYL-2-PENTANONE UG_	L	10	UJ
8260C	VPB158-GW-012915-258-260	ACETONE UG_	L	10	UJ
8260C	VPB158-GW-012915-258-260	BENZENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	BROMODICHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	BROMOFORM U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	BROMOMETHANE U	G_L	4	UJ
8260C	VPB158-GW-012915-258-260	CARBON DISULFIDE	UG_L	2	UJ
8260C	VPB158-GW-012915-258-260	CARBON TETRACHLORIDE	UG_L	2	UJ
8260C	VPB158-GW-012915-258-260	CHLOROBENZENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	CHLOROETHANE UG_	L	4	UJ
8260C	VPB158-GW-012915-258-260	CHLOROFORM U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	CHLOROMETHANE UG_	L	4	UJ
8260C	VPB158-GW-012915-258-260	CIS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	CIS-1,3-DICHLOROPROPENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	CYCLOHEXANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	DIBROMOCHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	DICHLORODIFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-012915-258-260	ETHYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	ISOPROPYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	M- AND P-XYLENE	UG_L	4	UJ
8260C	VPB158-GW-012915-258-260	METHYL ACETATE	UG_L	3	UJ
8260C	VPB158-GW-012915-258-260	METHYL CYCLOHEXANE	UG_L	2	UJ
8260C	VPB158-GW-012915-258-260	METHYL TERT-BUTYL ETHER	UG_L	2	UJ
8260C	VPB158-GW-012915-258-260	METHYLENE CHLORIDE	UG_L	10	UJ
8260C	VPB158-GW-012915-258-260	O-XYLENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	STYRENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	TETRACHLOROETHENE UG_	L	2	UJ
8260C	VPB158-GW-012915-258-260	TOLUENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	TRANS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-012915-258-260	TRANS-1,3-DICHLOROPROPENE U	G_L	2	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-012915-258-260	TRICHLOROETHENE UG_	L	2.4	J
8260C	VPB158-GW-012915-258-260	TRICHLOROFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-012915-258-260	VINYL CHLORIDE	UG_L	4	UJ
8260C	VPB158-GW-012915-258-260	XYLENES, TOTAL	UG_L	6	UJ

Notes:

UG_L = Micrograms per liter
J = Estimated value
UJ = Non-detect estimated value

Table (A-2) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-012915-243-245	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-012915-258-260	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-013015-278-280	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-013015-298-300	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-TRIPBLANK-020215	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-020215-318-320	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-012915-243-245	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-012915-258-260	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-013015-278-280	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-013015-298-300	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-TRIPBLANK-020215	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-020215-318-320	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-012915-243-245	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-012915-258-260	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-013015-278-280	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-013015-298-300	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-TRIPBLANK-020215	J
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-020215-318-320	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-012915-243-245	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-012915-258-260	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-013015-278-280	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-013015-298-300	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-TRIPBLANK-020215	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-020215-318-320	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect estimated value

Table (A-3) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG157971-4	Chloromethane 20.35		20	VPB158-GW-012915-243-245	UJ
WG157971-4	Chloromethane 20.35		20 VPB	158-GW-012915-258-260	UJ
WG157971-4	Chloromethane 20.35		20 VPB	158-GW-013015-278-280	UJ
WG157971-4	Chloromethane 20.35		20 VPB	158-GW-013015-298-300	UJ
WG157971-4	Chloromethane 20.35		20 VPB	158-TRIPBLANK-020215	UJ
WG157971-4	Chloromethane 20.35		20 VPB	158-GW-020215-318-320	UJ
WG157971-4	Bromomethane 21.98		20	VPB158-GW-012915-243-245	UJ
WG157971-4	Bromomethane 21.98		20 VPB	158-GW-012915-258-260	UJ
WG157971-4	Bromomethane 21.98		20 VPB	158-GW-013015-278-280	UJ
WG157971-4	Bromomethane 21.98		20 VPB	158-GW-013015-298-300	UJ
WG157971-4	Bromomethane 21.98		20 VPB	158-TRIPBLANK-020215	UJ
WG157971-4	Bromomethane 21.98		20 VPB	158-GW-020215-318-320	UJ
WG157971-4	Methyl cyclohexane	30.66	20	VPB158-GW-012915-243-245	UJ
WG157971-4	Methyl cyclohexane	30.66	20 VPB	158-GW-012915-258-260	UJ
WG157971-4	Methyl cyclohexane	30.66	20 VPB	158-GW-013015-278-280	UJ
WG157971-4	Methyl cyclohexane	30.66	20 VPB	158-GW-013015-298-300	UJ
WG157971-4	Methyl cyclohexane	30.66	20 VPB	158-TRIPBLANK-020215	UJ
WG157971-4	Methyl cyclohexane	30.66	20 VPB	158-GW-020215-318-320	UJ

Notes:

%D = Percent difference
J = Estimated value
UJ = Non-detect estimated value

Table (A-4) Trip Blank Non-Conformance							
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Sample Result LOQ**	**Qualifier**
VPB158-TRIPBLANK-020215	Acetone	3.2	5	VPB158-GW-012915-243-245	3.7	5	U
VPB158-TRIPBLANK-020215	Acetone	3.2	5	VPB158-GW-012915-258-260	13	20	U
VPB158-TRIPBLANK-020215	Acetone	3.2	5	VPB158-GW-013015-278-280	4.8	5	U
VPB158-TRIPBLANK-020215	Acetone	3.2	5	VPB158-GW-020215-318-320	3.7	5	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-5) Surrogate Recovery Non-Conformance						
Method	**Analyte**	**Lab ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	1,2-Dichloroethane-d4	SI0700-4	127	70-120	VPB158-GW-013015-298-300	J all detected analytes

Notes:

%R = Percent recovery
J = Estimated value

Table (A-6) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG157971-1	WG157971	Acetone	160	40-140	VPB158-GW-012915-243-245 J	
WG157971-1	WG157971	Acetone	160	40-140	VPB 158-GW-012915-258-260	J
WG157971-1	WG157971	Acetone	160	40-140	VPB 158-GW-013015-278-280	J
WG157971-1	WG157971	Acetone	160	40-140	VPB 158-TRIPBLANK-020215	J
WG157971-1	WG157971	Acetone	160	40-140	VPB 158-GW-020215-318-320	J

Notes:

LCS = Laboratory control sample
%R = Percent recovery
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI0700		
		Lab Identification		SI0700-1		
		Sample Identification		VPB158-GW-012915-243-245		
		Sample Date		1/29/2015		
		Sample Type		Groundwater		
		Depth_Interval		243 - 245 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.81	J	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	3.5		
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.55	J	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	c
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.74	J	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0700		
		Lab Identification		SI0700-2DL		
		Sample Identification		VPB158-GW-012915-258-260		
		Sample Date		1/29/2015		
		Sample Type		Groundwater		
		Depth_Interval		258 - 260 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	bt,l,mc,c
8260C	B ENZENE	71-43-2	UG_L	2	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	4	UJ	c,mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	2	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	4	UJ	c,mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	4	UJ	c,mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	c,mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2.4	J	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	4	UJ	c,mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

		Sample Delivery Group		SI0700		
		Lab Identification		SI0700-3		
		Sample Identification		VPB158-GW-013015-278-280		
		Sample Date		1/30/2015		
		Sample Type		Groundwater		
		Depth_Interval		278 - 280 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	5		
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	2.5		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	14		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	9.4		
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2.5		
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	2.6		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	2.5		
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	c
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.31	J	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0700		
		Lab Identification		SI0700-4		
		Sample Identification		VPB158-GW-013015-298-300		
		Sample Date		1/30/2015		
		Sample Type		Groundwater		
		Depth_Interval		298 - 300 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	6.4	J	s
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	4.6	J	s
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.37	J	s
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	12	J	s
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	12	J	s
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	4.8	J	s
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.43	J	s
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	2.3	J	s
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	4.8	J	s
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	c
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	65	J	s
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0700		
		Lab Identification		SI0700-6		
		Sample Identification		VPB158-GW-020215-318-320		
		Sample Date		2/2/2015		
		Sample Type		Groundwater		
		Depth_Interval		318 - 320 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	4.4		
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	4.4		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	10		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	7.2		
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	4		
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.28	J	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	1.8		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	4		
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	c
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	140		
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0700		
		Lab ID		SI0700-5		
		Sample ID		VPB158-TRIP BLANK-020215		
		Sample Date		2/2/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	3.2	J	l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	c
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L	=	Micrograms per liter
Qual =		Final qualifier
RC	=	Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katah	din Analytical	
Sample Delivery Group:	SI0772	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 03/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI0772_8260C

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 4 to 5 February 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-020215-338-358 Gr	oundwater	8260C
VPB158-GW-020215-358-360	Groundwater	8260C
VPB158-GW-020415-378-380	Groundwater	8260C
VPB158-GW-020515-398-400	Groundwater 8260C	
VPB158-GW-020515-418-420	Groundwater 8260C	
VPB158-GW-020515-438-440	Groundwater 8260C	
VPB158-TRIPBLANK-020515	Trip Blank	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Co mpounds by Gas Chro matography/Mass Spectrometry* (U.S . EPA , 20 06), *U.S. Environmental P rotection Agen cy (U .S. EP A) Contract L aboratory Prog ram Nat ional Functional Guidelines f or Su perfund Or ganic Me thods Da ta Review* (NFG, June 2008), and Depar tment 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):

✗	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration/continuing calibration verification
✗	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;
- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;
- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in all samples; and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil in all three vials and not very much liquid:

- VPB158-GW-020515-398-400 had each vial decanted, compounded into one vial and analyzed at a dilution of 1:20.
- VPB158-GW-020215-358-360 had two vials decanted, compounded into one vial and analyzed.

Positive and non-detected results for sample's VPB158-GW-020515-398-400 and VPB158-GW-020215-358-360 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;
- the initial calibration verification standard percent recovery acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

ICV Recovery Non-conformance:

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

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

ICV and CCV non-conformances are summarized in Attachment A in Table's A-2 and A-3.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. Laboratory blank and trip blank non-conformances are summarized in Attachment A in Table A-4 and A-5.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Trip, Field, or Equipment	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the blank result with a U or reject the sample result as unusable R
		≥ 2x LOQ and ≥ blank contamination	If the result is <2x blank result, report the sample result U. If the result is > 2x blank result, no qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:

LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

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 MS/MSDs were not

reported in individual SDGs. 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 R	

Notes:

%R =		Percent recovery
RPD	=	Relative percent difference
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

LCS / LCSD non-conformance is summarized in Attachment A in Table A-6.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-020215-358-360	1,1,1-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,1,2-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,1-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,1-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,2,4-TRICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DIBROMOETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DICHLOROETHENE, TOTAL	UG_L	1 UJ	
8260C	VPB158-GW-020215-358-360	1,2-DICHLOROPROPANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,3-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	1,4-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	2-BUTANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-020215-358-360	2-HEXANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-020215-358-360	4-METHYL-2-PENTANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-020215-358-360	ACETONE UG_	L	2.5 UJ	
8260C	VPB158-GW-020215-358-360	BENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	BROMODICHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	BROMOFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	BROMOMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-020215-358-360	CARBON DISULFIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CARBON TETRACHLORIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CHLOROBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CHLOROETHANE UG_	L	1 UJ	
8260C	VPB158-GW-020215-358-360	CHLOROFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CHLOROMETHANE UG_	L	1 UJ	
8260C	VPB158-GW-020215-358-360	CIS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CIS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	CYCLOHEXANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	DIBROMOCHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	DICHLORODIFLUOROMETHANE UG_	L	1 UJ	
8260C	VPB158-GW-020215-358-360	ETHYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	ISOPROPYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	M- AND P-XYLENE	UG_L	1 UJ	
8260C	VPB158-GW-020215-358-360	METHYL ACETATE	UG_L	0.75 UJ	
8260C	VPB158-GW-020215-358-360	METHYL CYCLOHEXANE	UG_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	METHYL TERT-BUTYL ETHER	UG_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	METHYLENE CHLORIDE	UG_L	2.5 UJ	
8260C	VPB158-GW-020215-358-360	O-XYLENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	STYRENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	TETRACHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	TOLUENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	TRANS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-020215-358-360	TRICHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-020215-358-360	TRICHLOROFLUOROMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-020215-358-360	VINYL CHLORIDE	UG_L	1 UJ	
8260C	VPB158-GW-020215-358-360	XYLENES, TOTAL	UG_L	1.5 UJ	
8260C VPB	158-GW-020515-398-400	1,1,1-TRICHLOROETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,1,2,2-TETRACHLOROETHANE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,1,2-TRICHLOROETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,1-DICHLOROETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,1-DICHLOROETHENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,2,4-TRICHLOROBENZENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	15 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DIBROMOETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DICHLOROBENZENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DICHLOROETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DICHLOROETHENE, TOTAL	UG_L	20 UJ	
8260C VPB	158-GW-020515-398-400	1,2-DICHLOROPROPANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,3-DICHLOROBENZENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	1,4-DICHLOROBENZENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	2-BUTANONE UG_	L	50 UJ	
8260C VPB	158-GW-020515-398-400	2-HEXANONE UG_	L	50 UJ	
8260C VPB	158-GW-020515-398-400	4-METHYL-2-PENTANONE UG_	L	50 UJ	
8260C VPB	158-GW-020515-398-400	ACETONE UG_	L	50 UJ	
8260C VPB	158-GW-020515-398-400	BENZENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	BROMODICHLOROMETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	BROMOFORM U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	BROMOMETHANE U	G_L	20 UJ	
8260C VPB	158-GW-020515-398-400	CARBON DISULFIDE	UG_L	10 UJ	
8260C VPB	158-GW-020515-398-400	CARBON TETRACHLORIDE	UG_L	10 UJ	
8260C VPB	158-GW-020515-398-400	CHLOROBENZENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	CHLOROETHANE UG_	L	20 UJ	
8260C VPB	158-GW-020515-398-400	CHLOROFORM U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	CHLOROMETHANE UG_	L	20 UJ	
8260C VPB	158-GW-020515-398-400	CIS-1,2-DICHLOROETHENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	CIS-1,3-DICHLOROPROPENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	CYCLOHEXANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	DIBROMOCHLOROMETHANE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	DICHLORODIFLUOROMETHANE UG_	L	20 UJ	
8260C VPB	158-GW-020515-398-400	ETHYLBENZENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	ISOPROPYLBENZENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	M- AND P-XYLENE	UG_L	20 UJ	
8260C VPB	158-GW-020515-398-400	METHYL ACETATE	UG_L	15 UJ	
8260C VPB	158-GW-020515-398-400	METHYL CYCLOHEXANE	UG_L	10 UJ	
8260C VPB	158-GW-020515-398-400	METHYL TERT-BUTYL ETHER	UG_L	10 UJ	
8260C VPB	158-GW-020515-398-400	METHYLENE CHLORIDE	UG_L	50 UJ	
8260C VPB	158-GW-020515-398-400	O-XYLENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	STYRENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	TETRACHLOROETHENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	TOLUENE U	G_L	10 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C VPB	158-GW-020515-398-400	TRANS-1,2-DICHLOROETHENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	TRANS-1,3-DICHLOROPROPENE U	G_L	10 UJ	
8260C VPB	158-GW-020515-398-400	TRICHLOROETHENE UG_	L	10 UJ	
8260C VPB	158-GW-020515-398-400	TRICHLOROFLUOROMETHANE U	G_L	20 UJ	
8260C VPB	158-GW-020515-398-400	VINYL CHLORIDE	UG_L	20 UJ	
8260C VPB	158-GW-020515-398-400	XYLENES, TOTAL	UG_L	30 UJ	

