2015 OU2 GROUNDWATER INVESTIGATION
VPB 141
BETHPAGE, NY

Prepared for:

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

Comprehensive Long-Term Environmental Action Navy
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CTO WE15

Prepared by:

Resolution Consultants
A Joint Venture of AECOM & EnSafe
1500 Wells Fargo Building
440 Monticello Avenue
Norfolk, VA 23510

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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
ONCT	On-site Containment Treatment System
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

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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 141 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 141. The purpose of the VPB 141 investigation was to ascertain contaminant levels and depths south of the On-site Containment Treatment system (ONCT), west of Wantagh Avenue and northwest of the RE108 Hot Spot, and to provide information on the effectiveness of the ONCT. VPB locations within the general vicinity of VPB 141 are shown in Figure 2. VPB 141 was completed to 850 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 Steel Equities; however, a small portion near Sites 2 and 3 is still owned by Nassau County. 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.

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

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

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

2.0 FIELD PROGRAM

Field investigation activities at VPB 141 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 141) was completed during this field effort between March 16, 2015 and April 22, 2015. The total depth of VPB 141 was 850 ft. The location is shown in Figure 2 and details are summarized in Table 1.

2.1.1 Drilling

VPB 141 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 838 ft bgs and three 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 141 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

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- 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 will be conducted at the end of fieldwork by C. T. Male, Inc., of Latham, NY, under the direct supervision of Resolution Consultants. The boring survey will be completed once all of the associated monitoring wells (RE107D1, D2, and D3) have been installed, and will be included in the Well Installation Report for those wells.

A location map of VPB 141 on a photo base is included in Appendix A, Section 6.

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.

Resolution Consultants, 2013. *United Federal Programs Sampling and Analysis Plan*, *Site OU-2 Offsite TCE Groundwater Plume Investigation,* Bethpage, New York. April.

Resolution Consultants, 2013. UFP SAP Addendum, *Groundwater Sampling Using Low Stress (Low Flow) Purging and Sampling* Protocol. November.

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.

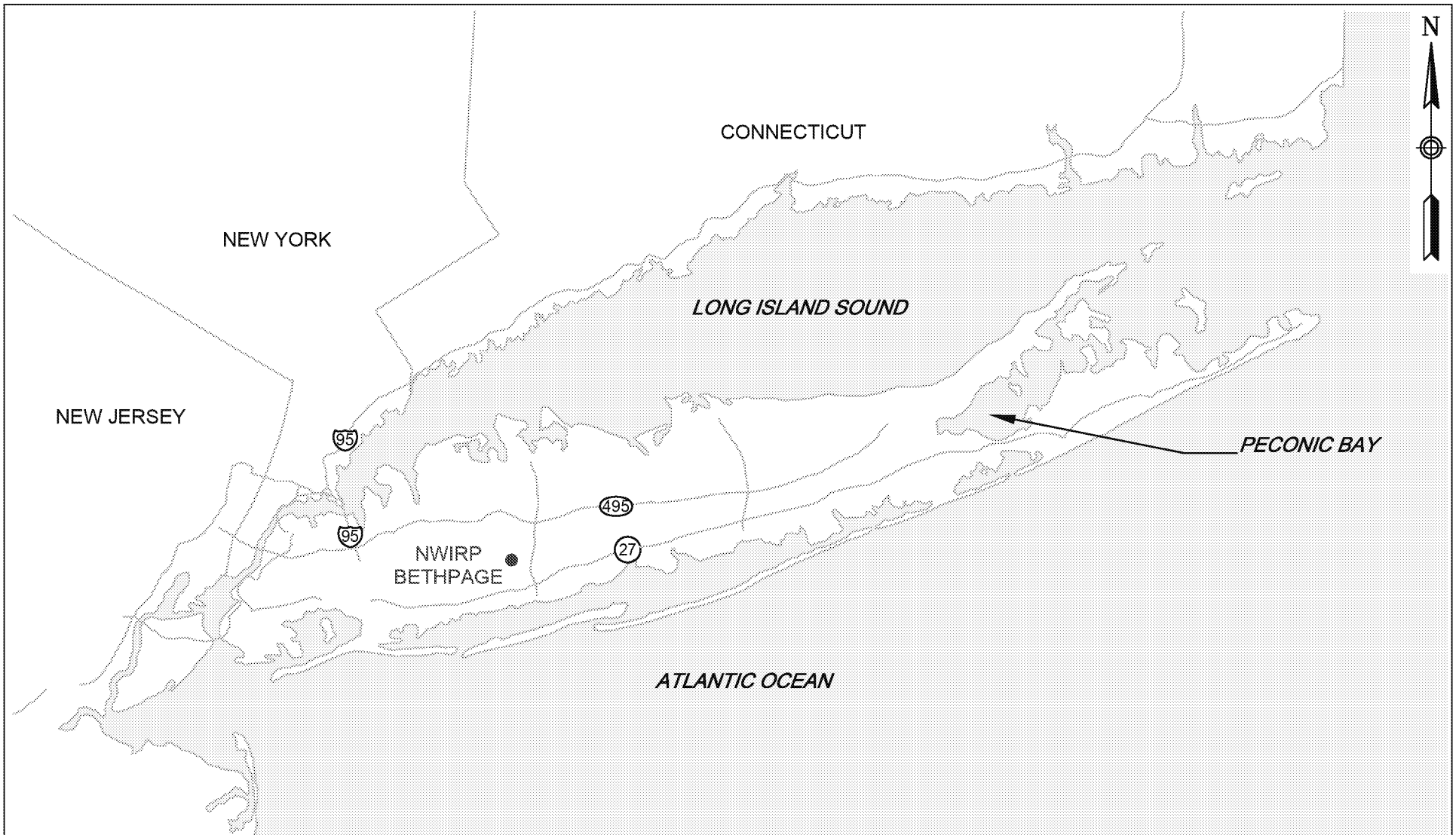
Tables

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 SAMPLES (ft bgs)	DATE OF AIR SAMPLE	MONITORING WELLS INSTALLED AT LOCATION
VPB141	3/16/2015	4/22/2015	(survey pending)	850	118	9	850	35/44	723 - 725 ft bgs	4/21/2015	pending

* includes field duplicates

Figures

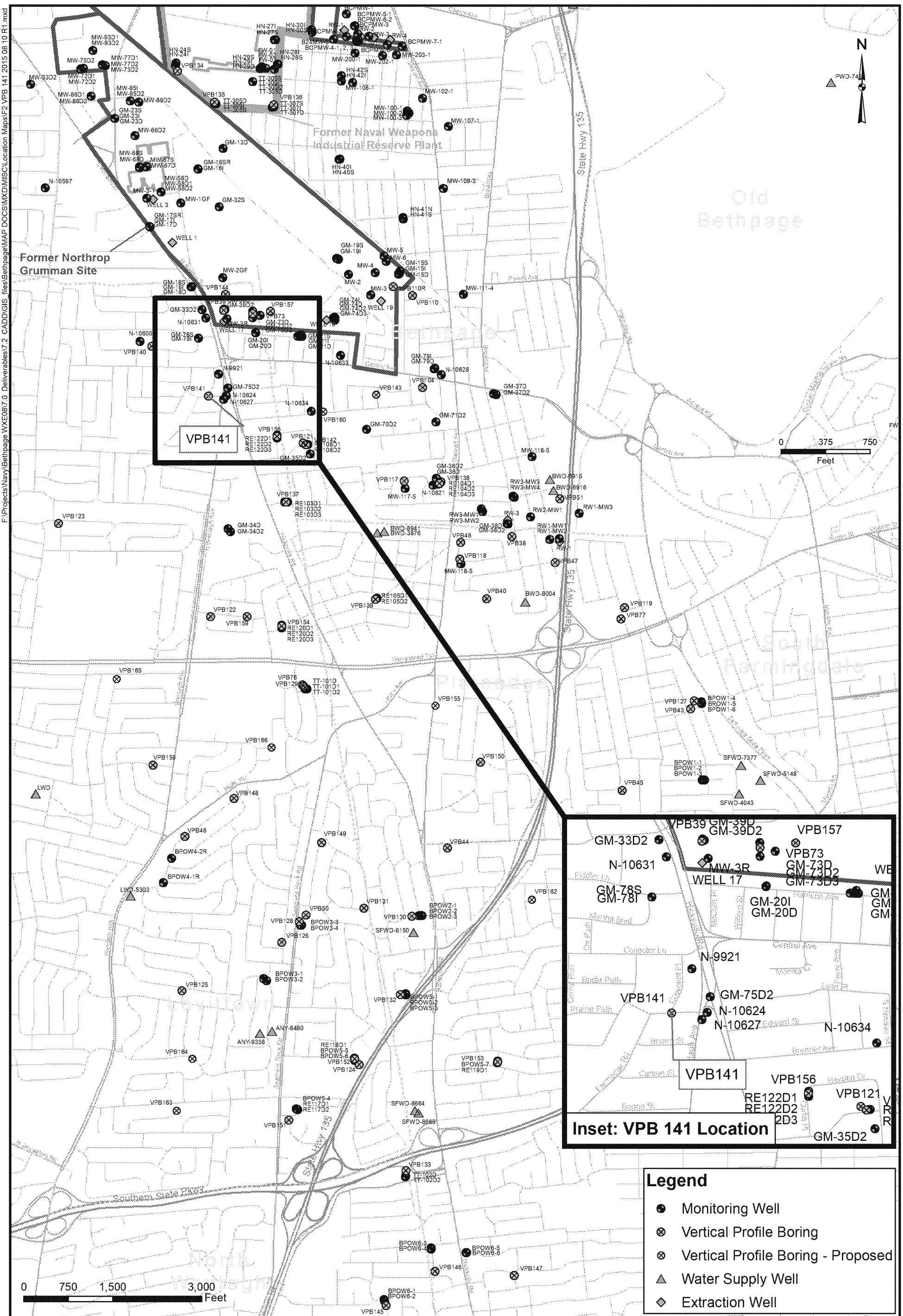


0 15 30
SCALE IN MILES

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

VPB141 LOCATION MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY: PS	DATE: 8/10/2015
APPROVED BY: —	DATE: —
FIGURE NO. 2	REV 0

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Appendix A

VPB 141

Section 1

VPB 141 Boring and Gamma Logs

Resolution Consultants

Boring Log

BORING #: VPB141

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		**Logged By:** Mike Zobel
Location: Farmedge Rd. & Crescent Pl., Levittown, NY	**Northing:** **Easting:**	**Drilling Company:** Delta Well & Pump
Project #: 60266526	**Ground Elevation (ft amsl):**	**Well Screen Interval (ft):** NA
Start Date: 3/16/2015	**Drilling Method:** Auger (0-50' bgs) Mud Rotary (>50' bgs)	**Water Level (ft):** NA
Finish Date: 4/22/2015		**Total Depth (ft):** 850.0

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							
2					Upper Glacial	SW		fill/topsoil (hand cleared)
4								
6						SW		Brown (10YR 5/3) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
8								
10						SW		Brown (10YR 5/3) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
12								
14								
16						SW		Brownish yellow (10YR 6/8) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
18								
20								
22						SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
24								
26						SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
28								
30						SW		Brownish yellow (10YR 6/8) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
32								
34								

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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
36–40					Upper Glacial	SW		Brownish yellow (10YR 6/8) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
40–44						SW		Brownish yellow (10YR 6/8) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
44–52						SW		Brownish yellow (10YR 6/8) well graded fine to coarse subangular SAND with fine to medium subrounded Gravel
52–58						SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND, trace fine subangular Gravel, trace clay
58–62			< 0.50	< 0.50		SW		Brownish yellow (10YR 6/6) well graded fine to coarse subangular SAND, trace fine subangular Gravel
62–68						SW		Very pale brown (10YR 7/4) well graded fine to coarse subangular SAND, trace fine subangular Gravel, trace clay
68–72						SW-SC		Very pale brown (10YR 7/4) well graded fine to coarse subangular SAND with soft fat CLAY
72–74						SW-SC		Very pale brown (10YR 7/4) well graded fine to coarse subangular SAND with soft fat CLAY

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Boring Log

BORING #: VPB141

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-SC		Very pale brown (10YR 7/4) well graded fine to coarse subangular SAND with soft fat CLAY *(continued)*
78								
80						SC		Very pale brown (10YR 7/4) loose fat Clayey fine to coarse subangular SAND, trace fine subangular gravel
82								
84						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt
86								
88						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt, trace fine subangular gravel
90								
92								
94						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt, trace fine subangular gravel
96								
98						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat CLAY, trace fine subangular gravel
100					Magothy			
102								
104			0.54	0.79		SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace soft fat Clay, trace fine subangular gravel
106								
108						SC		Yellow (10YR 7/6) soft fat Clayey fine to coarse subangular SAND, trace fine subangular gravel
110								
112								
114						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace soft fat Clay, trace fine subangular gravel, trace iron nodules

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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
116					Magothy	SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace soft fat Clay, trace fine subangular gravel, trace iron nodules *(continued)*
118								
120						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat CLAY, trace iron nodules
122								
124						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat CLAY, trace iron nodules
126								
128						SP		Light yellowish brown (10YR 6/4) poorly graded fine to medium subangular SAND, trace soft fat Clay
130								
132								
134						SP		Light yellowish brown (10YR 6/4) poorly graded fine to medium subangular SAND, trace soft fat Clay
136								
138								
140		0				SP		Light yellowish brown (10YR 6/4) poorly graded fine to medium subangular SAND, trace Silt
142						SP		Pale brown (2.5Y 7/4) poorly graded fine to medium subangular SAND, trace Silt, trace fine subangular gravel
144						SP		Pale brown (2.5Y 7/4) poorly graded fine to medium subangular SAND, trace Silt
146								
148								
150			1.0	< 0.50		SP		Pale brown (2.5Y 7/4) poorly graded fine to medium subangular SAND, trace Silt, trace iron nodules
152								
154						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt, trace iron nodules

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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					Magothy	SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt, trace iron nodules *(continued)*
158								
160						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace Silt, trace iron nodules
162								
164						SP		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND, trace soft fat Clay
166								
168						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace iron nodules
170								
172								
174						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace iron nodules
176								
178						SP		Pale brown (2.5Y 7/4) poorly graded fine to medium subangular SAND, trace soft fat Clay
180								
182								
184						SP		Pale brown (2.5Y 7/4) poorly graded fine to medium subangular SAND, trace Silt
186								
188						SC		Pale brown (2.5Y 7/4) soft fat Clayey fine SAND, trace iron nodules
190								
192								
194						SC		Light gray (2.5Y 7/1) soft fat Clayey fine SAND, trace iron nodules

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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
196–198					Magothy	SC		Light gray (2.5Y 7/1) soft fat Clayey fine SAND, trace iron nodules *(continued)*
198–200			1.6	< 0.50		CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY
200–204								
204–208						SC		Light gray (Gley 1 7/N) medium fat Clayey fine SAND
208–212						SC		Light gray (Gley 1 7/N) medium fat Clayey fine SAND
212–218						SC		Light gray (Gley 1 7/N) medium fat Clayey fine SAND
218–220			0.89	< 0.50		CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY, trace iron nodules
220–224								
224–228						CH		Pale brown (2.5Y 7/4) fine Sandy medium fat CLAY, trace iron nodules
228–232						SP		Pale brown (2.5Y 7/4) poorly graded fine SAND, trace Iron nodules
232–234						SP		Pale brown (2.5Y 7/4) poorly graded fine SAND, trace 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					Magothy	SP		Pale brown (2.5Y 7/4) poorly graded fine SAND, trace iron nodules *(continued)*
238								
240			0.50	< 0.50		CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY
242								
244						CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY
246								
248								
250						CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY, trace iron nodules, trace lignite
252								
254						CH		Light gray (Gley 1 7/N) fine Sandy medium fat CLAY, trace iron nodules, trace lignite
256								
258								
260			1.4	< 0.50		SC		Yellow (10YR 7/6) medium fat Clayey fine SAND, trace iron nodules
262								
264						CH		Yellow (10YR 7/6) fine Sandy medium fat CLAY, trace iron nodules, trace silt
266								
268								
270						SP-SM		Gray (5Y 5/1) poorly graded fine SAND with Silt
272								
274						SP-SM		Olive gray (5Y 5/2) poorly graded fine SAND with Silt

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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
276					Magothy	SP-SM		Olive gray (5Y 5/2) poorly graded fine SAND with Silt *(continued)*
278								
280			0.42	< 0.50		SC		Yellow (10YR 7/6) soft fat Clayey fine to medium subangular SAND, trace silt, trace iron nodules
282								
284						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace silt, trace iron nodules
286								
288								
290						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace silt, trace iron nodules, trace lignite
292								
294						SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace silt, trace iron nodules, trace lignite
296								
298								
300			0.81	< 0.50		SP-SC		Yellow (10YR 7/6) poorly graded fine to medium subangular SAND with soft fat Clay, trace silt
302								
304						CH		Dark gray (Gley 1 4/N) fine to medium Sandy stiff fat CLAY, trace silt
306								
308								
310						SC		Gray (Gley 1 3/N) stiff fat Clayey fine to medium subangular SAND, trace silt
312								
314						SC		Gray (5Y 5/1) stiff fat Clayey fine to medium subangular SAND, trace silt

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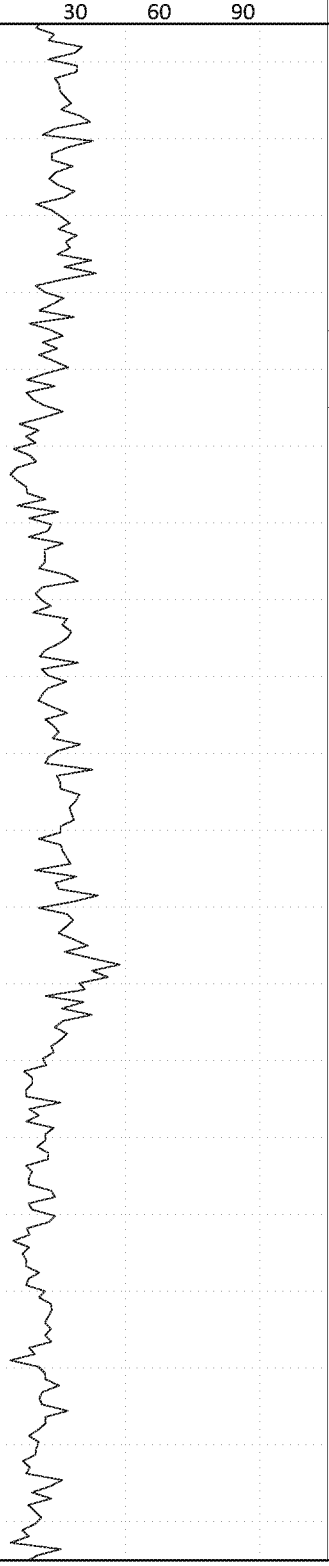

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
316–318				Magothy	SC		Gray (5Y 5/1) stiff fat Clayey fine to medium subangular SAND, trace silt *(continued)*
318–324		4.1	< 0.50		SC		Gray (Gley 1 5/N) stiff fat Clayey fine to medium subangular SAND, trace silt, trace lignite
324–326	0				SP-SC		Gray (5Y 5/1) poorly graded fine to medium subangular SAND with medium fat Clay, trace lignite
326–328					SC		Gray (Gley 1 5/N) stiff fat Clayey fine to medium subangular SAND, trace silt, trace lignite
328–334					SC		Gray (5Y 5/1) medium fat Clayey fine to medium subangular SAND, trace silt, trace lignite
334–338					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace silt, trace lignite
338–342		0.48	< 0.50		CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace silt, trace lignite
342–348					SM		Gray (5Y 6/1) Silty fine SAND, trace medium subangular sand, trace medium fat clay
348–352					SM		Gray (5Y 6/1) Silty fine SAND, trace medium subangular sand, trace medium fat clay
352–354					SM		Gray (5Y 6/1) Silty fine SAND, trace medium subangular sand, trace medium fat clay

(Continued Next Page)

Resolution Consultants

Boring Log

BORING #: VPB141

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
356					Magothy	SM		Gray (5Y 6/1) Silty fine SAND, trace medium subangular sand, trace medium fat clay *(continued)*
358								
360						SM		Gray (5Y 6/1) Silty fine SAND, trace medium subangular sand, trace medium fat clay
362								
364			0.72	< 1.0		CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace silt
366								
368								
370						CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace silt
372								
374						CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace silt
376								
378								
380			31	1.9		SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND
382								
384						SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND
386								
388								
390						SP		Gray (2.5Y 6/1) poorly graded fine to medium subangular SAND, trace soft fat Clay
392								
394						SP		Gray (2.5Y 6/1) poorly graded fine to medium subangular SAND, trace 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
396					Magothy	SP		Gray (2.5Y 6/1) poorly graded fine to medium subangular SAND, trace soft fat Clay *(continued)*
398								
400			87	4.3		SP-SC		Light brownish gray (2.5Y 6/2) poorly graded fine SAND with soft fat Clay, trace medium subangular sand
402								
404						SP-SC		Light brownish gray (2.5Y 6/2) poorly graded fine SAND with soft fat Clay, trace medium subangular sand
406								
408						SC		Gray (2.5Y 6/1) soft fat Clayey fine SAND, trace lignite
410								
412								
414						SC		Gray (2.5Y 6/1) soft fat Clayey fine SAND, trace lignite
416								
418						CH		Gray (Gley 1 6/1) fine Sandy soft fat CLAY, trace lignite, trace pyrite
420								
422								
424			16	0.69		SM		Gray (Gley 1 6/1) Silty fine SAND, trace lignite, trace medium to coarse subangular sand
426								
428						SM		Gray (Gley 1 6/1) Silty fine SAND, trace lignite, trace medium to coarse subangular sand
430								
432								
434						SM		Gray (Gley 1 6/1) Silty fine SAND, trace lignite, trace medium to coarse subangular sand

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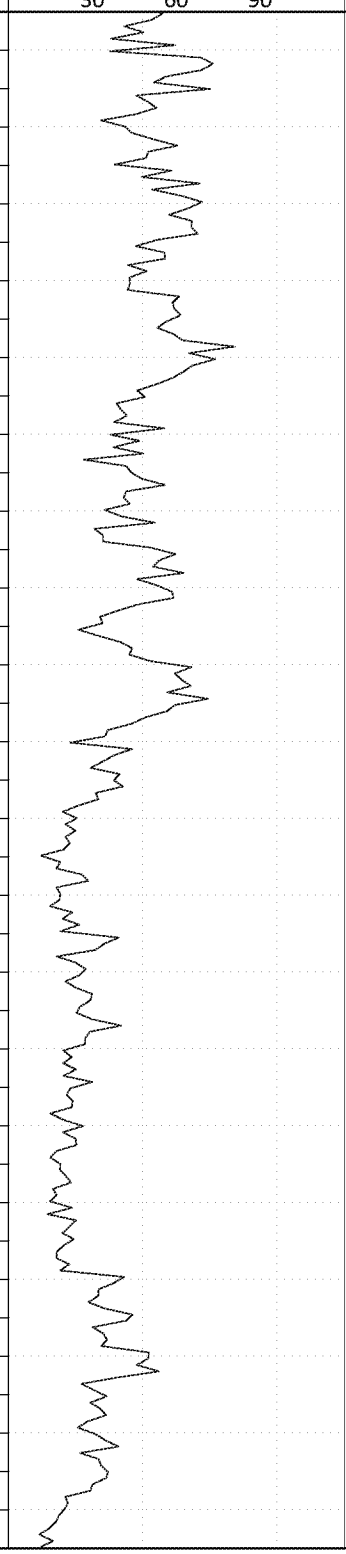