Notes:

UG_L = Micrograms per liter
UJ = Non-detect estimated value

Table (A-2) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020215-338-358	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020215-358-360	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020415-378-380	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020515-398-400	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020515-418-420	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-GW-020515-438-440	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69	80-120	VPB158-TRIPBLANK-020515	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020215-338-358	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020215-358-360	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020415-378-380	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020515-398-400	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020515-418-420	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020515-438-440	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-TRIPBLANK-020515	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020215-338-358	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020215-358-360	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020415-378-380	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020515-398-400	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020515-418-420	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020515-438-440	UJ
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-TRIPBLANK-020515	J
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020215-338-358	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020215-358-360	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020415-378-380	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020515-398-400	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020515-418-420	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-GW-020515-438-440	UJ
8260C V	inyl Chloride	WG157839-7	70.01	80-120	VPB158-TRIPBLANK-020515	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect estimated value

Table (A-3) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG158187-4	Bromomethane 21.36		20 VPB	158-GW-020215-338-358	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-GW-020215-358-360	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-GW-020415-378-380	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-GW-020515-398-400	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-GW-020515-418-420	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-GW-020515-438-440	UJ
WG158187-4	Bromomethane	21.36	20 VPB	158-TRIPBLANK-020515	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020215-338-358	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020215-358-360	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020415-378-380	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020515-398-400	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020515-418-420	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-GW-020515-438-440	UJ
WG158187-4	Methyl acetate	34.11	20 VPB	158-TRIPBLANK-020515	UJ

Notes:

%D = Percent difference
UJ = Non-detect estimated value

Table (A-4) Laboratory Blank Non-Conformance						
Laboratory Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
WG158187-2	Carbon Disulfide	0.38	1	VPB158-GW-020215-338-358	0.44	U
WG158187-2	Carbon Disulfide	0.38	1	VPB158-GW-020215-358-360	0.62	U
WG158187-2	Carbon Disulfide	0.38	1	VPB158-GW-020415-378-380	0.30	U
WG158187-2	Carbon Disulfide	0.38	1	VPB158-GW-020515-438-440	0.33	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-5) Trip Blank Non-Conformance						
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
VPB158-TRIPBLANK-020515	Acetone	5.6	5	VPB158-GW-020215-338-358	4.3	U
VPB158-TRIPBLANK-020515	Acetone 5.6		5	VPB158-GW-020215-358-360	4.3	U
VPB158-TRIPBLANK-020515	Acetone 5.6		5	VPB158-GW-020515-418-420	7.0	U
VPB158-TRIPBLANK-020515	Carbon disulfide	0.4	1	VPB158-GW-020215-338-358	0.44	U
VPB158-TRIPBLANK-020515	Carbon disulfide	0.4	1	VPB158-GW-020215-358-360	0.62	U
VPB158-TRIPBLANK-020515	Carbon disulfide	0.4	1	VPB158-GW-020415-378-380	0.30	U
VPB158-TRIPBLANK-020515	Carbon disulfide	0.4	1	VPB158-GW-020515-438-440	0.33	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-6) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG158187-1	WG158187	Acetone	148	40-140	VPB158-GW-020215-338-358 J	
WG158187-1	WG158187	Acetone	148	40-140	VPB 158-GW-020215-358-360	J
WG158187-1	WG158187	Acetone	148	40-140	VPB 158-GW-020515-418-420	J
WG158187-1	WG158187	Acetone	148	40-140	VPB 158-TRIPBLANK-020515	J

Notes:

LCS = Laboratory control sample
%R = Percent recovery
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-1		
		Sample Identification		VPB158-GW-020215-338-358		
		Sample Date		2/2/2015		
		Sample Type		Groundwater		
		Depth_Interval		338 - 340 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.85	J	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	U	bt,bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.36	J	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-2		
		Sample Identification		VPB158-GW-020215-358-360		
		Sample Date		2/2/2015		
		Sample Type		Groundwater		
		Depth_Interval		358 - 360 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,mc,c
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c,mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c,mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c,mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c,mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-3		
		Sample Identification		VPB158-GW-020415-378-380		
		Sample Date		2/4/2015		
		Sample Type		Groundwater		
		Depth_Interval		378 - 380 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	U	bt,bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-4DL		
		Sample Identification		VPB158-GW-020515-398-400		
		Sample Date		2/5/2015		
		Sample Type		Groundwater		
		Depth_Interval		398 - 400 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	10	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	10	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	10	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	10	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	10	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	10	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	10	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	15	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	10	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	10	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	10	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	20	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	10	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	10	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	10	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	50	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	50	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	50	UJ	mc
8260C	ACETONE	67-64-1	UG_L	50	UJ	c,mc
8260C	B ENZENE	71-43-2	UG_L	10	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	10	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	10	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	20	UJ	c,mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	10	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	10	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	10	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	20	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	10	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	20	UJ	c,mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	10	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	10	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	10	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	10	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	20	UJ	c,mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	10	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	10	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	20	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	15	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	10	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	10	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	50	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	10	UJ	mc
8260C	STYRENE	100-42-5	UG_L	10	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	10	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	10	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	10	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	10	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	10	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	20	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	20	UJ	c,mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	30	UJ	mc

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-5		
		Sample Identification		VPB158-GW-020515-418-420		
		Sample Date		2/5/2015		
		Sample Type		Groundwater		
		Depth_Interval		418 - 420 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0772		
		Lab Identification		SI0772-6		
		Sample Identification		VPB158-GW-020515-438-440		
		Sample Date		2/5/2015		
		Sample Type		Groundwater		
		Depth_Interval		438 - 440 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	U	bt,bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0772		
		Lab ID		SI0772-7		
		Sample ID		VPB158-TRIP BLANK-020515		
		Sample Date		2/5/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	5.6	J	l,c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.4	J	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L	=	Micrograms per liter
Qual =		Final qualifier
RC =		Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage
Laboratory: Katah	din Analytical
Sample Delivery Group:	SI0818
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C
Validation Level:	3
Project Number:	0888812477.SA.DV
Prepared by:	Dana Miller/Resolution Consultants Completed on: 03/19/2015
Reviewed by:	Tina Cantwell/Resolution Consultants File Name: SI0818_8260C

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 6 and 9 February 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-020615-458-460 Gr	oundwater	8260C
VPB158-GW-020915-498-500	Groundwater 8260C	

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Co mpounds by Gas Chro matography/Mass Spectrometry* (U.S . EPA , 20 06), *U.S. Environmental P rotection Agen cy (U .S. EP A) Contract L aboratory Prog ram Nat ional Functional Guidelines f or Su perfund Or ganic Me thods Da ta Review* (NFG, June 2008), and Depar tment 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):

✓ Data completeness (chain-of-custody [COC])/sample integrity
✓ Holding times and sample preservation
✓ GC/MS performance checks
✗ Initial calibration/continuing calibration verification
✓ Laboratory blanks
✓ Surrogate spike recoveries
NA Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗ Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA Field duplicates
✓ Internal standards
✓ Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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 initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;
- the initial calibration verification standard percent recovery acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

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ICV Recovery Non-conformance:

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

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

ICV and CCV non-conformances are summarized in Attachment A in Table's A-1 and A-2.

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 MS/MSDs were not reported in individual SDGs. 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 R	

Notes:

%R =		Percent recovery
RPD	=	Relative percent difference
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

LCS / LCSD non-conformance is summarized in Attachment A in Table A-3.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

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Attachment A

Table (A-1) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C A	cetone	WG157839-7	160.7	80-120	VPB158-GW-020615-458-460	J
8260C A	cetone	WG157839-7	160.7 8	0-120	VPB158-GW-020915-498-500	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69 80-	120	VPB158-GW-020615-458-460	UJ
8260C D	ichlorodifluoromethane	WG157839-7	40.69 80-	120	VPB158-GW-020915-498-500	UJ
8260C V	inyl chloride	WG157839-7	70.01 80-	120	VPB158-GW-020615-458-460	UJ
8260C V	inyl chloride	WG157839-7	70.01 80-	120	VPB158-GW-020915-498-500	UJ
8260C C	hloromethane	WG157839-7	71.48	80-120	VPB158-GW-020615-458-460	UJ
8260C C	hloromethane	WG157839-7	71.48 80-	120	VPB158-GW-020915-498-500	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect estimated value

Table (A-2) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG158187-4	Bromomethane 30.8		20 VPB	158-GW-020615-458-460	UJ
WG158187-4	Bromomethane	30.8 20		VPB158-GW-020915-498-500	UJ
WG158187-4	Acetone	23.2 20		VPB158-GW-020615-458-460	J
WG158187-4	Acetone	23.2 20		VPB158-GW-020915-498-500	UJ
WG158187-4	Methyl acetate	21.5 20		VPB158-GW-020615-458-460	UJ
WG158187-4	Methyl acetate	21.5	20	VPB158-GW-020915-498-500	UJ

Notes:

%D = Percent difference
UJ = Non-detect estimated value

Table (A-3) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG158251-1	WG158251	Acetone	143	40-140 VPB	158-GW-020615-458-460	J

Notes:

LCS = Laboratory control sample
%R = Percent recovery
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI0818		
		Lab Identification		SI0818-1		
		Sample Identification		VPB158-GW-020615-458-460		
		Sample Date		2/6/2015		
		Sample Type		Groundwater		
		Depth_Interval		458 - 460 ft		
Method	**Analyte**	**CAS No**	**Units**	Result Qual		RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	12		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.98	J	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.58	J	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	6.9	J	l,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.33	J	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.22	J	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	7.1		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.79	J	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0818		
		Lab Identification		SI0818-2		
		Sample Identification		VPB158-GW-020915-498-500		
		Sample Date		2/9/2015		
		Sample Type		Groundwater		
		Depth_Interval		498 - 500 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1.5		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.77	J	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	1		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L = Micrograms per liter
Qual = Final qualifier
RC = Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katah	din Analytical	
Sample Delivery Group:	SI1230	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 04/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI1230_8260C

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 26 February 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P Addendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-022515-798-800 Gr	oundwater	8260C
VPB158-GW-022515-818-820 Gr	oundwater	8260C
VPB158-TRIPBLANK-022615 Trip	Blank	8260C
VPB158-GW-022615-838-840 Gr	oundwater	8260C
VPB158-GW-022615-858-860 Gr	oundwater	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Co mpounds by Gas Chro matography/Mass Spectrometry* (U.S . EPA , 20 06), *U.S. Environmental P rotection Agen cy (U .S. EP A) Contract L aboratory Prog ram Nat ional Functional Guidelines f or Su perfund Or ganic Me thods Da ta Review* (NFG, June 2008), and Depar tment 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):

✗	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✓	Initial calibration/continuing calibration verification
✗	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;
- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;
- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in all samples; and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil in vials and not very much liquid:

- VPB158-GW-022615-838-840 and VPB158-GW-022615-858-860 had each vial decanted, compounded into one vial for each sample and analyzed.
- VPB158-GW-022515-798-800 had two vials decanted, compounded into one vial and analyzed.
- VPB158-GW-022515-818-820 had one vial decanted and analyzed.