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
436–438				Magothy	SM	Gray (Gley 1 6/1) Silty fine SAND, trace lignite, trace medium to coarse subangular sand *(continued)*
438–440		< 0.50	< 0.50		CH	Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
440–444					CH	Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
444–450					CH	Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
450–454					SP	Gray (5Y 6/N) poorly graded fine SAND, trace Silt, trace medium subangular sand
454–460		7.5	1.4		SP	Gray (5Y 6/N) poorly graded fine SAND, trace Silt, trace medium subangular sand, trace lignite, trace pyrite
460–468					SP	Gray (5Y 6/N) poorly graded fine SAND, trace Silt, trace medium subangular sand, trace lignite, trace pyrite
468–474					CH	Gray (Gley 1 6/N) fine to medium Sandy medium fat CLAY
474					SP	Gray (5Y 6/1) poorly graded fine to medium subangular SAND, trace Silt, trace clay, trace medium sand

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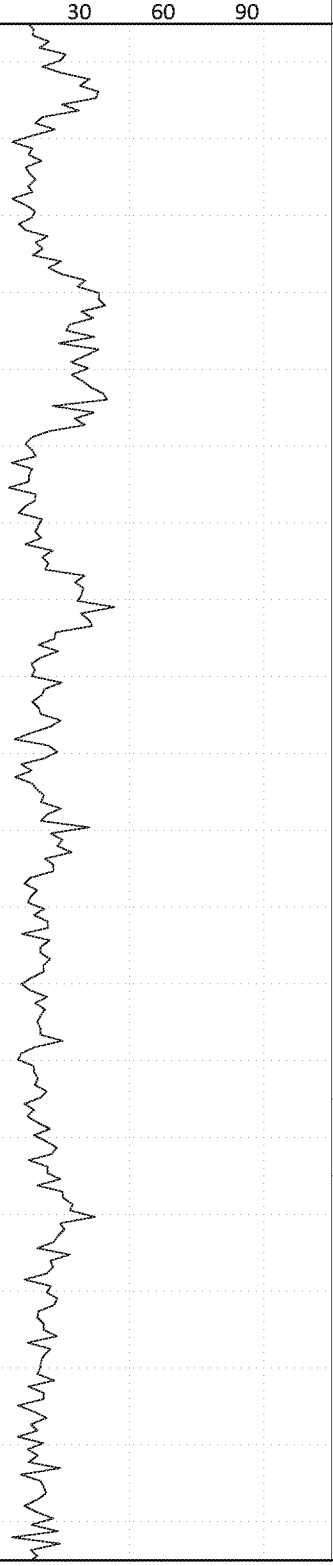


DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
476–478				Magothy	SP	Gray (5Y 6/1) poorly graded fine to medium subangular SAND, trace Silt, trace clay, trace medium sand *(continued)*
478–480		3.1	0.45		SP	Gray (5Y 6/1) poorly graded fine SAND, trace Silt, trace clay, trace medium subangular sand
480–482						
482–484						
484–486					CH	Light gray (Gley 1 7/N) fine Sandy medium fat CLAY
486–488						
488–490					SC	Light gray (5Y 7/1) soft fat Clayey fine to medium subangular SAND
490–492						
492–494					SC	Light gray (5Y 7/1) soft fat Clayey fine to medium subangular SAND
494–496						
496–498						
498–500		3.4	0.43		SP	Gray (2.5Y 6/1) poorly graded fine to medium subangular SAND, trace soft fat Clay
500–502						
502–504	0				SC	Gray (2.5Y 6/1) soft fat Clayey fine to medium subangular SAND
504–506					SW	Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay
506–508						
508–510					SW	Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay
510–512						
512–514					SW	Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay

(Continued Next Page)

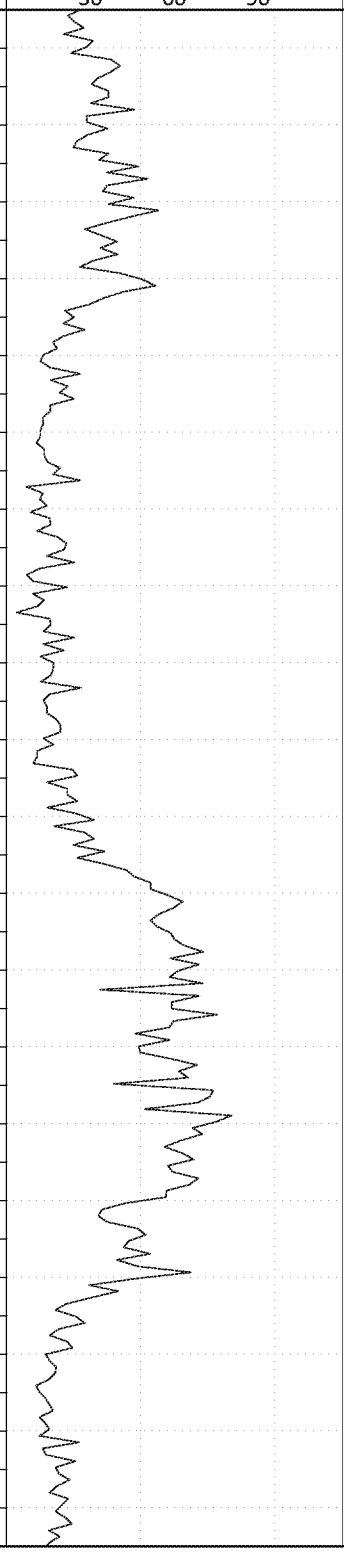
Resolution Consultants

Boring Log

BORING #: VPB141

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
516					Magothy	SW		Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay *(continued)*
518								
520						SW		Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay
522								
524			36	6.1		SW		Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay
526								
528								
530						SW		Gray (2.5Y 6/1) well graded fine to medium subangular SAND, trace Silt, trace soft fat clay
532								
534						SP-SC		Gray (2.5Y 6/1) fine to medium subangular SAND with soft fat Clay
536								
538								
540						SP		Gray (2.5Y 6/1) poorly graded fine SAND, trace Silt, trace soft fat clay
542								
544			170	17		SC		Gray (2.5Y 5/1) soft fat Clayey fine to medium subangular SAND, trace lignite
546								
548								
550						SC		Gray (2.5Y 5/1) soft fat Clayey fine to medium subangular SAND, trace lignite
552								
554						SC		Gray (2.5Y 5/1) soft fat Clayey fine to medium subangular SAND

(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	SC		Gray (2.5Y 5/1) soft fat Clayey fine to medium subangular SAND *(continued)*
558								
560						CH		Gray (Gley 1 5/N) fine to medium Sandy soft fat CLAY
562								
564						SC		Gray (Gley 1 5/N) soft fat Clayey fine SAND, trace medium subangular sand
566								
568								
570						SC		Gray (Gley 1 5/N) soft fat Clayey fine to medium subangular SAND
572								
574						SC		Gray (Gley 1 5/N) soft fat Clayey fine to medium subangular SAND
576								
578								
580			280	24		CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
582								
584						CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
586								
588								
590						CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
592								
594						SC		Gray (Gley 1 5/N) soft fat Clayey fine to medium subangular SAND

(Continued Next Page)

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
596					Magothy	SC		Gray (Gley 1 5/N) soft fat Clayey fine to medium subangular SAND *(continued)*
598								
600			32	< 20		CH		Gray (Gley 1 5/N) stiff fat CLAY with fine to medium subangular Sand
602								
604						CH		Gray (Gley 1 5/N) fine to medium subangular Sandy medium fat CLAY
606								
608								
610						SC		Light gray (10YR 7/1) soft fat Clayey fine to coarse subangular SAND
612								
614						SC		Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND
616								
618								
620			1.7	3.5		SC		Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND, trace pyrite
622								
624						SC		Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND, trace pyrite
626								
628								
630						SC		Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND
632								
634						SC		Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND, trace pyrite

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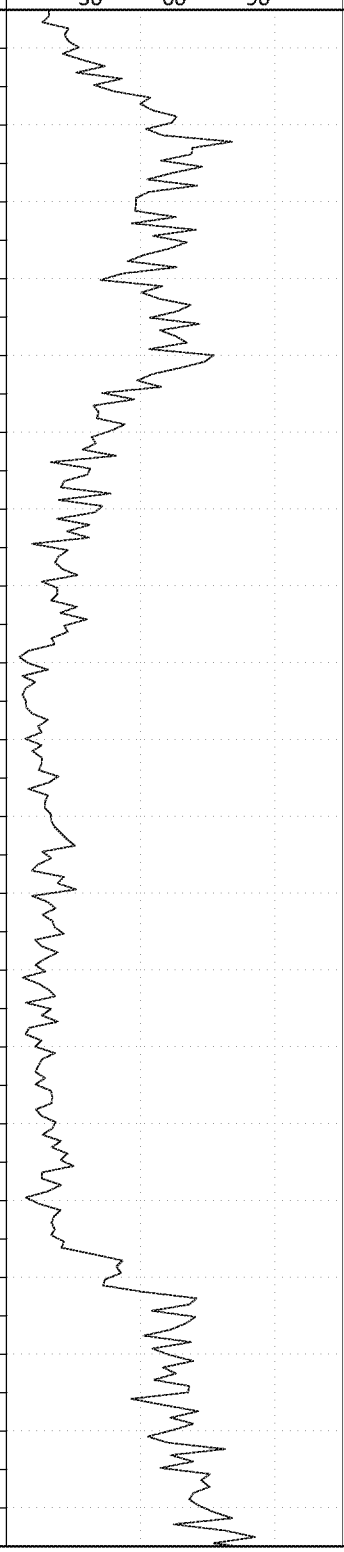

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
636–638				Magothy	SC	Light brownish gray (2.5Y 6/2) soft fat Clayey fine to medium subangular SAND, trace pyrite *(continued)*
638–640		18	< 10		CH	Gray (5Y 6/1) fine to medium subangular Sandy soft fat CLAY, trace pyrite
640–644					CH	Gray (5Y 6/1) fine to coarse subangular Sandy soft fat CLAY
644–650					CH	Gray (5Y 6/1) fine to medium subangular Sandy soft fat CLAY, trace coarse subangular sand
650–654					SW	Light gray (10YR 7/1) well graded medium to coarse SAND, trace soft fat Clay, trace silt, trace pyrite
654–660		0.33	< 0.50		SW	Light gray (10YR 7/1) well graded medium to coarse SAND, trace fine subangular Gravel, trace medium fat clay, trace fine sand
660–668					SW	Light gray (10YR 7/1) well graded medium to coarse SAND, trace fine subangular Gravel, trace medium fat clay, trace fine sand
668–674					CH	Dark gray (2.5Y 4/1) medium to coarse subangular Sandy stiff fat CLAY, trace coarse subangular gravel
674					CH	Dark gray (2.5Y 4/1) medium to coarse subangular Sandy stiff fat CLAY, trace coarse subangular gravel

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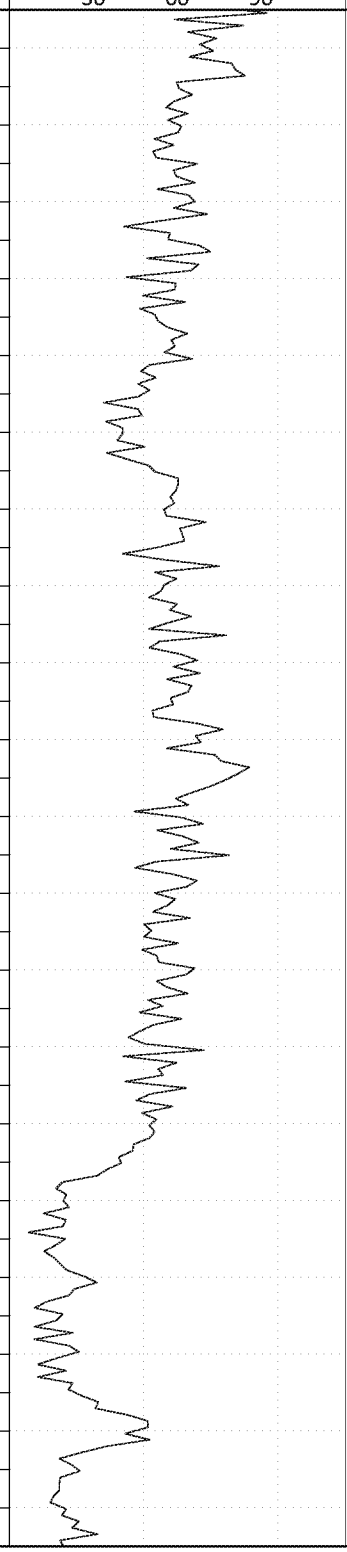

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
676–678				Magothy	CH		Dark gray (2.5Y 4/1) medium to coarse subangular Sandy stiff fat CLAY, trace coarse subangular gravel *(continued)*
678–680		< 100	< 100		CH		Dark gray (2.5Y 4/1) stiff fat CLAY with medium to coarse subangular Sand , trace coarse subangular gravel
680–684					CH		
684–688					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to medium Sand, trace lignite
688–692					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to medium Sand, trace lignite
692–696					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to medium Sand, trace lignite
696–700		< 10	< 10		CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to medium Sand
700–704					CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium Sand
704–710					CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium Sand
710–714					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand

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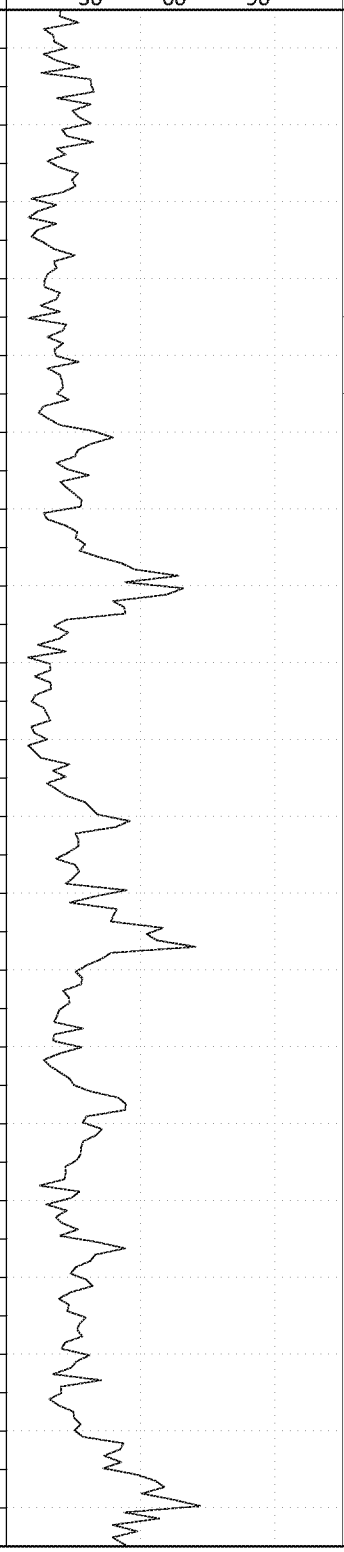

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
716–718				Magothy	CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand *(continued)*
718–720		< 1.0	< 1.0		CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
720–722							
722–724	0				CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
724–726					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
726–728							
728–730					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
730–732							
732–734					CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY, trace medium sand
734–736							
736–738					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
738–740							
740–742					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
742–744		< 1.0	< 1.0				
744–746					CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY, trace medium sand
746–748							
748–750					CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY, trace medium sand
750–752							
752–754					CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY, trace medium sand

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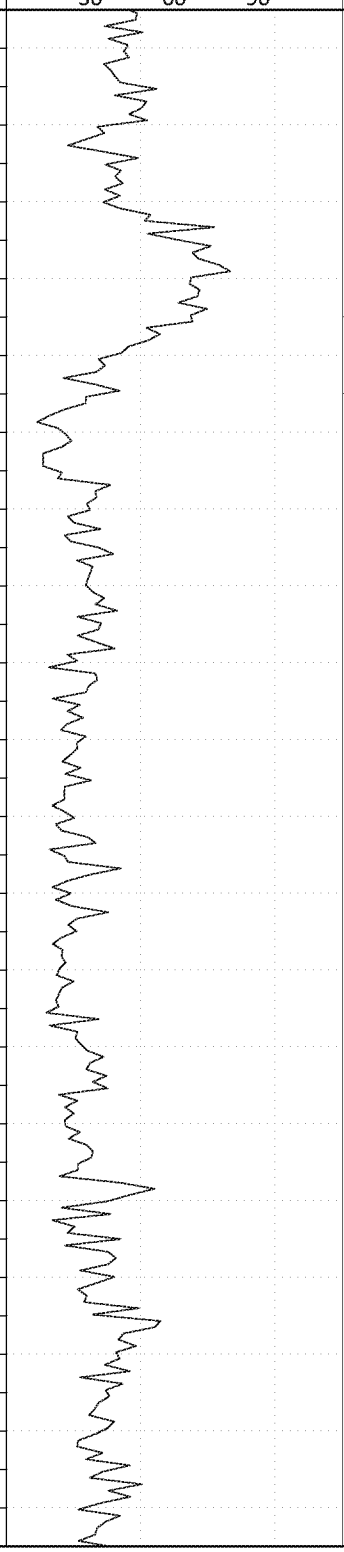
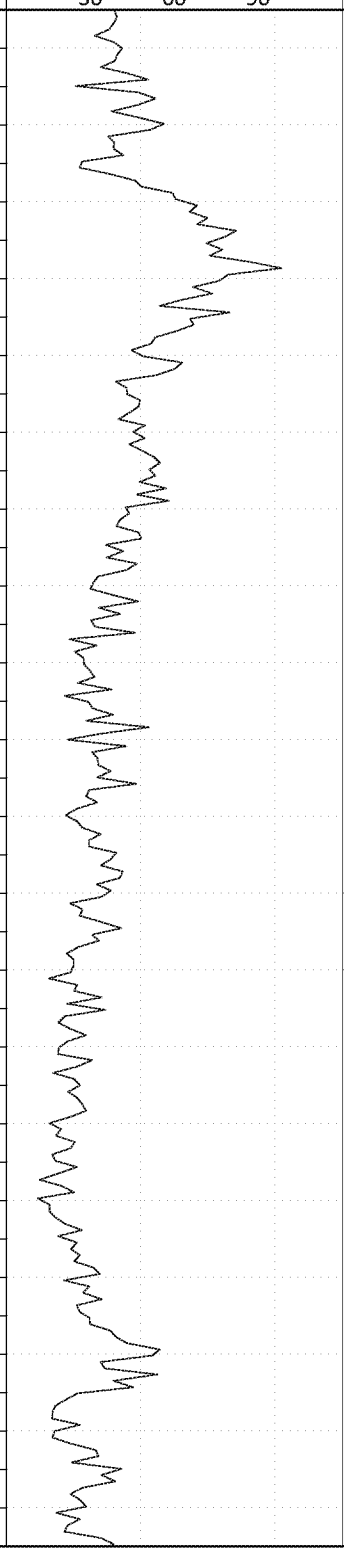


DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
756–758				Magothy	CH		Gray (Gley 1 5/N) fine Sandy soft fat CLAY, trace medium sand *(continued)*
758–764		< 4.0	< 4.0		CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
764–766	0				CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand, trace lignite
766–768					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand, trace lignite
768–772					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand, trace lignite
772–778					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand, trace lignite
778–780		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
780–784					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace medium sand
784–790					CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand
790–794					CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand

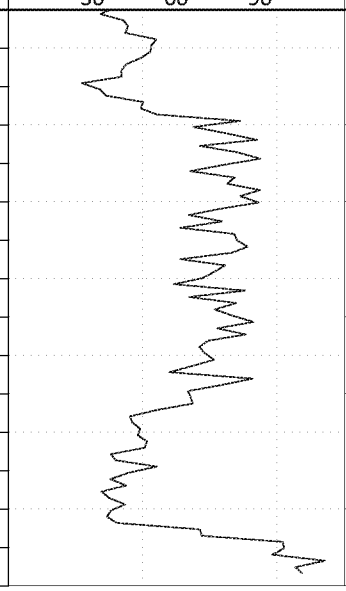
(Continued Next Page)

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
796–798					Magothy	CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand *(continued)*
798–802						CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand
802–808						CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand
808–812						CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand
812–818						CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand
818–820		0				CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand, trace silt
820–822						CH		Gray (Gley 1 5/N) medium fat CLAY, trace fine to medium subangular Sand, trace silt
822–826			< 0.50	< 0.50		SP-SM		Gray (10YR 6/1) poorly graded medium subangular SAND with Silt
826–832						SP		Gray (10YR 6/1) poorly graded medium subangular SAND
832–834						SP		Gray (10YR 6/1) poorly graded medium subangular SAND, trace stiff 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
836					Magothy	SP		Gray (10YR 6/1) poorly graded medium subangular SAND, trace stiff fat Clay *(continued)*
838								
840		0			Raritan	CH		Dark gray (Gley 1 4/N) and Red (2.5YR 5/6) stiff fat CLAY, trace Lignite
842						CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to medium Sand, trace lignite
844		0				CH		Gray (Gley 1 5/N) and Red (2.5YR 5/6) stiff fat CLAY, trace Lignite
846						CH		Gray (Gley 1 5/N) stiff fat CLAY, trace Lignite
848								
850		0				CH		Gray (Gley 1 5/N) and Red (2.5YR 5/6) stiff fat CLAY, trace Lignite