Positive and non-detected results for sample's VPB158-GW-022615-838-840, VPB158-GW-022615-858-860, VPB158-GW-022515-798-800, and VPB158-GW-022515-818-820 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. Laboratory blank and trip blank non-conformances are summarized in Attachment A in Table A-2 and A-3.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method or Trip	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the blank result with a U or reject the sample result as unusable R
		≥ 2x LOQ and ≥ blank contamination	If the result is <2x blank result, report the sample result U. If the result is > 2x blank result, no qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U

Blank type	Blank result	Sample result	Action for samples
Method or Trip	Detects	Not detected	No qualification
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:
LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-022515-798-800	1,1,1-TRICHLOROETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,1,2,2-TETRACHLOROETHANE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,1,2-TRICHLOROETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,1-DICHLOROETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,1-DICHLOROETHENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,2,4-TRICHLOROBENZENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	3 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DIBROMOETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DICHLOROBENZENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DICHLOROETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DICHLOROETHENE, TOTAL	UG_L	4 UJ	
8260C	VPB158-GW-022515-798-800	1,2-DICHLOROPROPANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,3-DICHLOROBENZENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	1,4-DICHLOROBENZENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	2-BUTANONE UG_	L	10 UJ	
8260C	VPB158-GW-022515-798-800	2-HEXANONE UG_	L	10 UJ	
8260C	VPB158-GW-022515-798-800	4-METHYL-2-PENTANONE UG_	L	10 UJ	
8260C	VPB158-GW-022515-798-800	ACETONE UG_	L	10 UJ	
8260C	VPB158-GW-022515-798-800	BENZENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	BROMODICHLOROMETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	BROMOFORM U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	BROMOMETHANE U	G_L	4 UJ	
8260C	VPB158-GW-022515-798-800	CARBON DISULFIDE	UG_L	2 UJ	
8260C	VPB158-GW-022515-798-800	CARBON TETRACHLORIDE	UG_L	2 UJ	
8260C	VPB158-GW-022515-798-800	CHLOROBENZENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	CHLOROETHANE UG_	L	4 UJ	
8260C	VPB158-GW-022515-798-800	CHLOROFORM U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	CHLOROMETHANE UG_	L	4 UJ	
8260C	VPB158-GW-022515-798-800	CIS-1,2-DICHLOROETHENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	CIS-1,3-DICHLOROPROPENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	CYCLOHEXANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	DIBROMOCHLOROMETHANE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	DICHLORODIFLUOROMETHANE U	G_L	4 UJ	
8260C	VPB158-GW-022515-798-800	ETHYLBENZENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	ISOPROPYLBENZENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	M- AND P-XYLENE	UG_L	4 UJ	
8260C	VPB158-GW-022515-798-800	METHYL ACETATE	UG_L	3 UJ	
8260C	VPB158-GW-022515-798-800	METHYL CYCLOHEXANE	UG_L	2 UJ	
8260C	VPB158-GW-022515-798-800	METHYL TERT-BUTYL ETHER	UG_L	2 UJ	
8260C	VPB158-GW-022515-798-800	METHYLENE CHLORIDE	UG_L	10 UJ	
8260C	VPB158-GW-022515-798-800	O-XYLENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	STYRENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	TETRACHLOROETHENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	TOLUENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	TRANS-1,2-DICHLOROETHENE U	G_L	2 UJ	
8260C	VPB158-GW-022515-798-800	TRANS-1,3-DICHLOROPROPENE U	G_L	2 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-022515-798-800	TRICHLOROETHENE UG_	L	2 UJ	
8260C	VPB158-GW-022515-798-800	TRICHLOROFLUOROMETHANE U	G_L	4 UJ	
8260C	VPB158-GW-022515-798-800	VINYL CHLORIDE	UG_L	4 UJ	
8260C	VPB158-GW-022515-798-800	XYLENES, TOTAL	UG_L	6 UJ	
8260C VPB	158-GW-022515-818-820	1,1,1-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,1,2-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,1-DICHLOROETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,1-DICHLOROETHENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,2,4-TRICHLOROBENZENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DIBROMOETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DICHLOROETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DICHLOROETHENE, TOTAL	UG_L	1 UJ	
8260C VPB	158-GW-022515-818-820	1,2-DICHLOROPROPANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,3-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	1,4-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	2-BUTANONE UG_	L	2.6 J	
8260C VPB	158-GW-022515-818-820	2-HEXANONE UG_	L	2.5 UJ	
8260C VPB	158-GW-022515-818-820	4-METHYL-2-PENTANONE UG_	L	2.5 UJ	
8260C VPB	158-GW-022515-818-820	ACETONE UG_	L	2.5 UJ	
8260C VPB	158-GW-022515-818-820	BENZENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	BROMODICHLOROMETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	BROMOFORM U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	BROMOMETHANE U	G_L	1 UJ	
8260C VPB	158-GW-022515-818-820	CARBON DISULFIDE	UG_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CARBON TETRACHLORIDE	UG_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CHLOROBENZENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CHLOROETHANE UG_	L	1 UJ	
8260C VPB	158-GW-022515-818-820	CHLOROFORM U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CHLOROMETHANE UG_	L	1 UJ	
8260C VPB	158-GW-022515-818-820	CIS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CIS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	CYCLOHEXANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	DIBROMOCHLOROMETHANE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	DICHLORODIFLUOROMETHANE U	G_L	1 UJ	
8260C VPB	158-GW-022515-818-820	ETHYLBENZENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	ISOPROPYLBENZENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	M- AND P-XYLENE	UG_L	1 UJ	
8260C VPB	158-GW-022515-818-820	METHYL ACETATE	UG_L	0.75 UJ	
8260C VPB	158-GW-022515-818-820	METHYL CYCLOHEXANE	UG_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	METHYL TERT-BUTYL ETHER	UG_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	METHYLENE CHLORIDE	UG_L	2.5 UJ	
8260C VPB	158-GW-022515-818-820	O-XYLENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	STYRENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	TETRACHLOROETHENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	TOLUENE U	G_L	0.5 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C VPB	158-GW-022515-818-820	TRANS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	TRICHLOROETHENE UG_	L	0.5 UJ	
8260C VPB	158-GW-022515-818-820	TRICHLOROFLUOROMETHANE U	G_L	1 UJ	
8260C VPB	158-GW-022515-818-820	VINYL CHLORIDE	UG_L	1 UJ	
8260C VPB	158-GW-022515-818-820	XYLENES, TOTAL	UG_L	1.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1,1-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1,2-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,1-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,2,4-TRICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DIBROMOETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DICHLOROETHENE, TOTAL	UG_L	1 UJ	
8260C	VPB158-GW-022615-838-840	1,2-DICHLOROPROPANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,3-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	1,4-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	2-BUTANONE UG_	L	2.9 J	
8260C	VPB158-GW-022615-838-840	2-HEXANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-838-840	4-METHYL-2-PENTANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-838-840	ACETONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-838-840	BENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	BROMODICHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	BROMOFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	BROMOMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-838-840	CARBON DISULFIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CARBON TETRACHLORIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CHLOROBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CHLOROETHANE UG_	L	1 UJ	
8260C	VPB158-GW-022615-838-840	CHLOROFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CHLOROMETHANE UG_	L	1.1 J	
8260C	VPB158-GW-022615-838-840	CIS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CIS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	CYCLOHEXANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	DIBROMOCHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	DICHLORODIFLUOROMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-838-840	ETHYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	ISOPROPYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	M- AND P-XYLENE	UG_L	1 UJ	
8260C	VPB158-GW-022615-838-840	METHYL ACETATE	UG_L	0.75 UJ	
8260C	VPB158-GW-022615-838-840	METHYL CYCLOHEXANE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	METHYL TERT-BUTYL ETHER	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	METHYLENE CHLORIDE	UG_L	2.5 UJ	
8260C	VPB158-GW-022615-838-840	O-XYLENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	STYRENE UG_	L	0.5 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-022615-838-840	TETRACHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	TOLUENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	TRANS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	TRICHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-838-840	TRICHLOROFLUOROMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-838-840	VINYL CHLORIDE	UG_L	1 UJ	
8260C	VPB158-GW-022615-838-840	XYLENES, TOTAL	UG_L	1.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1,1-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1,2-TRICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,1-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,2,4-TRICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DIBROMOETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DICHLOROETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DICHLOROETHENE, TOTAL	UG_L	1 UJ	
8260C	VPB158-GW-022615-858-860	1,2-DICHLOROPROPANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,3-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	1,4-DICHLOROBENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	2-BUTANONE UG_	L	2.9 J	
8260C	VPB158-GW-022615-858-860	2-HEXANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-858-860	4-METHYL-2-PENTANONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-858-860	ACETONE UG_	L	2.5 UJ	
8260C	VPB158-GW-022615-858-860	BENZENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	BROMODICHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	BROMOFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	BROMOMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-858-860	CARBON DISULFIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CARBON TETRACHLORIDE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CHLOROBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CHLOROETHANE UG_	L	1 UJ	
8260C	VPB158-GW-022615-858-860	CHLOROFORM U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CHLOROMETHANE UG_	L	1 UJ	
8260C	VPB158-GW-022615-858-860	CIS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CIS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	CYCLOHEXANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	DIBROMOCHLOROMETHANE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	DICHLORODIFLUOROMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-858-860	ETHYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	ISOPROPYLBENZENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	M- AND P-XYLENE	UG_L	1 UJ	
8260C	VPB158-GW-022615-858-860	METHYL ACETATE	UG_L	0.75 UJ	
8260C	VPB158-GW-022615-858-860	METHYL CYCLOHEXANE	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	METHYL TERT-BUTYL ETHER	UG_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	METHYLENE CHLORIDE	UG_L	2.5 UJ	

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-022615-858-860	O-XYLENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	STYRENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TETRACHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TOLUENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TRANS-1,2-DICHLOROETHENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TRICHLOROETHENE UG_	L	0.5 UJ	
8260C	VPB158-GW-022615-858-860	TRICHLOROFLUOROMETHANE U	G_L	1 UJ	
8260C	VPB158-GW-022615-858-860	VINYL CHLORIDE	UG_L	1 UJ	
8260C	VPB158-GW-022615-858-860	XYLENES, TOTAL	UG_L	1.5 UJ	

Notes:

UG_L = Micrograms per liter
UJ = Non-detect estimated value
J = Estimated value

Table (A-2) Laboratory Blank Non-Conformance						
Laboratory Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
WG159034-2 Carb	on Disulfide	0.39 1		VPB158-GW-022515-798-800	1.1	U
WG159034-2	Carbon Disulfide	0.39 1		VPB158-GW-022515-818-820	0.42	U
WG159034-2	Carbon Disulfide	0.39 1		VPB158-GW-022615-838-840	0.32	U
WG159034-2	Carbon Disulfide	0.39 1		VPB158-GW-022615-858-860	0.38	U
WG159034-2	Carbon Disulfide	0.39 1		VPB158-TRIPBLANK-022615	0.28	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-3) Trip Blank Non-Conformance							
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**LOQ**	**Qualifier**
VPB158-TRIPBLANK-022615	Acetone 9.7		5	VPB158-GW-022515-798-800	16	20	U
VPB158-TRIPBLANK-022615	Acetone 9.7		5	VPB158-GW-022515-818-820	12	5	U
VPB158-TRIPBLANK-022615	Acetone 9.7		5	VPB158-GW-022615-838-840	16	5	U
VPB158-TRIPBLANK-022615	Acetone 9.7		5	VPB158-GW-022615-858-860	19	5	U
VPB158-TRIPBLANK-022615	Carbon disulfide	0.28	1	VPB158-GW-022515-798-800	1.1	4	U
VPB158-TRIPBLANK-022615	Carbon disulfide	0.28	1	VPB158-GW-022515-818-820	0.42	1	U
VPB158-TRIPBLANK-022615	Carbon disulfide	0.28	1	VPB158-GW-022615-838-840	0.32	1	U
VPB158-TRIPBLANK-022615	Carbon disulfide	0.28	1	VPB158-GW-022615-858-860	0.38	1	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI1230		
		Lab Identification		SI1230-1DL		
		Sample Identification		VPB158-GW-022515-798-800		
		Sample Date		2/25/2015		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	bt,mc
8260C	B ENZENE	71-43-2	UG_L	2	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	4	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	2	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	4	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	4	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	4	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

		Sample Delivery Group		SI1230		
		Lab Identification		SI1230-2		
		Sample Identification		VPB158-GW-022515-818-820		
		Sample Date		2/25/2015		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.6	J	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1230		
		Lab Identification		SI1230-4		
		Sample Identification		VPB158-GW-022615-838-840		
		Sample Date		2/26/2015		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.9	J	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1.1	J	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1230		
		Lab Identification		SI1230-5		
		Sample Identification		VPB158-GW-022615-858-860		
		Sample Date		2/26/2015		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.9	J	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1230		
		Lab ID		SI1230-3		
		Sample ID		VPB158-TRIP BLANK-022615		
		Sample Date		2/26/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	9.7		
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L = Micrograms per liter
Qual = Final qualifier
RC = Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage
Laboratory: Katah	din Analytical
Sample Delivery Group:	SI0498
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Total Organic Carbon (TOC) by U.S. EPA SW-846 Method 9060A
Validation Level:	3
Project Number:	0888812477.SA.DV
Prepared by:	Dana Miller/Resolution Consultants Completed on: 03/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants File Name: SI0498_8260C_9060A

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 19 to 22 January 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-011915-48-50 Gr	oundwater	8260C
VPB158-GW-011915-98-100 Gr	oundwater	8260C
VPB158-GW-012214-148-150 Gr	oundwater	8260C
VPB158-GWD-012215 Fie	ld Duplicate	8260C
VPB158-TRIP BLANK-012215	Trip Blank	8260C
VPB158-SOIL-012215-158-160 Soil		9060A
VPB158-SOIL-DUP-012215 Fie	ld Duplicate	9060A
VPB158-EB-012215 Equipmen	t Blank	9060A
VPB158-FB-012215 Fie	ld Blank	9060A

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Compounds by Ga s Chromatography/Mass Spectr ometry* (U.S. EPA, 2006), *SW-846*

Method 9060A, Total Organic Carbon (U.S. EPA, 1996), *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):

- ✗ Data completeness (chain-of-custody [COC])/sample integrity
- ✓ Holding times and sample preservation
- ✓ GC/MS performance checks
- ✗ Initial calibration/continuing calibration verification
- ✗ Laboratory blanks/trip blanks
- ✓ Surrogate spike recoveries
- ✓ Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- ✗ Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) 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 that did not result in qualification of data are not discussed further. The symbol (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;

- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;

- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in samples VPB158-GW-011915-48-50, VPB158-GW-011915-98-100, and VPB158-GW-012215-148-150. The laboratory omitted the first characters "VPB-" in samples VPB158-SOIL-012215-158-160, VPB158-SOIL-DUP-012215, and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil and not very much liquid:

- VPB158-GW-011915-48-50 had one vial decanted and analyzed.

Positive and non-detected results for the sample VPB158-GW-011915-48-50 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;

- the initial calibration verification standard percent recovery acceptance criteria were met;

- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and

- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

ICV Recovery Non-conformance:

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

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

ICV and CCV non-conformances are summarized in Attachment A in Table's A-2 and A-3.