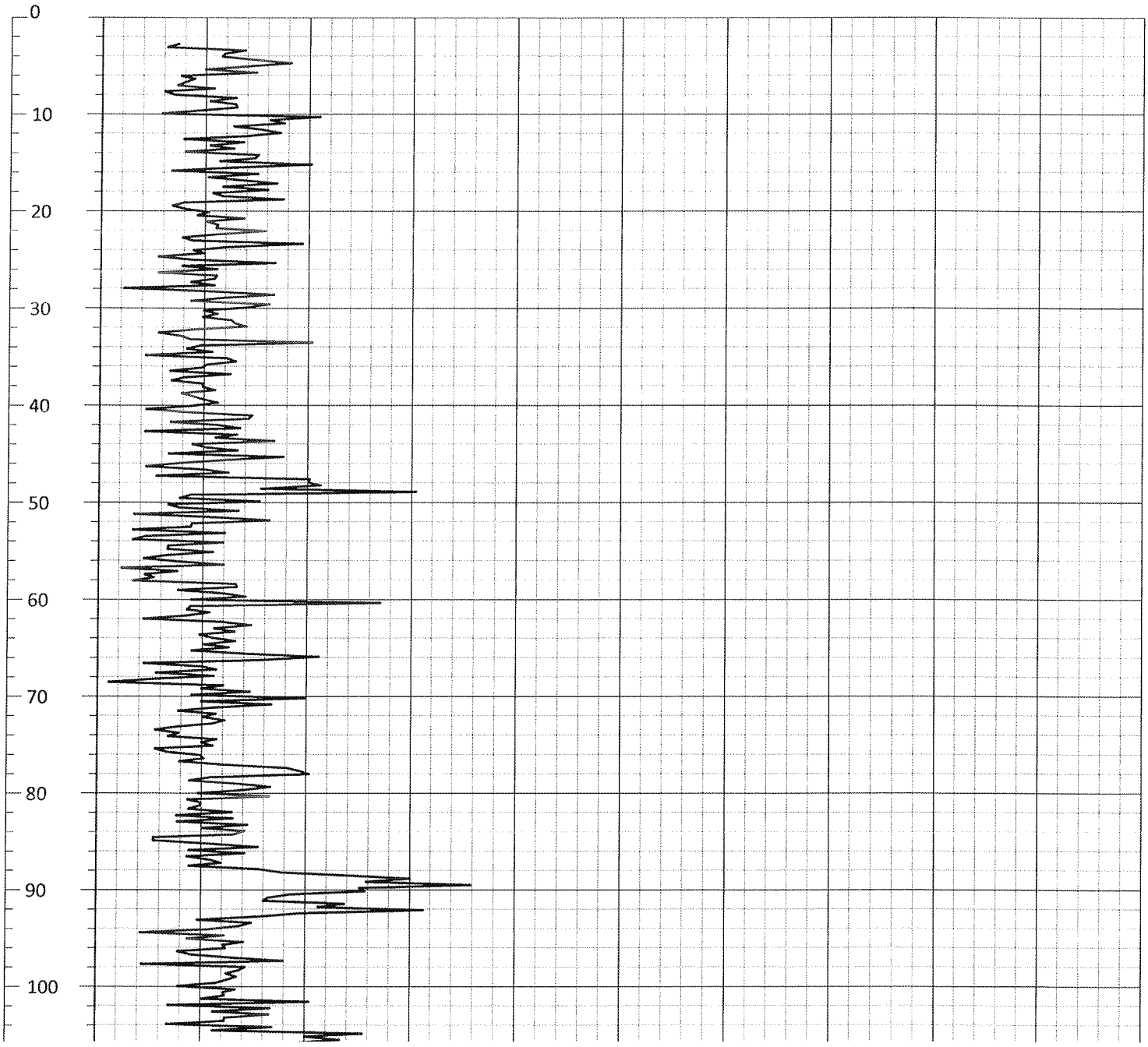
End of boring at 850.0 ft. bgs.

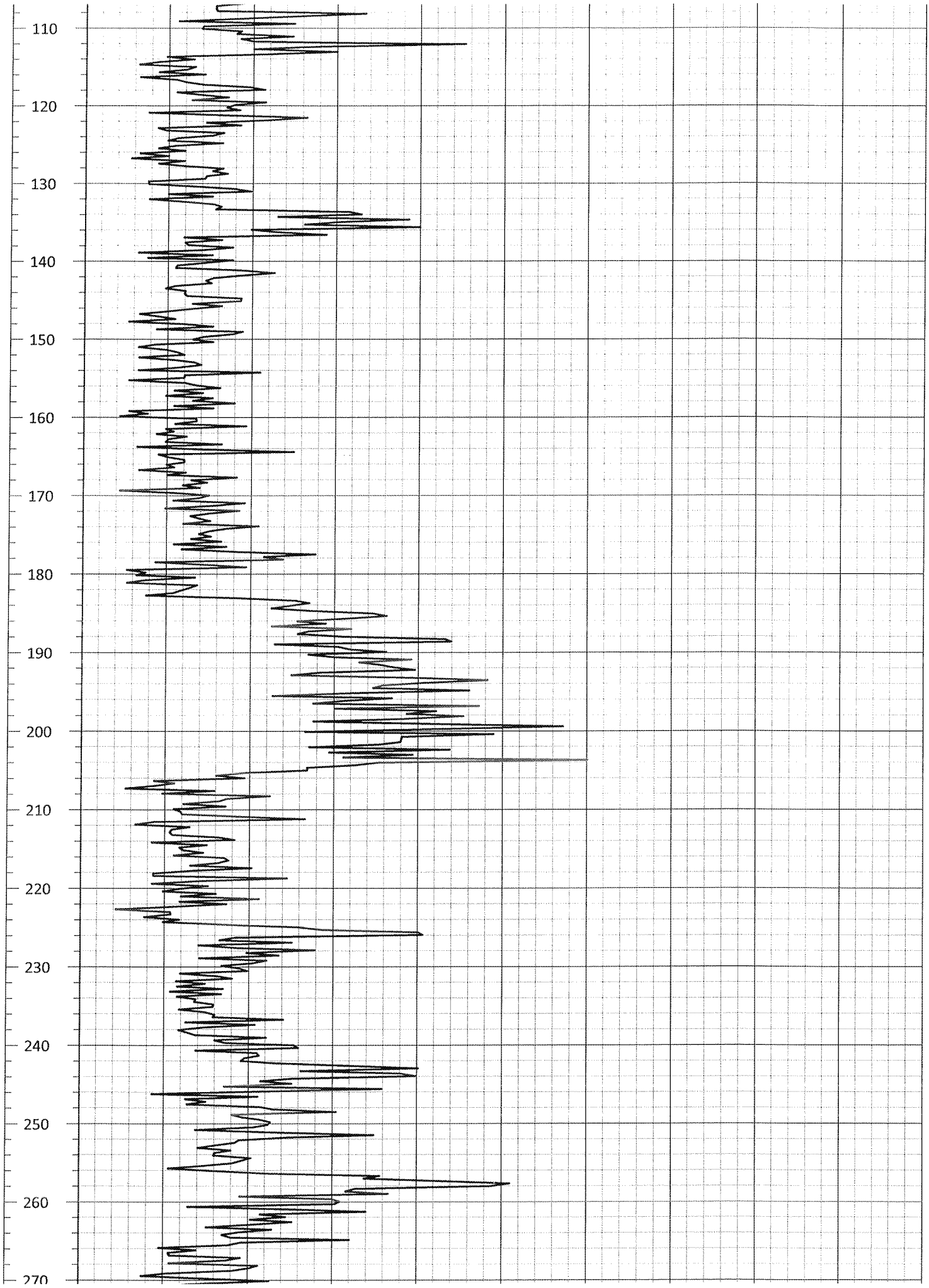
DOWN HOLE

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

Well: VPB-141		Depth Driller:
		Depth Logger:
Date: 04/22/2015	Time:	Logged by: CMO
File Name: 739		Witness: MIKE