Laboratory Blanks/Trip Blanks

Laboratory blanks, equipment blank, field blank, and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. Laboratory blank, equipment blank, field blank, and trip blank non-conformances are summarized in Attachment A in Table's A-4 and A-5.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Trip, Field, or Equipment	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the blank result with a U or reject the sample result as unusable R
		≥ 2x LOQ and ≥ blank contamination	If the result is <2x blank result, report the sample result U. If the result is > 2x blank result, no qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:

LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

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 MS/MSDs were not reported in individual SDGs. In these instances, the laboratory determined precision between the duplicated values. Non-conformance is summarized in Attachment A in Table A-6. 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 R	

Notes:

%R =		Percent recovery
RPD	=	Relative percent difference
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1)
Sample Integrity Non-Conformance

Method	Sample ID	Analyte	Units	Result	Qualifier
8260C	VPB158-GW-011915-48-50	1,1,1-TRICHLOROETHANE	UG_L 0.	5	UJ
8260C	VPB158-GW-011915-48-50	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-011915-48-50	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-011915-48-50	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	2-BUTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-011915-48-50	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-011915-48-50	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-011915-48-50	ACETONE U	G_L	2.5	UJ
8260C	VPB158-GW-011915-48-50	BENZENE U	G_L	0.32	J
8260C	VPB158-GW-011915-48-50	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-011915-48-50	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-011915-48-50	CHLOROFORM U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-011915-48-50	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-011915-48-50	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-011915-48-50	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-011915-48-50	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB158-GW-011915-48-50	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	STYRENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-011915-48-50	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-011915-48-50	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-011915-48-50	XYLENES, TOTAL	UG_L	1.5	UJ

Notes:

UG_L = Micrograms per liter
J = Estimated value
UJ = Non-detect estimated value

Table (A-2) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C A	cetone	WG157202-7	143.51	80-120	VPB158-EB-012215 VPB158-FB-012215 VPB158-GW-011915-48-50 VPB158-GW-011915-98-100 VPB158-GW-012215-148-150 VPB158-TRIPBLANK-012215	All associated positive and non-detects results for analyte were qualified as estimated (J and UJ).
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GWD-012215	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GWD-012215	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GWD-012215	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GWD-012215	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect estimated value

Table (A-3) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG157541-4	1,1 ,2,2-Tetrachloroethane	20.08	20	VPB158-EB-012215 VPB158-FB-012215 VPB158-GW-011915-48-50 VPB158-GW-011915-98-100 VPB158-GW-012215-148-150 VPB158-TRIPBLANK-012215	All associated positive and non-detects results for analyte were qualified as estimated (J and UJ).
WG157541-4	1,2 -Dibromo-3-chloropropane	26.28	20	VPB158-EB-012215 VPB158-FB-012215 VPB158-GW-011915-48-50 VPB158-GW-011915-98-100 VPB158-GW-012215-148-150 VPB158-TRIPBLANK-012215	All associated positive and non-detects results for analyte were qualified as estimated (J and UJ).
WG157541-4	Methyl acetate	23.55	20	VPB158-EB-012215 VPB158-FB-012215 VPB158-GW-011915-48-50 VPB158-GW-011915-98-100 VPB158-GW-012215-148-150 VPB158-TRIPBLANK-012215	All associated positive and non-detects results for analyte were qualified as estimated (J and UJ).

Notes:

%D = Percent difference
J = Estimated value
UJ = Non-detect estimated value

Table (A-4) Laboratory Blank Non-Conformance						
Lab Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Samples**	**Sample Result (UG_L)**	**Qualifier**
WG157541-2	Carbon Disulfide	0.32	1	VPB158-GW-011915-98-100	0.27 U	

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-5) Equipment Blank, Field Blank, and Trip Blank Non-Conformance							
Blank Type	**Blank ID**	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
EB VPB	158-EB-012215	Acetone	3.7	5	VPB158-GW-011915-48-50	6.1	U
EB VPB	158-EB-012215	Acetone	3.7	5	VPB158-GW-011915-98-100	8.6	U
EB VPB	158-EB-012215	Acetone	3.7	5	VPB158-GW-012215-148-150	6.8	U
EB VPB	158-EB-012215	Acetone	3.7	5	VPB158-GWD-012215	6.2	U
EB VPB	158-EB-012215	Carbon disulfide	0.27	1	VPB158-GW-011915-98-100	0.27	U
FB VPB	158-FB-012215	Acetone	2.4	5	VPB158-GW-011915-48-50	6.1	U
FB VPB	158-FB-012215	Acetone	2.4	5	VPB158-GW-011915-98-100	8.6	U
FB VPB	158-FB-012215	Acetone	2.4	5	VPB158-GW-012215-148-150	6.8	U
FB VPB	158-FB-012215	Acetone	2.4	5	VPB158-GWD-012215	6.2	U
FB VPB	158-FB-012215	Chloroform	1.6	1	VPB158-GW-011915-98-100	0.74	U
FB VPB	158-FB-012215	Chloroform	1.6	1	VPB158-GW-012215-148-150	0.84	U
FB VPB	158-FB-012215	Chloroform	1.6	1	VPB158-GWD-012215	0.78	U
TB VPB	158-TB-012215	Acetone	3.0	5	VPB158-GW-011915-48-50	6.1	U
TB VPB	158-TB-012215	Acetone	3.0	5	VPB158-GW-011915-98-100	8.6	U
TB VPB	158-TB-012215	Acetone	3.0	5	VPB158-GW-012215-148-150	6.8	U
TB VPB	158-TB-012215	Acetone	3.0	5	VPB158-GWD-012215	6.2	U
TB VPB	158-TB-012215	Carbon disulfide	0.31	1	VPB158-GW-011915-98-100	0.27	U

Notes:

EB = Equipment blank
FB = Field blank
TB = Trip blank
UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-6) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-EB-012215	UJ
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-FB-012215	UJ
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-GW-011915-48-50	UJ
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-GW-011915-98-100	UJ
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-GW-012215-148-150	UJ
WG157541-1	WG157541	Xylenes, total	86.7	89-116 VPB	158-TRIPBLANK-012215	UJ
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-EB-012215	UJ
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-FB-012215	UJ

Table (A-6) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-GW-011915-48-50	UJ
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-GW-011915-98-100	UJ
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-GW-012215-148-150	J
WG157541-1	WG157541	1,2-Dichloroethene, total	77.4	84-121 VPB	158-TRIPBLANK-012215	UJ

Notes:

LCS = Laboratory control sample
%R = Percent recovery
UJ = Non-detect and qualified estimated "UJ" due to associated sample having low %R.
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI0498		
		Lab Identification		SI0498-1		
		Sample Identification		VPB158-GW-011915-48-50		
		Sample Date		1/19/2015		
		Sample Type		Groundwater		
		Depth_Interval		48 - 50 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c,mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c,mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	l,mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	be,bf,bt,mc,c
8260C	B ENZENE	71-43-2	UG_L	0.32	J	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	l,mc

		Sample Delivery Group		SI0498		
		Lab Identification		SI0498-2		
		Sample Identification		VPB158-GW-011915-98-100		
		Sample Date		1/19/2015		
		Sample Type		Groundwater		
		Depth_Interval		98 - 100 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	l
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	be,bf,bt,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	U	be,bt,bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	bf
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	l

		Sample Delivery Group		SI0498		
		Lab Identification		SI0498-3		
		Sample Identification		VPB158-GW-012215-148-150		
		Sample Date		1/22/2015		
		Sample Type		Groundwater		
		Depth_Interval		148 - 150 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2.3		
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.46	J	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	15		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	5		
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	3.4	J	l
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	be,bf,bt,c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	bf
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3.4		
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.71	J	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	8.4		
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	l

		Sample Delivery Group		SI0498		
		Lab Identification		SI0498-4RA		
		Sample Identification		VPB158-GWD-012215		
		Sample Date		1/22/2015		
		Sample Type		Field Duplicate		
		Depth_Interval		148 - 150 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2.1		
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	15		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	5.5		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	3.5		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	be,bf,bt,c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	bf
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3.5		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1.1		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	9.3		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0498		
		Lab ID		SI0498-7		
		Sample ID		VPB158-EB-012215		
		Sample Date		1/22/2015		
		Sample Type		Equipment Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	0.11	J	
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	l
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	3.7	J	c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.27	J	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	l

		Sample Delivery Group		SI0498		
		Lab ID		SI0498-8		
		Sample ID		VPB158-FB-012215		
		Sample Date		1/22/2015		
		Sample Type		Field Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	0.2	J	
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.1		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	l
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.4	J	c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	1.6		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	l

		Sample Delivery Group		SI0498		
		Lab ID		SI0498-9		
		Sample ID		VPB158-TRIP BLANK-012215		
		Sample Date		1/22/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	c
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	c
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	I
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	3	J	c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.31	J	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	I

Notes:

ID =		Identification
UG_L	=	Micrograms per liter
Qual	=	Final qualifier (Refer to Attachment B)
RC	=	Reason code (Refer to Attachment C)

			Sample Delivery Group	SI0498 SI0498			
			Lab ID	SI0498-5 SI0498-		6	
			Sample ID	VPB158-SOIL-012215-158-160 V		PB158-SOIL-DUP-012215	
			Sample Date	1/22/2015 1/22/201		5	
			Sample Type	Soil F		ield Duplicate	
Method	**Analyte**	**CAS No**	**Units**	Result Qual		Result	Qual
9060A	TOTAL ORGANIC CARBON	-28	UG_G	180	J	190	J

Notes:

ID = Identification
UG_G = Micrograms per gram
Qual = Final qualifier (Refer to Attachment B)

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katah	din Analytical	
Sample Delivery Group:	SI0595	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 03/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI0595_8260C

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 23 January 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-GW-012315-198-200 Gr	oundwater	8260C
VPB158-GW-012315-218-220 Gr	oundwater	8260C
VPB158—TRIPBLANK-012915 Trip	Blank	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Co mpounds by Gas Chro matography/Mass Spectrometry* (U.S . EPA , 20 06), *U.S. Environmental P rotection Agen cy (U .S. EP A) Contract L aboratory Prog ram Nat ional Functional Guidelines f or Su perfund Or ganic Me thods Da ta Review* (NFG, June 2008), and Depar tment 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):

✓	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration/continuing calibration verification
✓	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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 initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;
- the initial calibration verification standard percent recovery acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

ICV Recovery Non-conformance:

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

ICV non-conformances are summarized in Attachment A in Table A-1.

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 MS/MSDs were not reported in individual SDGs. In these instances, the laboratory determined precision between the duplicated values. Non-conformance is summarized in Attachment A in Table A-2. 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 R	

Notes:

%R =		Percent recovery
RPD	=	Relative percent difference
UL =		Upper limit
LL =		Lower limit
J	=	Estimated (Refer to Attachment B)
UJ	=	Undetected and estimated (Refer to Attachment B)
R =		Rejected

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-012315-198-200	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-GW-012315-218-220	UJ
8260C D	ichlorodifluoromethane	WG157841-7	40.31	80-120	VPB158-TRIPBLANK-012915	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-012315-198-200	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-GW-012315-218-220	UJ
8260C C	hloromethane	WG157841-7	67.49	80-120	VPB158-TRIPBLANK-012915	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-012315-198-200	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-GW-012315-218-220	UJ
8260C A	cetone	WG157841-7	159.73	80-120	VPB158-TRIPBLANK-012915	J
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-012315-198-200	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-GW-012315-218-220	UJ
8260C V	inyl Chloride	WG157841-7	75.39	80-120	VPB158-TRIPBLANK-012915	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect estimated value

Table (A-2) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG1578841-8	WG157841	Acetone	160	40-140	VPB 158-TRIPBLANK-012915	J

Notes:

LCS = Laboratory control sample
%R = Percent recovery
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

			Sample Delivery Group	SI0595		
			Lab Identification	SI0595-1RA		
			Sample Identification	VPB158-GW-012315-198-200		
			Sample Date	1/23/2015		
			Sample Type	Groundwater		
			Depth_Interval	198 - 200 ft.		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2.6		
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.34	J	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	16		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	5.6		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2.2		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	
8260C	CHLOROFORM	67-66-3	UG_L	1.6		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	2.2		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2.3		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	35		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0595		
		Lab Identification		SI0595-2RA		
		Sample Identification		VPB158-GW-012315-218-220		
		Sample Date		1/23/2015		
		Sample Type		Groundwater		
		Depth_Interval		218 - 220 ft.		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2.5		
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	16		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	6		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	1.7		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	2		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2.3		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	36		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

			Sample Delivery Group	SI0595		
			Lab ID	SI0595-3RA		
			Sample ID	VPB158-TRIP BLANK-012915		
			Sample Date	1/29/2015		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	5.4	J	l,c
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L = Micrograms per liter
Qual = Final qualifier (Refer to Attachment B)
RC = Reason code (Refer to Attachment C)

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage
Laboratory: Katahdin Analytical	
Sample Delivery Group:	SI0932
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C
Validation Level:	3
Project Number:	0888812477.SA.DV
Prepared by:	Dana Miller/Resolution Consultants Completed on: 03/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants File Name: SI0932_8260C

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 10 to 12 February 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB158-TRIPBLANK-021215 Trip	Blank	8260C
VPB158-GW-021015-518-520 Groundwater		8260C
VPB158-GW-021015-538-540	Groundwater	8260C
VPB158-GW-021015-558-560	Groundwater	8260C
VPB158-GW-021115-578-580	Groundwater	8260C
VPB158-GW-021115-598-600	Groundwater	8260C
VPB158-GW-021215-638-640	Groundwater	8260C
VPB158-GWD-021115	Field Duplicate	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), 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):

✗	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration/continuing calibration verification
✗	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
✓	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;
- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;

- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in all samples; and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil in vials and not very much liquid:

- VPB158-GW-021015-538-540 and VPB158-GW-021115-578-580 had each vial decanted, compounded into one vial for each sample and analyzed.

- VPB158-GW-021015-518-520 and VPB158-GW-021215-638-640 had two vials decanted, compounded into one vial for each sample and analyzed.