Depth (ft.)	GAMMA (cps)	
0.0		100.0

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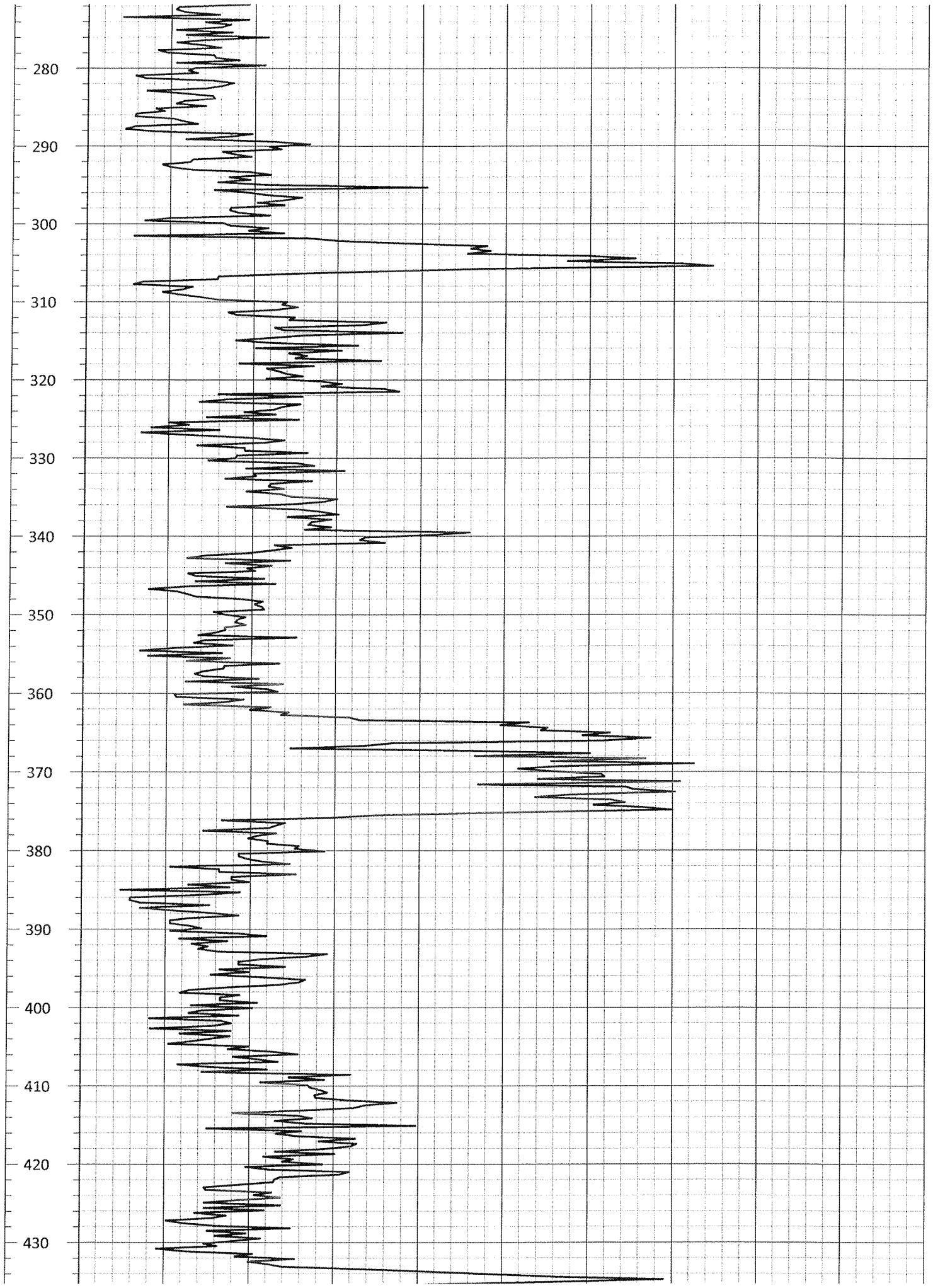
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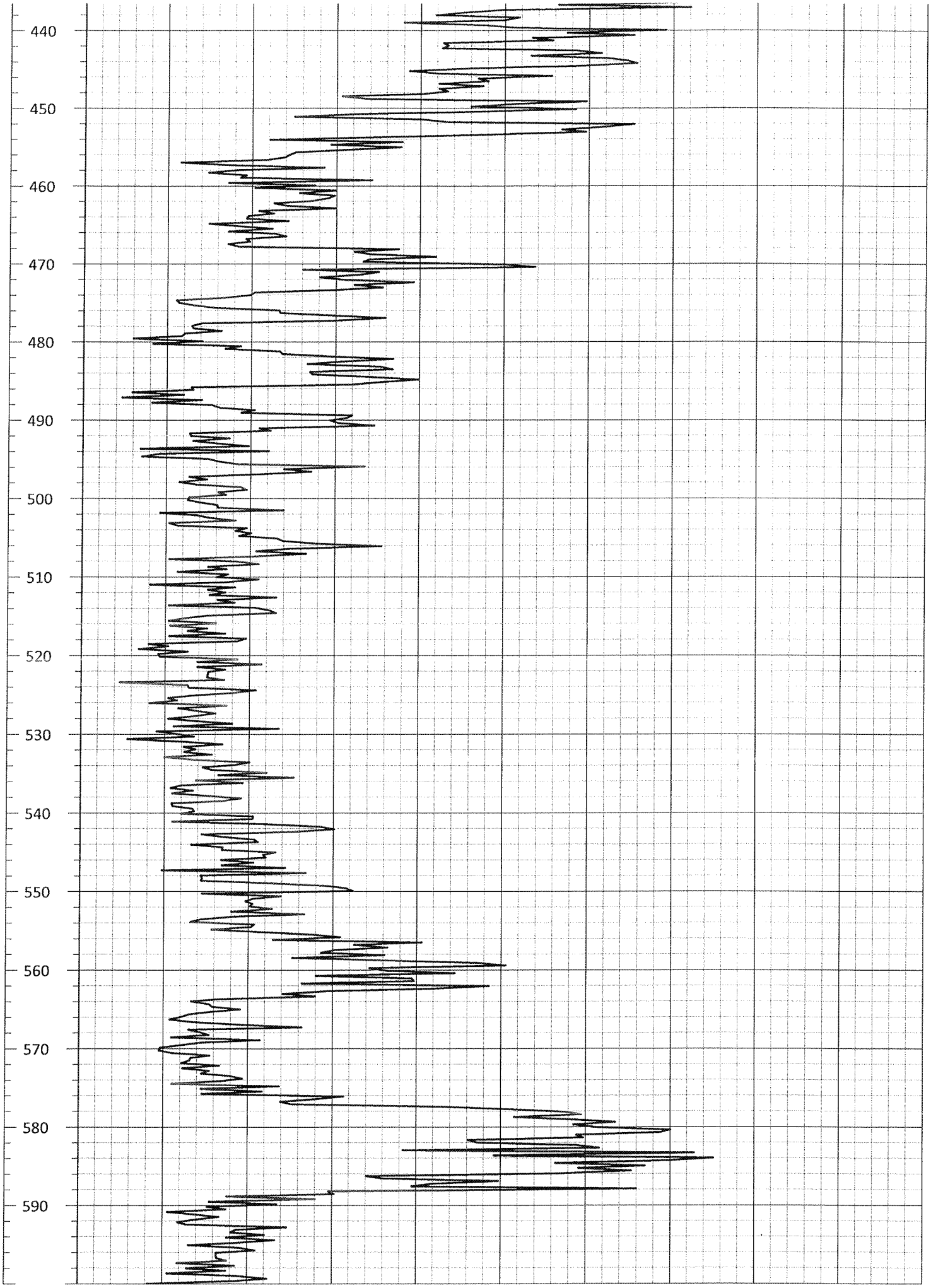
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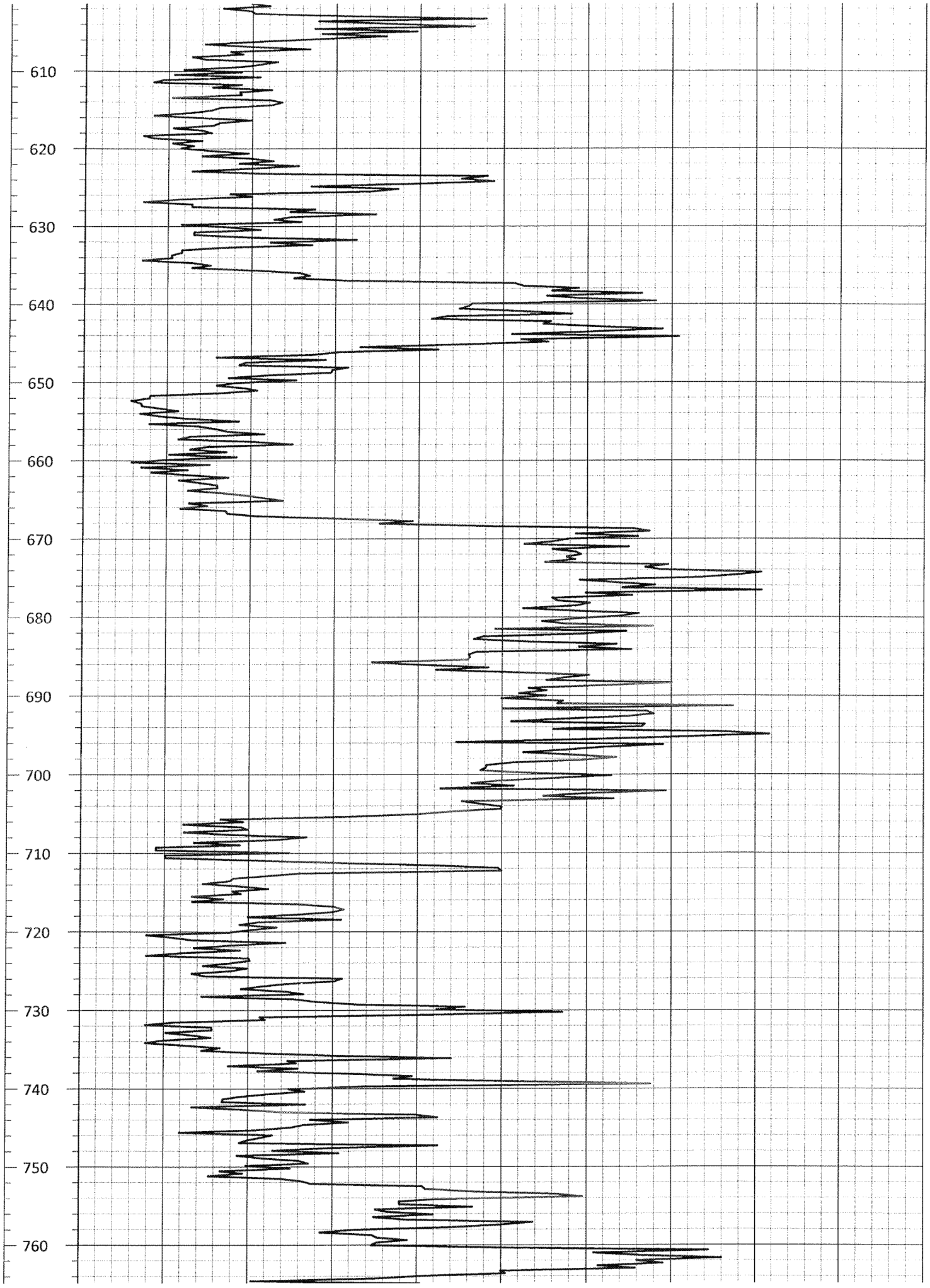
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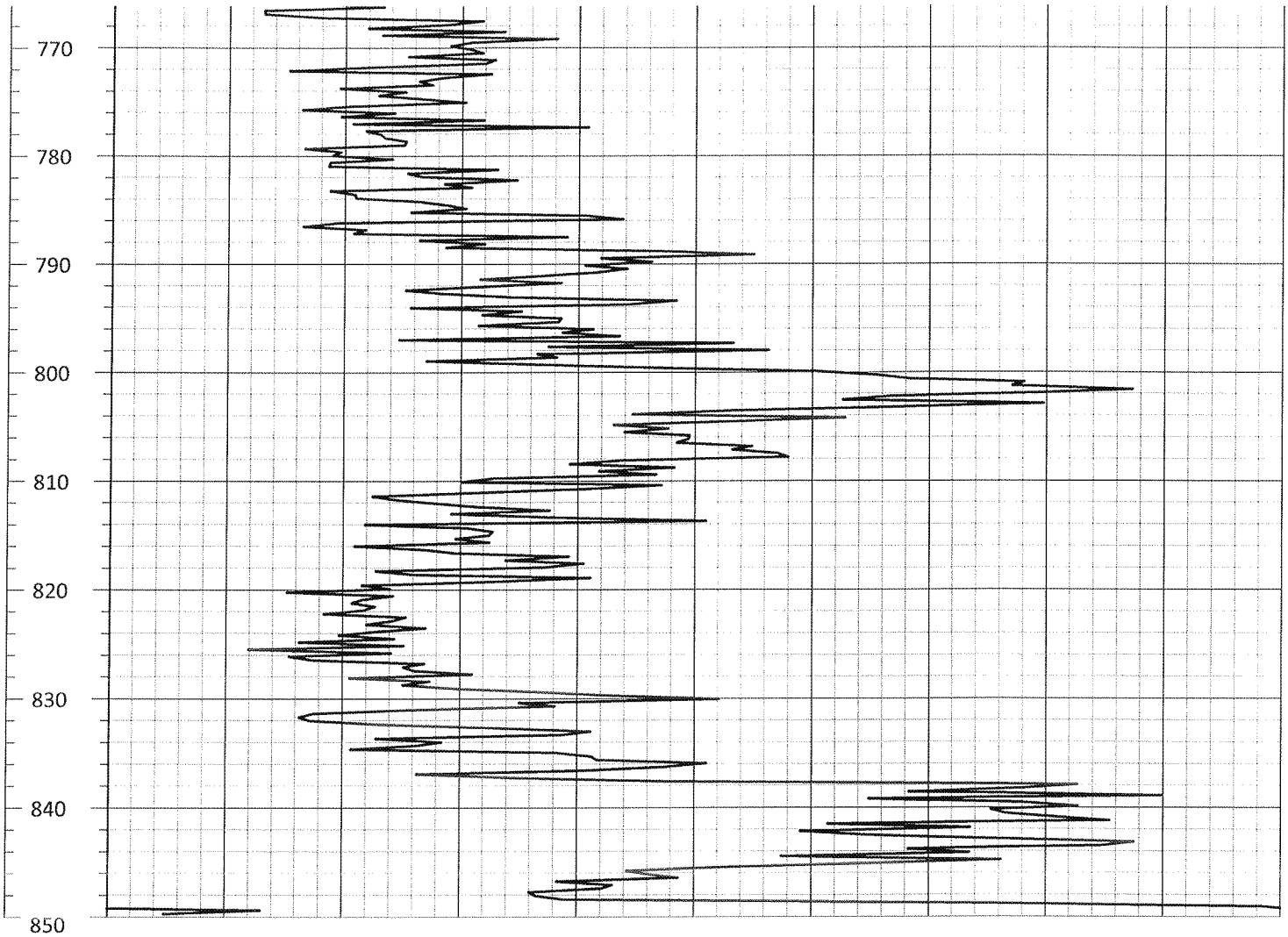
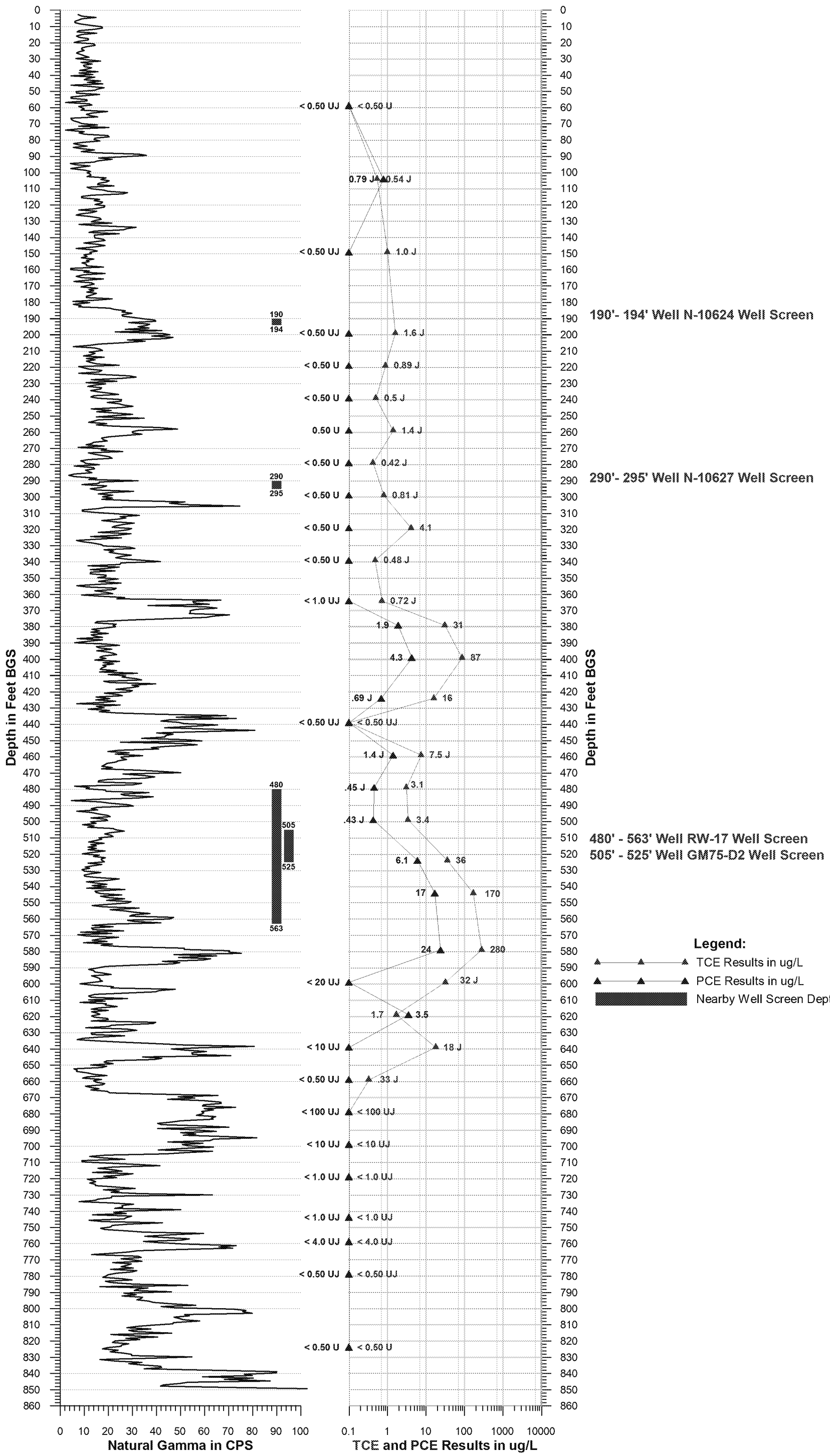