Positive and non-detected results for sample's VPB158-GW-021015-538-540, VPB158-GW-021115-578-580, VPB158-GW-021015-518-520 and VPB158-GW-021215-638-640 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;

- the initial calibration verification standard percent recovery acceptance criteria were met;

- the continuing calibration verification standard method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and

- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific initial calibration (ICAL) was as follows:

ICAL Linearity Non-conformance:

Criteria	Actions	
	Detected Results	Non-detected Results
%RSD >15% and quantitation based on mean response factor (RF)	J U	J

Data qualification to the analytes associated with the specific initial calibration verification (ICV) was as follows:

ICV Recovery Non-conformance:

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

Data qualification to the analytes associated with the specific calibration verification standard (CCV) was as follows:

CCV Linearity Non-conformance:

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

ICAL, ICV and CCV non-conformances are summarized in Attachment A in Table's A-2, A-3, and A-4.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent vari ability in the data, or if a problem was an isolated occurrence that di d not aff ect th e data . Samples were flagge d in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. Laboratory blank and trip blank non-conformances are summarized in Attachment A in Table A-5 and A-6.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method or Trip	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the bl ank result wi th a U or reject the sample resu lt as unusabl e R
		≥ 2x LOQ and ≥ blank contamination	If the r esult is <2x bla nk result, report the sample result U. If the result is > 2x blank result, no

Blank type	Blank result	Sample result	Action for samples
Method or Trip	Detects	Not detected	No qualification
			qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:
LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

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 MS/MSDs were not reported in individual SDGs. 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 R	

Notes:
%R = Percent recovery
RPD = Relative percent difference
UL = Upper limit
LL = Lower limit
J = Estimated (Refer to Attachment B)
UJ = Undetected and estimated (Refer to Attachment B)
R = Rejected

LCS / LCSD non-conformance is summarized in Attachment A in Table A-7.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021015-518-520	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	5.9	J
8260C	VPB158-GW-021015-518-520	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-021015-518-520	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-021015-518-520	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	2-BUTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021015-518-520	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021015-518-520	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021015-518-520	ACETONE UG_	L	9	J
8260C	VPB158-GW-021015-518-520	BENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021015-518-520	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	CHLOROBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-021015-518-520	CHLOROFORM U	G_L	4.9	J
8260C	VPB158-GW-021015-518-520	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-021015-518-520	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021015-518-520	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-021015-518-520	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-021015-518-520	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB158-GW-021015-518-520	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	STYRENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021015-518-520	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021015-518-520	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021015-518-520	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021015-518-520	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-021015-518-520	XYLENES, TOTAL	UG_L	1.5	UJ
8260C VPB	158-GW-021015-538-540	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2.2	J
8260C VPB	158-GW-021015-538-540	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C VPB	158-GW-021015-538-540	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C VPB	158-GW-021015-538-540	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	2-BUTANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021015-538-540	2-HEXANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021015-538-540	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021015-538-540	ACETONE UG_	L	7.3	J
8260C VPB	158-GW-021015-538-540	BENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	BROMOFORM U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	BROMOMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021015-538-540	CARBON DISULFIDE	UG_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	CHLOROBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	CHLOROETHANE UG_	L	1	UJ
8260C VPB	158-GW-021015-538-540	CHLOROFORM U	G_L	5.9	J
8260C VPB	158-GW-021015-538-540	CHLOROMETHANE UG_	L	1	UJ
8260C VPB	158-GW-021015-538-540	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	CYCLOHEXANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021015-538-540	ETHYLBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	M- AND P-XYLENE	UG_L	1	UJ
8260C VPB	158-GW-021015-538-540	METHYL ACETATE	UG_L	0.75	UJ
8260C VPB	158-GW-021015-538-540	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C VPB	158-GW-021015-538-540	O-XYLENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	STYRENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	TOLUENE U	G_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C VPB	158-GW-021015-538-540	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C VPB	158-GW-021015-538-540	TRICHLOROETHENE UG_	L	0.5	UJ
8260C VPB	158-GW-021015-538-540	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021015-538-540	VINYL CHLORIDE	UG_L	1	UJ
8260C VPB	158-GW-021015-538-540	XYLENES, TOTAL	UG_L	1.5	UJ
8260C	VPB158-GW-021115-578-580	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2.5	J
8260C	VPB158-GW-021115-578-580	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-021115-578-580	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-021115-578-580	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	2-BUTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021115-578-580	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021115-578-580	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021115-578-580	ACETONE UG_	L	7.9	J
8260C	VPB158-GW-021115-578-580	BENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021115-578-580	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	CHLOROBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-021115-578-580	CHLOROFORM U	G_L	2.9	J
8260C	VPB158-GW-021115-578-580	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-021115-578-580	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021115-578-580	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-021115-578-580	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-021115-578-580	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB158-GW-021115-578-580	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	STYRENE UG_	L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021115-578-580	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021115-578-580	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021115-578-580	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021115-578-580	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-021115-578-580	XYLENES, TOTAL	UG_L	1.5	UJ
8260C	VPB158-GW-021215-638-640	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-021215-638-640	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-021215-638-640	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	2-BUTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021215-638-640	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021215-638-640	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021215-638-640	ACETONE UG_	L	9.7	J
8260C	VPB158-GW-021215-638-640	BENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021215-638-640	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	CHLOROBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-021215-638-640	CHLOROFORM U	G_L	0.35	J
8260C	VPB158-GW-021215-638-640	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-021215-638-640	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021215-638-640	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-021215-638-640	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-021215-638-640	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	METHYLENE CHLORIDE	UG_L	2.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021215-638-640	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	STYRENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021215-638-640	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021215-638-640	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-021215-638-640	XYLENES, TOTAL	UG_L	1.5	UJ

Notes:

UG_L = Micrograms per liter
UJ = Non-detect estimated value
J = Estimated value

Table (A-2) Initial Calibration Linearity Non-Conformance					
Method	**Analyte**	**%RSD**	**Limit**	**Associated Samples**	**Qualifier**
8260C M	ethylene chloride	15.0239	15	VPB158-TRIPBLANK-021215	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021015-518-520	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021015-538-540	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021015-558-560	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021115-578-580	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021115-598-600	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GW-021215-638-640	UJ
8260C	Methylene chloride	15.0239	15 VPB	158-GWD-021115	UJ
8260C M	ethyl acetate	15.3567 1	5	VPB158-TRIPBLANK-021215	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021015-518-520	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021015-538-540	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021015-558-560	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021115-578-580	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021115-598-600	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GW-021215-638-640	UJ
8260C	Methyl acetate	15.3567	15 VPB	158-GWD-021115	UJ

Notes:

%RSD = Percent relative standard deviation
UJ = Non-detect estimated value

Table (A-3) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-TRIPBLANK-021215	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021015-518-520	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021015-538-540	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021015-558-560	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021115-578-580	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021115-598-600	UJ
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GW-021215-638-640	UJ

Table (A-3) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C 2	-Hexanone	WG158332-7	123.98	80-120	VPB158-GWD-021115	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
UJ = Non-detect estimated value

Table (A-4) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG158604-4	2-Butanone 29.3		20 VPB	158-GW-021015-538-540	UJ
WG158604-4	2-Butanone	29.3 20		VPB158-GW-021115-578-580	UJ
WG158604-4	Cyclohexane	21.9 20		VPB158-GW-021015-538-540	UJ
WG158604-4	Cyclohexane	21.9 20		VPB158-GW-021115-578-580	UJ
WG158604-4	2-Hexanone	22.3 20		VPB158-GW-021015-538-540	UJ
WG158604-4	2-Hexanone	22.3 20		VPB158-GW-021115-578-580	UJ
WG158604-4	Dichlorodifluoromethane	24.8 20		VPB158-GW-021015-538-540	UJ
WG158604-4	Dichlorodifluoromethane	24.8 20		VPB158-GW-021115-578-580	UJ
WG158604-4	Chloroethane 22.8		20	VPB158-TRIPBLANK-021215	UJ
WG158604-4	Chloroethane	22.8 20		VPB158-GW-021015-518-520	UJ
WG158604-4	Chloroethane	22.8 20		VPB158-GW-021015-558-560	UJ
WG158604-4	Chloroethane	22.8 20		VPB158-GW-021115-598-600	UJ
WG158604-4	Chloroethane	22.8 20		VPB158-GW-021215-638-640	UJ
WG158604-4	Chloroethane	22.8 20		VPB158-GWD-021115	UJ

Notes:

%D = Percent difference
UJ = Non-detect estimated value

Table (A-5) Laboratory Blank Non-Conformance						
Laboratory Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
WG158486-2	Carbon Disulfide	0.36	1	VPB158-GW-021015-518-520	0.32	U
WG158486-2	Carbon Disulfide	0.36	1	VPB158-GW-021015-558-560	0.26	U
WG158486-2	Carbon Disulfide	0.36	1	VPB158-GW-021215-638-640	0.33	U
WG158486-2	Carbon Disulfide	0.36	1	VPB158-TRIPBLANK-021215	0.34	U
WG158604-2	Carbon Disulfide	0.33	1	VPB158-GW-021015-538-540	0.44	U
WG158604-2	Carbon Disulfide	0.33	1	VPB158-GW-021115-578-580	0.31	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-6) Trip Blank Non-Conformance						
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
VPB158-TRIPBLANK-021215	Carbon disulfide	0.34	1	VPB158-GW-021015-518-520	0.32	U
VPB158-TRIPBLANK-021215	Carbon disulfide	0.34	1	VPB158-GW-021015-538-540	0.44	U
VPB158-TRIPBLANK-021215	Carbon disulfide	0.34	1	VPB158-GW-021015-558-560	0.26	U

Table (A-6) Trip Blank Non-Conformance						
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
VPB158-TRIPBLANK-021215	Carbon disulfide	0.34	1 VPB	158-GW-021115-578-580	0.31	U
VPB158-TRIPBLANK-021215	Carbon disulfide	0.34	1 VPB	158-GW-021215-638-640	0.33	U

Notes:

UG_L = Micrograms per liter
LOQ = Limit of quantitation
U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-7) Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG158486-1	WG158486	Acetone	176	40-140	VPB158-GW-021015-518-520	J
WG158486-1	WG158486	Acetone 1	76	40-140	VPB 158-GW-021015-558-560	J
WG158486-1	WG158486	Acetone 1	76	40-140	VPB 158-GW-021215-638-640	J
WG158486-1	WG158486	Acetone 1	76	40-140	VPB 158-GW-021115-578-580	J

Notes:

LCS = Laboratory control sample
%R = Percent recovery
J = Detected analyte in associated sample qualified estimated "J" due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-2		
		Sample Identification		VPB158-GW-021015-518-520		
		Sample Date		2/10/2015		
		Sample Type		Groundwater		
		Depth_Interval		518 - 520 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	5.9	J	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c,mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	9	J	l,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c,mc
8260C	CHLOROFORM	67-66-3	UG_L	4.9	J	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c,mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-3RA		
		Sample Identification		VPB158-GW-021015-538-540		
		Sample Date		2/10/2015		
		Sample Type		Groundwater		
		Depth_Interval		538 - 540 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2.2	J	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	c,mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c,mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	7.3	J	mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	5.9	J	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	c,mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c,mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c,mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-4		
		Sample Identification		VPB158-GW-021015-558-560		
		Sample Date		2/10/2015		
		Sample Type		Groundwater		
		Depth_Interval		558 - 560 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	19		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.68	J	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	0.27	J	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.8	J	l
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c
8260C	CHLOROFORM	67-66-3	UG_L	8.2		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.27	J	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-5RA		
		Sample Identification		VPB158-GW-021115-578-580		
		Sample Date		2/11/2015		
		Sample Type		Groundwater		
		Depth_Interval		578 - 580 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2.5	J	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	c,mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c,mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	7.9	J	mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2.9	J	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	c,mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	c,mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c,mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-6		
		Sample Identification		VPB158-GW-021115-598-600		
		Sample Date		2/11/2015		
		Sample Type		Groundwater		
		Depth_Interval		598 - 600 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	4.5		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c
8260C	CHLOROFORM	67-66-3	UG_L	1.4		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-7		
		Sample Identification		VPB158-GW-021215-638-640		
		Sample Date		2/12/2015		
		Sample Type		Groundwater		
		Depth_Interval		638 - 640 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c,mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	9.7	J	l,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt,bl,mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c,mc
8260C	CHLOROFORM	67-66-3	UG_L	0.35	J	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c,mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c,mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI0932		
		Lab Identification		SI0932-8		
		Sample Identification		VPB158-GWD-021115		
		Sample Date		2/11/2015		
		Sample Type		Field Duplicate		
		Depth_Interval		598 - 699 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	4		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.4	J	I
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c
8260C	CHLOROFORM	67-66-3	UG_L	1.3		
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI0932		
		Lab ID		SI0932-1		
		Sample ID		VPB158-TRIPBLANK-021215		
		Sample Date		2/12/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	bl
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	c
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	c
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	c
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L = Micrograms per liter
Qual = Final qualifier
RC = Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katahdin Analytical		
Sample Delivery Group:	SI1101	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 03/19/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI1101_8260C

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 18 to 19 February 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB158-TRIPBLANK-021915 Trip	Blank	8260C
VPB158-GW-021815-658-660 Gr	oundwater	8260C
VPB158-GW-021815-678-680	Groundwater	8260C
VPB158-GW-021915-698-700	Groundwater	8260C
VPB158-GW-021915-718-720	Groundwater 8260C	

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), 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):

✗	Data completeness (chain-of-custody [COC])/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration/continuing calibration verification
✓	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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 (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;
- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;
- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in all samples; and truncated Trip Blank to "TB" in the

report. Below shows a list of samples that were mostly comprised of soil in vials and not very much liquid:

- VPB158-GW-021815-678-680 and VPB158-GW-021915-698-700 had each vial decanted, compounded into one vial for each sample and analyzed.

- VPB158-GW-021915-718-720 had two vi als deca nted, compounded in to one vi al and analyzed.