Depth (ft.)	0.0	GAMMA (cps)	100.0

Section 2

VPB 141 Gamma and PCE/TCE Plot

Vertical Profile Boring VPB-141
Downward Run - April 22, 2015
Validated Analytical Data



Section 3

VPB 141 Groundwater Sample Log Sheets

Hydropunch Sample

Client: Navy
Project No: 62266526
Site Location: NWIRP Bethpage
Weather Conds:

Date :
VPB: 141
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
3-26-15	1100	10.25	6.62	279	1.02	20.2	>1,100	58	60	yellow-brown
3-27-15	1005	10.17	6.68	314	0.49	-6.4	>1,100	103	105	yellowish brown
3-31-15	1050	10.48	6.73	321	0.66	7.1	420	148	150	cloudy
3-31-15	1345	10.43	6.61	235	1.23	14.4	681	198	200	Cloudy
4-1-15	0945	10.48	6.85	224	1.49	1.2	>1,100	218	220	yellow
4-1-15	1145	—	not enough sample to take readings				—	238	240	yellow
4-1-15	1340	11.72	6.62	148	1.01	7.4	534	258	260	yellow
4-2-15	1000	12.64	6.82	227	1.41	15.5	491	278	280	yellow
4-2-15	1205	13.14	6.87	144	2.38	17.1	>1,100	298	300	light brown
4-2-15	1350	13.74	7.05	192	2.71	-7.4	>1,100	318	320	brown
4-3-15	1140	13.42	7.18	187	2.58	6.3	291	338	340	cloudy
4-3-15	1515	13.58	7.09	204	2.39	-9.5	>1,100	363	365	yellow brown
4-6-15	1030	13.91	6.52	263	2.01	72.1	416	378	380	Cloudy
4-6-15	1300	14.02	6.35	127	1.87	98.3	382	398	400	Cloudy
~~4-6-15~~	~~1500~~							~~[illegible]~~	~~[illegible]~~	
4-7-15	0950	14.63	6.49	241	2.03	61.8	481	423	425	Cloudy
4-7-15	1200	14.71	6.72	216	2.29	43.2	>1,100	438	440	~~[illegible]~~ gray
4-7-15	1430	—	Not enough sample to take readings				—	458	460	brown-gray
4-8-15	0945	15.43	6.65	204	2.17	34.1	>1,100	498	480	light brown
4-8-15	1200	—	Not enough sample to take readings				—	498	500	light brown
4-9-15	1010	15.84	6.74	187	1.74	18.2	>1,100	523	525	yellow
4-9-15	1415	—	Not enough sample to take readings				—	543	545	yellow-brown
~~[illegible]~~										

soil - 041615-723-ms- 4-16-15 13:2m
Soil-D
Soil-ms/msD

Hydropunch Sample

Client: Navy
Project No: 60606526
Site Location: NWIRP Bethpage
Weather Conds:

Date: 8
VPB: 141
Collector(s): Mike Zobel

	Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
	4-10-15	[illegible]	13.81	6.84	[illegible]	[illegible]	312	>1,100	578	580	gray
	4-10-15	1415	15.78	6.81	203	1.74	24.3	>1,100	598	600	gray
	4-13-15	1245	15.63	6.79	165	1.33	8.4	>1,100	618	620	gray
	4-13-15	1500	—	Not enough sample to take readings				—	638	640	gray brown
	4-14-15	1050	—	Not enough sample to measure				—	658	660	gray brown
	4-14-15	1330	—	Not enough sample for readings				—	678	680	red/brown
	4-16-15	1040	—	Not enough sample for readings				—	698	700	red/brown
	4-16-15	1300	—	Not enough sample for readings				—	718	720	red/brown
	~~4-16-15~~	~~[illegible]~~	—						~~735~~	~~740~~	
	4-17-15	0950	—	Not enough sample for readings				—	743	745	red/brown
	4-17-15	1205	—	not enough samples for readings				—	758	760	~~brown~~
ms/msD	4-20-15	1110	16.31	6.76	209	1.09	27.8	>1,100	778	780	gray brown
	4-21-15	1230	16.40	6.81	184	1.24	18.1	>1,100	823	825	red-gray

Section 4

VPB 141 Analytical Data Validation

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

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	SI1949	
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: 06/30/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI1949_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 26 to 27 March 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-GW-032615-58-60	Groundwater	8260C
VPB141-GW-032715-103-105	Groundwater	8260C
VPB141-TRIPBLANK-032715	Trip Blank	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* (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)/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 and/or matrix spike duplicate results
✓	Laboratory control sample /laboratory control sample duplicate 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

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 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. 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:

X = Times
LOQ = Limit of quantitation
U = Undetected
R = Rejected

Surrogate Spike Recoveries

Surrogates provide information needed to assess the accuracy of analyses. Known amounts of surrogate compounds, or compounds which are not likely to be found in the actual samples, 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
UJ = Undetected and estimated
R = Rejected

Surrogate recovery non-conformance is summarized in Attachment A in Table A-4.

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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. EPA and Department of Defense guidelines. 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	Dichlorodifluoromethane	WG160458-7	132.53	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	Chloromethane	WG160458-7	121.77	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	Bromomethane	WG160458-7	130.01	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	Carbon Disulfide	WG160458-7	544.89	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	Acetone	WG160458-7	173.34	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	2-Butanone	WG160458-7	134.65	80-120	All samples in SDG	All associated detects and non-detects qualified as estimated J and UJ.
8260C	Cyclohexane	WG160458-7	193.37	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.
8260C	Tetrachloroethene	WG160458-7	124.99	80-120	All samples in SDG	All associated detects and non-detects qualified as estimated J and UJ.
8260C	2-Hexanone	WG160458-7	130.94	80-120	All samples in SDG	All associated non-detects qualified as estimated UJ.

Notes:

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

Table A-2 Continuing Calibration Verification Non-Conformance					
Calibration ID	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG160655-4/C0241.D	Chloroethane	21.59	< 20	All samples in SDG	All associated non-detects qualified as estimated UJ.

Notes:

%D = Percent difference
SDG = Sample delivery group
UJ = Non-detect estimated value

Table A-3 Trip Blank Non-Conformance (Micrograms per liter)							
Blank ID	**Analyte**	**Blank Result**	**LOQ**	**Associated Sample**	**Sample Result**	**Sample Result LOQ**	**Qualifier**
VBP141-TRIPBLANK-032715	Acetone	5	5	VPB141-GW-032615-58-60	15	5	U
VBP141-TRIPBLANK-032715	Acetone	5	5	VPB141-GW-032715-103-105	4.4	5	U

Notes:

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 Surrogate Recovery Non-Conformance

Method	Analyte	%R	Limit	Associated Samples	Qualifier
8260C	1,2-Dichloroethane-d4	122	70-120	VPB141-GW-032715-103-105	Qualify trichloroethene and tetachloroethne estimated J.
8260C	Dibromofluoromethane	116	85-115	VPB141-GW-032715-103-105	Qualify trichloroethene and tetachloroethne estimated J.

Notes:

%R = Percent recovery
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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D

Final Results after Data Review

			Sample Delivery Group Lab ID Sample ID Sample Date Sample Type	SI1949 SI1949-1 VPB141-GW-032615-58-60 3/26/2015 Groundwater		
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	3.6	J	c
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	UJ	bt,c
8260C	BENZENE	71-43-2	UG_L	0.39	J	
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	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	TOLUENE	108-88-3	UG_L	0.86	J	
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	

			Sample Delivery Group	SI1949		
			Lab ID	SI1949-2		
			Sample ID	VPB141-GW-032715-103-105		
			Sample Date	3/27/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	0.79	J	s,c
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	0.54	J	s
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	

			Sample Delivery Group	SI1949		
			Lab ID	SI1949-3		
			Sample ID	VPB141-TRIP BLANK-032715		
			Sample Date	3/27/2015		
			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	UJ	c
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	5		
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	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
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 qualifiers (Refer to Attachment B)
RC = Reason codes (Refer to Attachment C)

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	SI2071	
Analyses/Method:	Volatile Organic Compounds by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 08/10/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2071_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 31 March to 2 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-TRIPBLANK-040215	Trip Blank	8260C
VPB141-GW-033115-148-150	Groundwater	8260C
VPB141-GW-D-033115	Field Duplicate	8260C
VPB141-GW-033115-198-200	Groundwater	8260C
VPB141-GW-040115-218-220	Groundwater	8260C
VPB141-GW-040115-238-240	Groundwater	8260C
VPB141-GW-040115-258-260	Groundwater	8260C
VPB141-GW-040215-278-280	Groundwater	8260C
VPB141-GW-040215-298-300	Groundwater	8260C
VPB141-GW-040215-318-320	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* (United States Environmental Protection Agency [U.S. EPA] 2006), *U.S. Environmental Protection Agency Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (U.S. EPA, June 2008), and Department of Defense Quality Systems Manual 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)/sample integrity
- ✓ Holding times and sample preservation
- ✓ Gas chromatography/Mass spectrometer performance checks
- ✗ Initial calibration verification (ICV)/continuing calibration verification (CCV)
- ✓ Laboratory blanks/trip blanks
- ✗ Surrogate spike recoveries
- ✗ Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- ✓ Laboratory control sample/laboratory control sample duplicate results
- ✗ Field duplicates
- ✓ Internal standards
- ✓ Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. Acceptable data parameters for which all criteria were met and no qualification was performed and non-conformance or other issues that were noted during validation, but did not result in qualification of data are not discussed further. The symbol (✗) 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 ICV standard percent recovery acceptance criteria were met
- The CCV method percent difference or percent drift and response factor acceptance criteria were met
- The retention time method acceptance criteria were met

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

ICV Recovery Non-conformance:

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

Notes:
J = Estimated
UJ = Undetected and estimated

CCV Linearity Non-conformance:

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

Notes:
J = Estimated
UJ = Undetected and estimated

ICV and CCV non-conformances are summarized in Attachment A in Tables A-1 and A-2.