Positive and non-detected re sults for sample's VPB158-GW- 021815-678-680, VPB158-GW-021915-698-700, and VPB158-GW-021915-718-720 were qualified as estimated (J and UJ) respectively due to possible loss of s ample integrity during th e decan ting pr ocess. N on-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial ca libration p ercent relative standard deviation, cor relation co efficient/coefficient of determination, and/or response factor method acceptance criteria were met;

- the initial calibration verification standard percent recovery acceptance criteria were met;

- the continuing cal ibration v erification standard meth od p ercent di fference or percent drift (%Ds) and response factor acceptance criteria were met; and

- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific calibration verification standard (CCV) was as follows:

CCV Linearity Non-conformance:

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

CCV non-conformances are summarized in Attachment A in Table's A-2.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021815-678-680	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-021815-678-680	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-021815-678-680	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	2-BUTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021815-678-680	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021815-678-680	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021815-678-680	ACETONE UG_	L	7.7	J
8260C	VPB158-GW-021815-678-680	BENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021815-678-680	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CHLOROBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-021815-678-680	CHLOROFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-021815-678-680	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021815-678-680	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-021815-678-680	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-021815-678-680	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB158-GW-021815-678-680	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	STYRENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021815-678-680	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021815-678-680	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021815-678-680	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021815-678-680	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-021815-678-680	XYLENES, TOTAL	UG_L	1.5	UJ
8260C VPB	158-GW-021915-698-700	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	3	J
8260C VPB	158-GW-021915-698-700	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C VPB	158-GW-021915-698-700	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C VPB	158-GW-021915-698-700	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	2-BUTANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021915-698-700	2-HEXANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021915-698-700	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C VPB	158-GW-021915-698-700	ACETONE UG_	L	10	J
8260C VPB	158-GW-021915-698-700	BENZENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	BROMOFORM U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	BROMOMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021915-698-700	CARBON DISULFIDE	UG_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CHLOROBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CHLOROETHANE UG_	L	1	UJ
8260C VPB	158-GW-021915-698-700	CHLOROFORM U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CHLOROMETHANE UG_	L	1	UJ
8260C VPB	158-GW-021915-698-700	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	CYCLOHEXANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021915-698-700	ETHYLBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	M- AND P-XYLENE	UG_L	1	UJ
8260C VPB	158-GW-021915-698-700	METHYL ACETATE	UG_L	0.75	UJ
8260C VPB	158-GW-021915-698-700	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C VPB	158-GW-021915-698-700	O-XYLENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	STYRENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	TOLUENE U	G_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C VPB	158-GW-021915-698-700	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C VPB	158-GW-021915-698-700	TRICHLOROETHENE UG_	L	0.5	UJ
8260C VPB	158-GW-021915-698-700	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C VPB	158-GW-021915-698-700	VINYL CHLORIDE	UG_L	1	UJ
8260C VPB	158-GW-021915-698-700	XYLENES, TOTAL	UG_L	1.5	UJ
8260C	VPB158-GW-021915-718-720	1,1,1-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,1,2,2-TETRACHLOROETHANE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,1,2-TRICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,1-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,1-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,2,4-TRICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	0.75	UJ
8260C	VPB158-GW-021915-718-720	1,2-DIBROMOETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,2-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,2-DICHLOROETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB158-GW-021915-718-720	1,2-DICHLOROPROPANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,3-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	1,4-DICHLOROBENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	2-BUTANONE UG_	L	1.9	J
8260C	VPB158-GW-021915-718-720	2-HEXANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021915-718-720	4-METHYL-2-PENTANONE UG_	L	2.5	UJ
8260C	VPB158-GW-021915-718-720	ACETONE UG_	L	12	J
8260C	VPB158-GW-021915-718-720	BENZENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	BROMODICHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	BROMOFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	BROMOMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021915-718-720	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CHLOROBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CHLOROETHANE UG_	L	1	UJ
8260C	VPB158-GW-021915-718-720	CHLOROFORM U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CHLOROMETHANE UG_	L	1	UJ
8260C	VPB158-GW-021915-718-720	CIS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CIS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	CYCLOHEXANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	DIBROMOCHLOROMETHANE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	DICHLORODIFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021915-718-720	ETHYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	ISOPROPYLBENZENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB158-GW-021915-718-720	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB158-GW-021915-718-720	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB158-GW-021915-718-720	O-XYLENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	STYRENE UG_	L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-021915-718-720	TETRACHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	TOLUENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	TRANS-1,2-DICHLOROETHENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	TRANS-1,3-DICHLOROPROPENE U	G_L	0.5	UJ
8260C	VPB158-GW-021915-718-720	TRICHLOROETHENE UG_	L	0.5	UJ
8260C	VPB158-GW-021915-718-720	TRICHLOROFLUOROMETHANE U	G_L	1	UJ
8260C	VPB158-GW-021915-718-720	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB158-GW-021915-718-720	XYLENES, TOTAL	UG_L	1.5	UJ

Notes:

UG_L = Micrograms per liter
UJ = Non-detect estimated value
J = Estimated value

Table (A-2) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG158745-4 Acet	one	20.7	20	VPB158-TRIPBLANK-021915	UJ
WG158745-4 Acet	one	20.7	20	VPB158-GW-021815-658-660	UJ
WG158745-4 Acet	one	20.7	20	VPB158-GW-021815-678-680	J
WG158745-4 Acet	one	20.7	20	VPB158-GW-021915-698-700	J
WG158745-4 Acet	one	20.7	20	VPB158-GW-021915-718-720	J

Notes:

%D = Percent difference
UJ = Non-detect and qualified estimated due to analyte %R being low.
J = Qualified estimated due to potential bias.

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI1101		
		Lab Identification		SI1101-2		
		Sample Identification		VPB158-GW-021815-658-660		
		Sample Date		2/18/2015		
		Sample Type		Groundwater		
		Depth_Interval		658 - 660 ft		
Method	**Analyte**	**CAS No**	**Units**	Result Qual		RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1.5		
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI1101		
		Lab Identification		SI1101-3		
		Sample Identification		VPB158-GW-021815-678-680		
		Sample Date		2/18/2015		
		Sample Type		Groundwater		
		Depth_Interval		678 - 680 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	7.7	J	c,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1101		
		Lab Identification		SI1101-4		
		Sample Identification		VPB158-GW-021915-698-700		
		Sample Date		2/19/2015		
		Sample Type		Groundwater		
		Depth_Interval		698 - 700 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	3	J	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	J	c,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1101		
		Lab Identification		SI1101-5		
		Sample Identification		VPB158-GW-021915-718-720		
		Sample Date		2/19/2015		
		Sample Type		Groundwater		
		Depth_Interval		718 - 720 ft		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	1.9	J	mc
8260C	2- HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	12	J	c,mc
8260C	B ENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Sample Delivery Group		SI1101		
		Lab ID		SI1101-1		
		Sample ID		VPB158-TRIP BLANK-021915		
		Sample Date		2/19/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L = Micrograms per liter
Qual = Final qualifier
RC = Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katah	din Analytical	
Sample Delivery Group:	SI1297	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Total Organic Carbon (TOC) by U.S. EPA SW-846 Method 9060A and 5310B	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 04/17/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI1297_8260C_9060A

SUMMARY

This report summarizes data r eview findi ngs for s amples listed below, c ollected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 12 February to 2 March 2015 in accordance with the following Sampling and Analysis Plans:

- *Sampling and Analysis Plan, Bethpage, New York,* April 2013.
- *UFP SA P A ddendum, Inclusion of A dditional Tar get A nalytes for Vola tile Or ganics Analyses, NWIRP Bethpage OU2, Bethpage, New York, August 2014.*
- *UFP SAP Addendum, Installati on of Verti cal Profile Borings a nd Moni toring Wells, Operable Unit 2, NWIRP Bethpage, New York,* November 2013.

Sample ID	Matrix/Sample Type	Analysis
VPB158-TRIPBLANK-030215 Trip	Blank	8260C
VPB158-GW-022715-878-880 Gr	oundwater	8260C
VPB158-EB-022715 Equipmen	t Blank	8260C / 5310B
VPB158-SOIL-021215-643-645 Soil		9060A
VPB158-SOIL-D-021215 Fie	ld Duplicate	9060A
VPB158-GW-030215-898-900 Gr	oundwater	8260A

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Wa ste, Phy sical/Chemical Methods SW- 846, spec ifically Me thod 82 60C, Volatile Organic Compounds by Ga s Chromatography/Mass Spectr ometry* (U.S. EPA, 2006), *SW-846 Method 9060A, Total Organic Carbon* (U.S. EPA, 1996), *U.S. Environmental Protection Agency (U.S. EPA) Contract L aboratory P rogram National Fu nctional Gui delines for Superfund Organic M ethods*

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):

✗ Data completeness (chain-of-custody [COC])/sample integrity

✓ Holding times and sample preservation

✓ GC/MS performance checks

✗ Initial calibration/continuing calibration verification

✗ Laboratory blanks/trip blanks

✓ Surrogate spike recoveries

✓ Matrix spike (MS) and/or matrix spike duplicate (MSD) results

✓ Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results

✗ Field duplicates (soil sample only)

✓ 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 that did not result in qualification of data are not discussed further. The symbol (✗) 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

Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- the COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody;

- the laboratory sample log in sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory;

- completeness of analyses was verified by comparing the reported results to the COC request.

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in samples VPB158-GW-022715-878-880 and VPB158-GW-030215-898-900. The laboratory omitted the first characters "VPB-" and middle characters "SOIL-" in samples VPB158-SOIL-021215-643-645, VPB158-SOIL-D-021215, and truncated Trip Blank to "TB" in sample VPB158-TRIPBLANK-030215 in the report. Below shows a list of samples that were mostly comprised of soil in all vials and not very much liquid:

- VPB158-GW-022715-878-880 had all three vials decanted, compounded into one vial and analyzed at a dilution of 1:4. Sample VPB158-GW-030215-898-900 had all nine vials decanted, compounded into one vial and analyzed.

Positive and non-detected results for the samples VPB158-GW-022715-878-880 and VPB158-GW-030215-898-900 were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Initial Calibration/Continuing Calibration Verification

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

- the initial calibration percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;
- the initial calibration verification standard percent recovery acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and response factor acceptance criteria were met; and
- the retention time method acceptance criteria were met.

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

CCV non-conformances are summarized in Attachment A in Table A-2.

Laboratory Blanks/Trip Blanks

Laboratory blanks, an equipment blank, and a trip blank were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related. The trip blank non-conformances are summarized in Attachment A in Table A-3.

Blank Non-conformance Chart:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Trip, Field, or Equipment	Detects	Not detected	No qualification
	< 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the blank result with a U or reject the sample result as unusable R
		≥ 2x LOQ and ≥ blank contamination	If the result is <2x blank result, report the sample result U. If the result is > 2x blank result, no qualification is required.
	= 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ	Use professional judgment
	Gross contamination	Detects	Qualify results as unusable R

Notes:

LOQ = Limit of quantitation
U = Undetected (Refer to Attachment B)
R = Rejected

Field Duplicate

Field duplicate RPDs were reviewed for conformance with the Resolution Consultants QC criteria of ≤50% for solid matrices and ≤30% for aqueous matrices. These criteria apply if both results were greater than two times the limit of quantitation (LOQ). Non-conformance is summarized in Attachment A in Table A-4. Data qualification to the analytes associated with the specific field duplicate RPDs was as follows:

Field Duplicate Non-conformances Chart:

Criteria	RPD	Action	
		Detected	Non-detected
Sample and duplicate are nondetect	Not calculable (NC)	No qualification	No qualification
Sample and duplicate results ≥2x LOQ	>30 (aqueous)	J	Not Applicable
	>50 (solids)		
If sample or duplicate result is >2x LOQ and the other is not detected	NC	J	UJ
If sample or duplicate result is <2x LOQ and the other is not detected	NC	No qualification	No qualification

Notes:

LOQ = Limit of quantitation
J = Estimated (Refer to Attachment B)
UJ = Undetected and estimated (Refer to Attachment B)

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) 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-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 per cent. 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. Environmental Protection Agency and Department of Defense guidelines. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

Attachment A: Non-Conformance Summary Table
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review

Attachment A
Non-Conformance Summary Table

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-022715-878-880	1,1,1-TRICHLOROETHANE	UG_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,1,2,2-TETRACHLOROETHANE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,1,2-TRICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,1-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,1-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,2,4-TRICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	3	UJ
8260C	VPB158-GW-022715-878-880	1,2-DIBROMOETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,2-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,2-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,2-DICHLOROETHENE, TOTAL	UG_L	4	UJ
8260C	VPB158-GW-022715-878-880	1,2-DICHLOROPROPANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,3-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	1,4-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	2-BUTANONE UG_	L	10	UJ
8260C	VPB158-GW-022715-878-880	2-HEXANONE UG_	L	10	UJ
8260C	VPB158-GW-022715-878-880	4-METHYL-2-PENTANONE UG_	L	10	UJ
8260C	VPB158-GW-022715-878-880	ACETONE UG_	L	10	UJ
8260C	VPB158-GW-022715-878-880	BENZENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	BROMODICHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	BROMOFORM U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	BROMOMETHANE U	G_L	4	UJ
8260C	VPB158-GW-022715-878-880	CARBON DISULFIDE	UG_L	2	UJ
8260C	VPB158-GW-022715-878-880	CARBON TETRACHLORIDE	UG_L	2	UJ
8260C	VPB158-GW-022715-878-880	CHLOROBENZENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	CHLOROETHANE UG_	L	4	UJ
8260C	VPB158-GW-022715-878-880	CHLOROFORM U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	CHLOROMETHANE UG_	L	4	UJ
8260C	VPB158-GW-022715-878-880	CIS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	CIS-1,3-DICHLOROPROPENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	CYCLOHEXANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	DIBROMOCHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	DICHLORODIFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-022715-878-880	ETHYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	ISOPROPYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	M- AND P-XYLENE	UG_L	4	UJ
8260C	VPB158-GW-022715-878-880	METHYL ACETATE	UG_L	3	UJ
8260C	VPB158-GW-022715-878-880	METHYL CYCLOHEXANE	UG_L	2	UJ
8260C	VPB158-GW-022715-878-880	METHYL TERT-BUTYL ETHER	UG_L	2	UJ
8260C	VPB158-GW-022715-878-880	METHYLENE CHLORIDE	UG_L	10	UJ
8260C	VPB158-GW-022715-878-880	O-XYLENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	STYRENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	TETRACHLOROETHENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	TOLUENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	TRANS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	TRANS-1,3-DICHLOROPROPENE U	G_L	2	UJ
8260C	VPB158-GW-022715-878-880	TRICHLOROETHENE UG_	L	2	UJ
8260C	VPB158-GW-022715-878-880	TRICHLOROFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-022715-878-880	VINYL CHLORIDE	UG_L	4	UJ
8260C	VPB158-GW-022715-878-880	XYLENES, TOTAL	UG_L	6	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB158-GW-030215-898-900	1,1,1-TRICHLOROETHANE	UG_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,1,2,2-TETRACHLOROETHANE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,1,2-TRICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,1-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,1-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,2,4-TRICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,2-DIBROMO-3-CHLOROPROPANE U	G_L	3	UJ
8260C	VPB158-GW-030215-898-900	1,2-DIBROMOETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,2-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,2-DICHLOROETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,2-DICHLOROETHENE, TOTAL	UG_L	4	UJ
8260C	VPB158-GW-030215-898-900	1,2-DICHLOROPROPANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,3-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	1,4-DICHLOROBENZENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	2-BUTANONE UG_	L	10	UJ
8260C	VPB158-GW-030215-898-900	2-HEXANONE UG_	L	10	UJ
8260C	VPB158-GW-030215-898-900	4-METHYL-2-PENTANONE UG_	L	10	UJ
8260C	VPB158-GW-030215-898-900	ACETONE UG_	L	10	UJ
8260C	VPB158-GW-030215-898-900	BENZENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	BROMODICHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	BROMOFORM U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	BROMOMETHANE U	G_L	4	UJ
8260C	VPB158-GW-030215-898-900	CARBON DISULFIDE	UG_L	2	UJ
8260C	VPB158-GW-030215-898-900	CARBON TETRACHLORIDE	UG_L	2	UJ
8260C	VPB158-GW-030215-898-900	CHLOROBENZENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	CHLOROETHANE UG_	L	4	UJ
8260C	VPB158-GW-030215-898-900	CHLOROFORM U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	CHLOROMETHANE UG_	L	4	UJ
8260C	VPB158-GW-030215-898-900	CIS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	CIS-1,3-DICHLOROPROPENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	CYCLOHEXANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	DIBROMOCHLOROMETHANE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	DICHLORODIFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-030215-898-900	ETHYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	ISOPROPYLBENZENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	M- AND P-XYLENE	UG_L	4	UJ
8260C	VPB158-GW-030215-898-900	METHYL ACETATE	UG_L	3	UJ
8260C	VPB158-GW-030215-898-900	METHYL CYCLOHEXANE	UG_L	2	UJ
8260C	VPB158-GW-030215-898-900	METHYL TERT-BUTYL ETHER	UG_L	2	UJ
8260C	VPB158-GW-030215-898-900	METHYLENE CHLORIDE	UG_L	10	UJ
8260C	VPB158-GW-030215-898-900	O-XYLENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	STYRENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	TETRACHLOROETHENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	TOLUENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	TRANS-1,2-DICHLOROETHENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	TRANS-1,3-DICHLOROPROPENE U	G_L	2	UJ
8260C	VPB158-GW-030215-898-900	TRICHLOROETHENE UG_	L	2	UJ
8260C	VPB158-GW-030215-898-900	TRICHLOROFLUOROMETHANE U	G_L	4	UJ
8260C	VPB158-GW-030215-898-900	VINYL CHLORIDE	UG_L	4	UJ
8260C	VPB158-GW-030215-898-900	XYLENES, TOTAL	UG_L	6	UJ

Notes:

UG_L = Micrograms per liter
UJ = Non-detect estimated value

Table (A-2) Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG159125-4 B	romomethane	30.8	20	VPB158-TRIPBLANK-030215	UJ
WG159125-4	Bromomethane	30.8	20	VPB158-GW-022715-878-880	UJ
WG159125-4	Bromomethane	30.8	20	VPB158-EB-022715	UJ
WG159125-4	Bromomethane	30.8	20	VPB158-GW-030215-898-900 UJ	

Notes:

%D = Percent difference

UJ = Non-detect and qualified estimated "UJ" due to associated samples non-detect and %D > 20%.

Table (A-3) Trip Blank Non-Conformance						
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Qualifier**
VPB158-TRIPBLANK-030215 Acet	one	14	5	VPB158-GW-022715-878-880	18	U
VPB158-TRIPBLANK-030215 Carb	on disulfide	0.31	1	VPB158-GW-022715-878-880	1.0	U

Notes:

UG_L = Micrograms per liter

LOQ = Limit of quantitation

U = Associated sample flagged non-detect "U" due to both blank result and sample result less than 2 times LOQ.

Table (A-4) Field Duplicate						
Sample ID	**Duplicate ID**	**Analyte**	**Sample Result (UG_G)**	**Duplicate Result (UG_G)**	**RPD**	**Qualifiers**
VPB158-SOIL-021215-643-645 VPB	158-SOIL-D-021215	TOC	470	890	61.8	J - both results

Notes:

TOC = Total organic carbon

UG_G = Micrograms per gram

RPD = Relative percent difference

J = Estimated value

Attachment B
Qualifier Codes and Explanations

Qualifier	Explanation
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual quantitation limit necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Attachment C
Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf Fie	ld blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c C	alibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h Ho	lding times
i Interna	l standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m Matrix	spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r Dual	column RPD
q Quant	itation issue
s Surrogate	recovery
su Ion	suppression
t Tempera	ture preservation issue
x Per	cent solids
y	Serial dilution results
z ICS	results

Attachment D

Final Results after Data Review

		Sample Delivery Group		SI1297		
		Lab Identification		SI1297-2DL		
		Sample Identification		VPB158-GW-022715-878-880		
		Sample Date		2/27/2015		
		Sample Type		Groundwater		
		Depth_Interval				
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	bt,mc
8260C	B ENZENE	71-43-2	UG_L	2	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	4	UJ	c,mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	2	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	4	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	4	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	4	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

		Sample Delivery Group		SI1297		
		Lab Identification		SI1297-6DL		
		Sample Identification		VPB158-GW-030215-898-900		
		Sample Date		3/2/2015		
		Sample Type		Groundwater		
		Depth_Interval				
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	2	UJ	mc
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2- DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2- BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2- HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	mc
8260C	B ENZENE	71-43-2	UG_L	2	UJ	mc
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	B ROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	B ROMOMETHANE	74-83-9	UG_L	4	UJ	c,mc
8260C	CARB ON DISULFIDE	75-15-0	UG_L	2	UJ	mc
8260C	CARB ON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROB ENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROM ETHANE	74-87-3	UG_L	4	UJ	mc
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	4	UJ	mc
8260C	ETHYLB ENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	M ETHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	M ETHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	M ETHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O- XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2	UJ	mc
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	V INYL CHLORIDE	75-01-4	UG_L	4	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

		Sample Delivery Group		SI1297		
		Lab ID		SI1297-1		
		Sample ID		VPB158-TRIP BLANK-030215		
		Sample Date		3/2/2015		
		Sample Type		Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	14		
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.31	J	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

		Sample Delivery Group		SI1297		
		Lab ID		SI1297-3		
		Sample ID		VPB158-EB-022715		
		Sample Date		2/27/2015		
		Sample Type		Equipment Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	0.39	J	
8260C	1,1,1- TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2- TETRACHLOROETHANE 79-	34-5	UG_L	0.5	U	
8260C	1,1,2- TRICHLORO-1,2,2-TRIFLUOROETHANE 76-	13-1	UG_L	0.5	U	
8260C	1,1,2- TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1- DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1- DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4- TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2- DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2- DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2- DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2- DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2- DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3- DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4- DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2- BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2- HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4- METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	B ENZENE	71-43-2	UG_L	0.5	U	
8260C	B ROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	B ROMOFORM	75-25-2	UG_L	0.5	U	
8260C	B ROMOMETHANE	74-83-9	UG_L	1	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROB ENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROM ETHANE	74-87-3	UG_L	1	U	
8260C	CIS- 1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS- 1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIB ROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODI FLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLB ENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOP ROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O- XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS- 1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS- 1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROF LUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

UG_L	=	Micrograms per liter
MG_L	=	Milligram per liter
Qual =		Final qualifier
RC =		Reason code

			Sample Delivery Group	SI1297 SI1297					
			Lab ID	SI1297-4 SI1297-			5		
			Sample ID	VPB158-SOIL-021215-643-645 V			PB158-SOIL-D-021215		
			Sample Date	2/12/2015 2/12/201			5		
			Sample Type	Soil F			ield Duplicate		
Method	**Analyte**	**CAS No**	**Units**	Result Qual		RC	Result	Qual	RC
9060A	TOTAL ORGANIC CARBON	-28	UG_G	470	J	fd	890	J	fd

Notes:

UG_G = Micrograms per gram
Qual = Final qualifier
RC = Reason code

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory: Katahdin Analytical		
Sample Delivery Group:	SI1314	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA Method TO-15	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 02/04/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI1314_TO15

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 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB158-AIR-030215 Air		TO-15

Data validation activities were conducted using the following guidance documents: *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)* (*U.S. EPA*, Method TO-15), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), 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):

✓ Data completeness (chain-of-custody (COC)/sample integrity
✓ Holding times and sample preservation
✓ GC/MS performance checks
✓ Initial calibration/continuing calibration verification
✓ Laboratory blanks/trip blanks
NA Matrix duplicate (MD) results
✓ Laboratory control sample (LCS) results
NA Field duplicates
✓ Internal standards
✓ Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. 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.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality and no results were qualified during this data review. Analytical completeness was calculated to be 100% and the data are usable for their intended purpose, according to U.S. EPA guidelines and Department of Defense guidelines. Attachment A provides final results after data review.

ATTACHMENTS

Attachment A: Final Results after Data Review

ED_002631A_00004956-00217

Attachment A

Final Results after Data Review

			Sample Delivery Group	SI1314	
			Lab ID	200-26911-1	
			Sample ID	VPB158-AIR-030215	
			Sample Date	3/2/2015	
			Sample Type	Air	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
TO-15	1,1,1-TRICHLOROETHANE	71-55-6	PPBV	0.2	U
TO-15	1,1,2,2-TETRACHLOROETHANE	79-34-5	PPBV	0.2	U
TO-15	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	PPBV	0.2	U
TO-15	1,1,2-TRICHLOROETHANE	79-00-5	PPBV	0.2	U
TO-15	1,1-DICHLOROETHANE	75-34-3	PPBV	0.2	U
TO-15	1,1-DICHLOROETHENE	75-35-4	PPBV	0.2	U
TO-15	1,2,4-TRICHLOROBENZENE	120-82-1	PPBV	0.5	U
TO-15	1,2-DIBROMOETHANE	106-93-4	PPBV	0.2	U
TO-15	1,2-DICHLOROBENZENE	95-50-1	PPBV	0.2	U
TO-15	1,2-DICHLOROETHANE	107-06-2	PPBV	0.2	U
TO-15	1,2-DICHLOROPROPANE	78-87-5	PPBV	0.2	U
TO-15	1,3-DICHLOROBENZENE	541-73-1	PPBV	0.2	U
TO-15	1,4-DICHLOROBENZENE	106-46-7	PPBV	0.2	U
TO-15	2-BUTANONE	78-93-3	PPBV	0.5	U
TO-15	2-HEXANONE	591-78-6	PPBV	0.5	U
TO-15	4-METHYL-2-PENTANONE	108-10-1	PPBV	0.5	U
TO-15	ACETONE	67-64-1	PPBV	5	U
TO-15	BENZENE	71-43-2	PPBV	0.2	U
TO-15	BROMODICHLOROMETHANE	75-27-4	PPBV	0.2	U
TO-15	BROMOFORM	75-25-2	PPBV	0.2	U
TO-15	BROMOMETHANE	74-83-9	PPBV	0.2	U
TO-15	CARBON DISULFIDE	75-15-0	PPBV	0.5	U
TO-15	CARBON TETRACHLORIDE	56-23-5	PPBV	0.2	U
TO-15	CHLOROBENZENE	108-90-7	PPBV	0.2	U
TO-15	CHLOROETHANE	75-00-3	PPBV	0.5	U
TO-15	CHLOROFORM	67-66-3	PPBV	0.2	U
TO-15	CHLOROMETHANE	74-87-3	PPBV	0.54	
TO-15	CIS-1,2-DICHLOROETHENE	156-59-2	PPBV	0.2	U
TO-15	CIS-1,3-DICHLOROPROPENE	10061-01-5	PPBV	0.2	U
TO-15	CYCLOHEXANE	110-82-7	PPBV	0.2	U
TO-15	DIBROMOCHLOROMETHANE	124-48-1	PPBV	0.2	U
TO-15	DICHLORODIFLUOROMETHANE	75-71-8	PPBV	0.51	
TO-15	ETHYLBENZENE	100-41-4	PPBV	0.2	U
TO-15	ISOPROPYLBENZENE	98-82-8	PPBV	0.2	U
TO-15	M- AND P-XYLENE	108-38-3/106-42	PPBV	0.5	U
TO-15	METHYL TERT-BUTYL ETHER	1634-04-4	PPBV	0.2	U
TO-15	METHYLENE CHLORIDE	75-09-2	PPBV	0.5	U
TO-15	O-XYLENE	95-47-6	PPBV	0.2	U
TO-15	STYRENE	100-42-5	PPBV	0.2	U
TO-15	TETRACHLOROETHENE	127-18-4	PPBV	0.2	U
TO-15	TOLUENE	108-88-3	PPBV	0.2	U
TO-15	TRANS-1,2-DICHLOROETHENE	156-60-5	PPBV	0.2	U
TO-15	TRANS-1,3-DICHLOROPROPENE	10061-02-6	PPBV	0.2	U
TO-15	TRICHLOROETHENE	79-01-6	PPBV	0.2	U
TO-15	TRICHLOROFLUOROMETHANE	75-69-4	PPBV	0.24	
TO-15	VINYL CHLORIDE	75-01-4	PPBV	0.2	U
TO-15	XYLENES, TOTAL	1330-20-7	PPBV	0.2	U

Notes:

PPBV = Parts per billion by volume
Qual = Final qualifier
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Section 5

VPB 158 Analytical Data Table

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		1/19/2015	1/19/2015	1/22/2015	1/22/2015
Sample ID		VPB158-GW-011915-48-50	VPB158-GW-011915-98-100	VPB158-GW-012215-148-150	VPB158-GWD-012215
Sample Interval		48 - 50 ft	98 - 100 ft	148 - 150 ft	148 - 150 ft
Sample type code		N	N	N	FD
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	**2.3**	**2.1**
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 U	**0.46 J**	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	**15**	**15**
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	**5.0**	**5.5**
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 UJ	**3.4 J**	**3.5**
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
BENZENE	1	**0.32 J**	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	**3.4**	**3.5**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 0.75 UJ	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 U	**0.71 J**	**1.1**
TOLUENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	**8.4**	**9.3**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 UJ	< 1.5 UJ	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		1/23/2015	1/23/2015	1/29/2015	1/29/2015
Sample ID		VPB158-GW-012315-198-200	VPB158-GW-012315-218-220	VPB158-GW-012915-243-245	VPB158-GW-012915-258-260
Sample Interval		198 - 200 ft	218 - 220 ft	243 - 245 ft	258 - 260 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**2.6**	**2.5**	**0.81 J**	< 2.0 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,1,2-TRICHLOROETHANE	1	**0.34 J**	< 0.50 U	< 0.50 U	***< 2.0 UJ***
1,1-DICHLOROETHANE	5	**16**	**16**	**3.5**	< 2.0 UJ
1,1-DICHLOROETHENE	5	**5.6**	**6.0**	**0.55 J**	< 2.0 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 3.0 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,2-DICHLOROETHENE, TOTAL	5	**2.2**	**2.0**	< 1.0 U	< 4.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 2.0 UJ***
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 10 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 10 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 10 UJ
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 10 UJ
BENZENE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	***< 2.0 UJ***
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 2.0 UJ
BROMOFORM	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 2.0 UJ
BROMOMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 4.0 UJ
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 U	< 0.50 U	< 2.0 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
CHLOROETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 4.0 UJ
CHLOROFORM	7	**1.6**	**1.7**	< 0.50 U	< 2.0 UJ
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ
CIS-1,2-DICHLOROETHENE	5	**2.2**	**2.0**	< 0.50 U	< 2.0 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 2.0 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 4.0 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 3.0 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 2.0 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 U	< 2.5 U	**< 10 UJ**
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
TETRACHLOROETHENE	5	**2.3**	**2.3**	< 0.50 U	< 2.0 UJ
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 2.0 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 2.0 UJ***
TRICHLOROETHENE	5	**35**	**36**	**0.74 J**	**2.4 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 4.0 UJ
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	***< 4.0 UJ***
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	***< 6.0 UJ***

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		1/30/2015	1/30/2015	2/2/2015	2/2/2015
Sample ID		VPB158-GW-013015-278-280	VPB158-GW-013015-298-300	VPB158-GW-020215-318-320	VPB158-GW-020215-338-358
Sample Interval		278 - 280 ft	298 - 300 ft	318 - 320 ft	338 - 340 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**5.0**	**6.4 J**	**4.4**	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**2.5**	**4.6 J**	**4.4**	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 U	**0.37 J**	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	**14**	**12 J**	**10**	**0.85 J**
1,1-DICHLOROETHENE	5	**9.4**	**12 J**	**7.2**	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	**2.5**	**4.8 J**	**4.0**	< 1.0 U
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 U	**0.43 J**	**0.28 J**	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	**2.6**	**2.3 J**	**1.8**	< 0.50 U
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	**2.5**	**4.8 J**	**4.0**	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	**0.31 J**	**65 J**	**140**	**0.36 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/2/2015	2/4/2015	2/5/2015	2/5/2015
Sample ID		VPB158-GW-020215-358-360	VPB158-GW-020415-378-380	VPB158-GW-020515-398-400	VPB158-GW-020515-418-420
Sample Interval		358 - 360 ft	378 - 380 ft	398 - 400 ft	418 - 420 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 UJ***	***< 15 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 U
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
2-BUTANONE	50	< 2.5 UJ	< 2.5 UJ	< 50 UJ	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 50 UJ	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 50 UJ	< 2.5 U
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 50 UJ	< 2.5 UJ
BENZENE	1	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
BROMOFORM	50	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 U	< 10 UJ	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 U
CHLOROFORM	7	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 10 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 UJ	< 20 UJ	< 1.0 U
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 15 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	***< 50 UJ***	< 2.5 U
O-XYLENE	NL	< 0.50 UJ	< 0.50 UJ	< 10 UJ	< 0.50 U
STYRENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
TOLUENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 10 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	***< 10 UJ***	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 UJ	***< 30 UJ***	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/5/2015	2/6/2015	2/9/2015	2/10/2015
Sample ID		VPB158-GW-020515-438-440	VPB158-GW-020615-458-460	VPB158-GW-020915-498-500	VPB158-GW-021015-518-520
Sample Interval		438 - 440 ft	458 - 460 ft	498 - 500 ft	518 - 520 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	**12**	**1.5**	**5.9 J**
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 U	**0.98 J**	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	**0.58 J**	< 0.50 U	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
ACETONE	50	< 2.5 UJ	**6.9 J**	< 2.5 UJ	**9.0 J**
BENZENE	1	< 0.50 U	< 0.50 U	**0.77 J**	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	**0.33 J**	< 0.50 U	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	**0.22 J**	< 0.50 U	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
CHLOROFORM	7	< 0.50 U	**7.1**	**1.0**	**4.9 J**
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 0.75 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	**0.79 J**	< 0.50 U	< 0.50 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 UJ

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/10/2015	2/10/2015	2/11/2015	2/11/2015
Sample ID		VPB158-GW-021015-538-540	VPB158-GW-021015-558-560	VPB158-GW-021115-578-580	VPB158-GW-021115-598-600
Sample Interval		538 - 540 ft	558 - 560 ft	578 - 580 ft	598 - 600 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**2.2 J**	**19**	**2.5 J**	**4.5**
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 UJ	**0.68 J**	< 0.50 UJ	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 U***	***< 0.75 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	**0.27 J**	< 1.0 UJ	< 1.0 U
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
2-BUTANONE	50	< 2.5 UJ	< 2.5 U	< 2.5 UJ	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 U	< 2.5 UJ	< 2.5 U
ACETONE	50	**7.3 J**	**2.8 J**	**7.9 J**	< 2.5 U
BENZENE	1	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMOFORM	50	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CHLOROFORM	7	**5.9 J**	**8.2**	**2.9 J**	**1.4**
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	**0.27 J**	< 0.50 UJ	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 0.75 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
O-XYLENE	NL	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
STYRENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
TOLUENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 UJ	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 U
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 U	< 1.5 UJ	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/11/2015	2/12/2015	2/18/2015	2/18/2015
Sample ID		VPB158-GWD-021115	VPB158-GW-021215-638-640	VPB158-GW-021815-658-660	VPB158-GW-021815-678-680
Sample Interval		598 - 600 ft	638 - 640 ft	658 - 660 ft	678 - 680 ft
Sample type code		FD	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**4.0**	< 0.50 UJ	**1.5**	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 UJ***	***< 0.75 U***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
2-BUTANONE	50	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 UJ
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 U	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 UJ
ACETONE	50	**2.4 J**	**9.7 J**	< 2.5 UJ	**7.7 J**
BENZENE	1	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
BROMOFORM	50	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 UJ
CHLOROFORM	7	**1.3**	**0.35 J**	< 0.50 U	< 0.50 UJ
CHLOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 0.75 U	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	< 2.5 U	< 2.5 UJ
O-XYLENE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
TOLUENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 UJ	< 1.5 U	< 1.5 UJ

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/19/2015	2/19/2015	2/25/2015	2/25/2015
Sample ID		VPB158-GW-021915-698-700	VPB158-GW-021915-718-720	VPB158-GW-022515-798-800	VPB158-GW-022515-818-820
Sample Interval		698 - 700 ft	718 - 720 ft	798 - 800 ft	818 - 820 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**3.0 J**	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 UJ***	***< 3.0 UJ***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	< 0.50 UJ
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
2-BUTANONE	50	< 2.5 UJ	**1.9 J**	< 10 UJ	**2.6 J**
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 10 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 10 UJ	< 2.5 UJ
ACETONE	50	**10 J**	**12 J**	< 10 UJ	< 2.5 UJ
BENZENE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
BROMOFORM	50	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
CHLOROFORM	7	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 2.0 UJ***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 3.0 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	**< 10 UJ**	< 2.5 UJ
O-XYLENE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
STYRENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
TOLUENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 2.0 UJ***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 0.50 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	***< 4.0 UJ***	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 UJ	***< 6.0 UJ***	< 1.5 UJ

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB158	VPB158	VPB158	VPB158
Sample Date		2/26/2015	2/26/2015	2/27/2015	3/2/2015
Sample ID		VPB158-GW-022615-838-840	VPB158-GW-022615-858-860	VPB158-GW-022715-878-880	VPB158-GW-030215-898-900
Sample Interval		838 - 840 ft	858 - 860 ft	878 - 880 ft	898 - 900 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	***< 2.0 UJ***
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 UJ***	***< 3.0 UJ***	***< 3.0 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	***< 2.0 UJ***
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
2-BUTANONE	50	**2.9 J**	**2.9 J**	< 10 UJ	< 10 UJ
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 10 UJ	< 10 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 10 UJ	< 10 UJ
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 10 UJ	< 10 UJ
BENZENE	1	< 0.50 UJ	< 0.50 UJ	***< 2.0 UJ***	***< 2.0 UJ***
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
BROMOFORM	50	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
CHLOROFORM	7	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
CHLOROMETHANE	5	**1.1 J**	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 2.0 UJ***	***< 2.0 UJ***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 3.0 UJ	< 3.0 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	***< 10 UJ***	***< 10 UJ***
O-XYLENE	NL	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
STYRENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
TOLUENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 2.0 UJ***	***< 2.0 UJ***
TRICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 2.0 UJ	< 2.0 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 4.0 UJ	< 4.0 UJ
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	***< 4.0 UJ***	***< 4.0 UJ***
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 UJ	***< 6.0 UJ***	***< 6.0 UJ***

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*** =Detection limit 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.

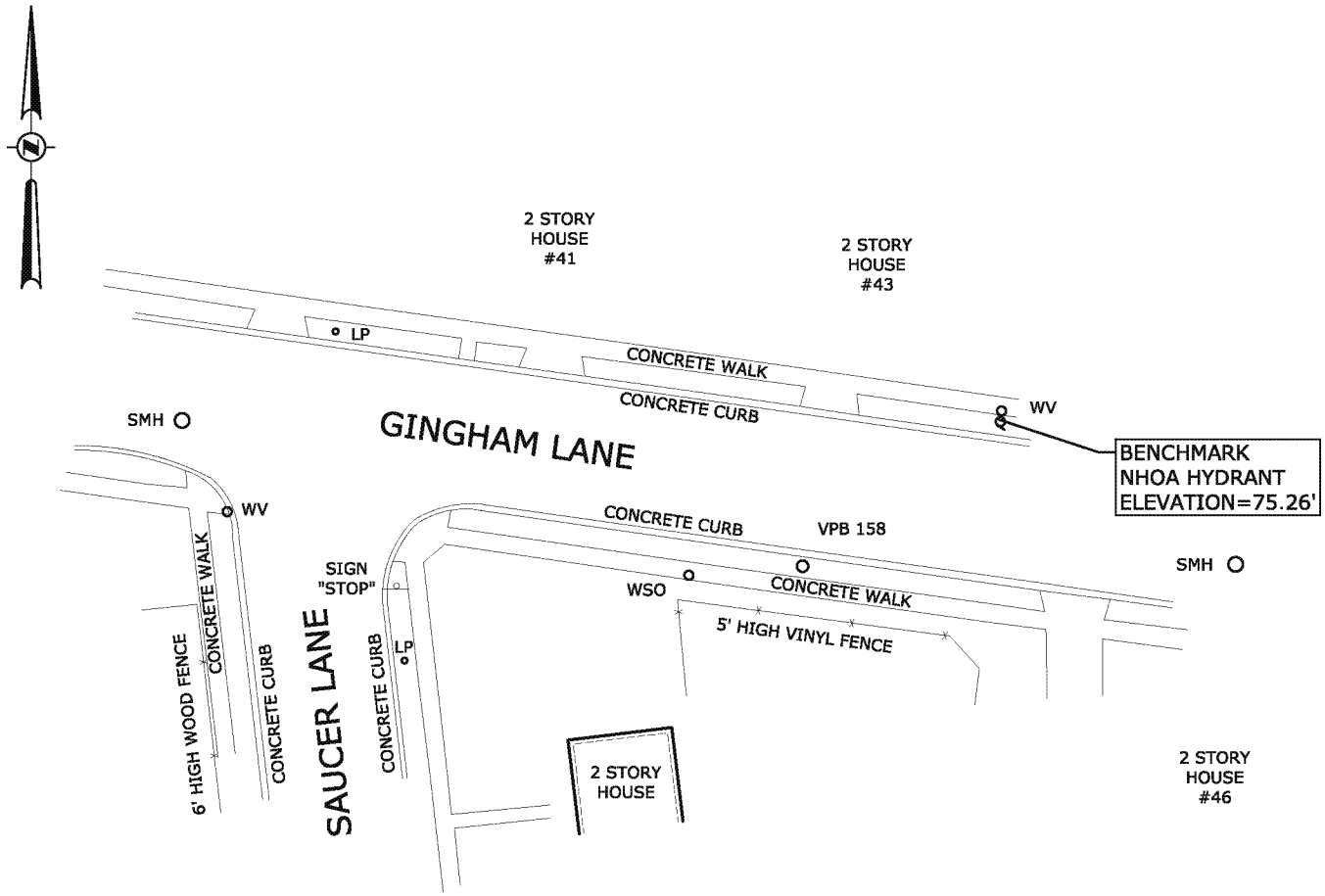
Section 6

Survey

NONE :XREFS

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	Rim	PVC
VPB 158	202259.10	1122890.83	N40-43-14.68	W73-29-59.42	75.07	NA	NA



Legend

LP	Light Pole
SMH	Sanitary Manhole
VPB 158	Vertical Profile Boring
WSO	Water Shut Off
WV	Water Valve

Map Notes

1. Information shown hereon was compiled from an actual field survey conducted on March 26, 2015.
2. North orientation is Grid North based on the New York State Plane Coordinate System, Long Island Zone, NAD 83 as obtained from GPS observations.
3. Vertical datum shown hereon is NAVD 88 as obtained from GPS observations.

BAR SCALE

40 0 20 40 80

1 inch = 40 ft.

DWG NO. 15-218

Date	RECORD OF WORK	Appr.

Drafter: LMK | Checker: JFC

Appr. by: JFC | Proj. No. 14.4121

VERTICAL PROFILE BORING 158 SURVEY LOCATION
46 GINGHAM LANE

TOWN OF LEVITTOWN | NASSAU COUNTY, NEW YORK

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SCALE: 1"=40' | DATE: MARCH 26, 2015

CAD DWG. FILE NAME: K:\Projects\144121\Survey\Drawings and Maps\VPB 158.dwg