Laboratory Blanks/Trip Blanks

A laboratory blank and 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. 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
R = Rejected

Surrogate Spike Recoveries

Surrogates provide information needed to assess the accuracy of analyses. Known amounts of surrogate compounds, or compounds which are not likely to be found in the actual samples, 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 > Upper Limit	J	No qualification
20%≤ %R < Lower Limit	J	UJ
%R < 20%	J	Rejected

Notes:

%R = Percent recovery
J = Estimated
UJ = Undetected and estimated

Surrogate recovery non-conformance is summarized in Attachment A in Table A-4.

Matrix Spike/Matrix Spike Duplicate Results

MS/MSDs are generated to provide information about the effect of each sample matrix on the sample preparation and the measurement methodology. MS/MSD percent recoveries (%Rs) assess the effect of the sample matrix on the accuracy of the analytical results and %Rs above the recovery control limits could indicate a potential high result bias while %Rs below the recovery QC limits could indicate a potential low result bias. The relative percent differences between the MS and MSD results are evaluated to assess sample precision. The MS/MSD %Rs and relative percent differences were reviewed for conformance with the QC acceptance criteria. Non-conformances are summarized in Attachment A in Table A-5. Data qualification to the analytes associated with the specific MS/MSD non-conformances were as follows:

MS/MSD Non-conformances Chart:

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

Notes:

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

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-6. 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 results	Not calculable (NC)	No qualification	No qualification
Sample and duplicate results ≥2x LOQ	>30 (aqueous) >50 (solids)	J	Not Applicable
If sample or duplicate result is >2x LOQ and the other is not detected	NC	J	UJ

Criteria	RPD	Action	
		Detected	Non-detected
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
UJ	=	Undetected and estimated

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 but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-target analytes was checked to confirm that the results and/or sample-specific limit of quantitation and limit of detections were adjusted accordingly by the laboratory.

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

ATTACHMENTS

Attachment A: Non-Conformance Summary Tables
Attachment B: Qualifier Codes and Explanations
Attachment C: Reason Codes and Explanations
Attachment D: Final Results after Data Review
Attachment E: Katahdin Analytical Services Data Reissue Letter

Attachment A

Non-Conformance Summary Tables

Table A-1 Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**Instrument ID**	**%RSD**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-D-033115	UJ
8260C	4-methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-D-033115	UJ
8260C	Dichlorodifluoromethane	PO918.D	176.71	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Chloromethane	PO918.D	122.19	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Vinyl chloride	PO918.D	123.96	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Bromomethane	PO918.D	126.59	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Chloroethane	PO918.D	128.16	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Trichlorofluoromethane	PO918.D	137.05	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ

8260C	Carbon disulfide	PO918.D	129.41	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	2-Butanone	PO918.D	123.11	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	VPB141-GW-040115-258-260 qualified J; remaining samples qualified UJ
8260C	Cyclohexane	PO918.D	124.03	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	4-methyl-2-pentanone	PO918.D	125.94	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	trans-1,3-dichloropropene	PO918.D	124.79	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	2-Hexanone	PO918.D	122.68	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	m+p-xylenes	PO918.D	122.79	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ

8260C	o-Xylenes	PO918.D	120.71	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	Isopropyl benzene	PO918.D	120.96	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	1,3-Dichchlorobenzene	PO918.D	121.22	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ
8260C	1,2-Dichchlorobenzene	PO918.D	120.53	80-120	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	UJ

Notes:

ICV ID = Initial calibration verification identification
%R = Percent recovery
UJ = Non-detected analyte in associated sample qualified estimated "UJ" due to potential bias
J = Detected analyte in associated sample qualified estimated "J" due to potential bias

Table A-2
Continuing Calibration Verification Non-Conformance

Method	Analyte	CCV ID	%D	Limit	Associated Samples	Qualifier
8260C	Acetone	P0954.D	-26.71881	20	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-TRIPBLANK-040215	VPB141-GW-033115-148-150: UJ VPB141-GW-033115-198-200: UJ VPB141-GW-040115-218-220: UJ VPB141-GW-040115-238-240: UJ VPB141-GW-040115-258-260: UJ VPB141-GW-040215-278-280: UJ VPB141-GW-040215-298-300: UJ VPB141-GW-040215-318-320: UJ VPB141-TRIPBLANK-040215: J

Notes:

CCV ID = Continuing calibration verification identification
%D = Percent difference
UJ = Non-detected analyte in associated sample qualified estimated "UJ" due to potential bias
J = Detected analyte qualified estimated "J" due to potential bias

Table A-3 Trip Blank Non-Conformance						
Method	**Analyte**	**Blank Result**	**QL**	**Unit**	**Associated Samples**	**Qualifier**
8260C	Acetone	3.8	5	µg/L	VPB141-GW-033115-148-150 VPB141-GW-033115-198-200 VPB141-GW-040115-218-220 VPB141-GW-040115-238-240 VPB141-GW-040115-258-260 VPB141-GW-040215-278-280 VPB141-GW-040215-298-300 VPB141-GW-040215-318-320 VPB141-GW-D-033115	VPB141-GW-033115-148-150 - U VPB141-GW-040115-218-220 - U VPB141-GW-040115-258-260 - U VPB141-GW-040215-278-280 - U

Notes:

QL = Quantitation limit
µg/L = Micrograms per liter
U = Analyte qualified as non-detect "U"

Table A-4 Surrogate Non-Conformance					
Method	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
8260C	Dichlorodifluoromethane	75.6	85-115	VPB141-GW-033115-148-150	Trichloroethene qualified J
8260C	Toluene-D8	74.0	85-120	VPB141-GW-033115-148-150	Trichloroethene qualified J
8260C	4-Bromofluorobenzene	70.0	75-120	VPB141-GW-033115-148-150	Trichloroethene qualified J
8260C	1,2-Dichloroethane-D4	123	70-120	VPB141-GW-040115-238-240	Trichloroethene qualified J
8260C	1,2-Dichloroethane-D4	123	70-120	VPB141-GW-040115-258-260	Trichloroethene qualified J 2-Butanone qualified J

Table A-5 Matrix Spike/Matrix Spike Duplicate Non-Conformance									
Spiked Sample	**Analyte**	**Sample Result (µg/L)**	**Spike Added**	**MS %R**	**MSD %R**	**%R Limits**	**RPD**	**RPD Limit**	**Qualifier**
VPB141-GW-033115-148-150	Trichloroethene	180	50	**0***	**0***	70-125	5	30	J

Notes:

µg/L = Micrograms per liter
MS = Matrix spike
MSD = Matrix spike duplicate
%R = Percent recovery
RPD = Relative percent difference
Bold* = Percent recovery less than lower control limit
J = Detected analyte qualified estimated "J" because %R is lower than 20% in associated sample

Table A-6 Field Duplicate Non-Conformance							
Sample	**Duplicate**	**Analyte**	**Sample Result**	**Duplicate Result**	**RPD**	**RPD Limit**	**Qualifiers**
VPB141-GW-033115-198-200	VPB141-GW-D-033115	Freon-113	0.5 U	6.2	170.1	30	J
VPB141-GW-033115-198-200	VPB141-GW-D-033115	TETRACHLOROETHENE	0.5 U	4.8	162.3	30	J
VPB141-GW-033115-198-200	VPB141-GW-D-033115	TRICHLOROETHENE	1.6	180	196.5	30	J

Notes:

RPD = Relative percent difference
J = Both samples qualified estimated "J"

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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate relative percent difference
h	Holding times
i	Internal standard areas
k	Estimated Maximum Possible Concentration
l	Laboratory control sample
lc	Labeled compound recovery
ld	Laboratory duplicate relative percent difference
lp	Laboratory control sample/laboratory control sample duplicate relative percent difference
m	Matrix spike recovery
mc	Method compliance non-conformance
md	Matrix spike/matrix spike duplicate relative percent difference
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r	Dual column relative percent difference
q	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	Interference check sample results (metals)

Attachment D

Final Results after Data Review

			Sample Delivery Group	SI2071		
			Lab ID	SI2071-1		
			Sample ID	VPB141-TRIP BLANK-040215		
			Sample Date	4/2/2015		
			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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	3.8	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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-2		
			Sample ID	VPB141-GW-033115-148-150		
			Sample Date	3/31/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	s
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	s
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	s
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	s
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	s
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	s
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	s
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	s
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	s
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	s,c
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	s
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	s
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	s
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	s,c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	s
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	s,c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	s,c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	s,c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,s,c
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	s
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	s
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	s
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	s,c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	s,c
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	s
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	s
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	s,c
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	s
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	s,c
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	s
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	s
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	s,c
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	s
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	s,c
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	s
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	s,c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	s,c
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	s
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	s
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	s
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	s
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	s,c
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	s
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	s
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	s
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	s
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	s,c
8260C	TRICHLOROETHENE	79-01-6	UG_L	1	J	s,m
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	s,c
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	s,c
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	s

			Sample Delivery Group Lab ID Sample ID Sample Date Sample Type	SI2071 SI2071-3RA VPB141-GW-D-033115 3/31/2015 Field Duplicate		
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	6.2	J	fd
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	0.85	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	1.1	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	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	0.46	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.1		
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	4.8	J	fd
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	180	J	fd
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	

			Sample Delivery Group	SI2071		
			Lab ID	SI2071-4		
			Sample ID	VPB141-GW-033115-198-200		
			Sample Date	3/31/2015		
			Sample Type	Groundwater		
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	UJ	fd
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	fd
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	1.6	J	fd
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-5		
			Sample ID	VPB141-GW-040115-218-220		
			Sample Date	4/1/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.89	J	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-6		
			Sample ID	VPB141-GW-040115-238-240		
			Sample Date	4/1/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	J	s
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-7		
			Sample ID	VPB141-GW-040115-258-260		
			Sample Date	4/1/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	1.5	J	s,c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	1.4	J	s
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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 Lab ID Sample ID Sample Date Sample Type	SI2071 SI2071-8 VPB141-GW-040215-278-280 4/2/2015 Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.42	J	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-9		
			Sample ID	VPB141-GW-040215-298-300		
			Sample Date	4/2/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.81	J	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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	SI2071		
			Lab ID	SI2071-10		
			Sample ID	VPB141-GW-040215-318-320		
			Sample Date	4/2/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	c
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	c
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	UJ	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	c
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	c
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	UJ	c
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	UJ	c
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	c
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	UJ	c
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	UJ	c
8260C	TRICHLOROETHENE	79-01-6	UG_L	4.1		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
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)

Attachment E

Katahdin Analytical Services Data Reissue Letter

Katahdin
ANALYTICAL SERVICES

Cert. No. E87604

July 21, 2015

Ms. Dana Miller
EnSafe
5724 Summer Trees Drive
Memphis, TN 38134

RE: Katahdin Lab Number: SI2071
Project ID: Navy Clean WE15-03-06 NWIRP Bethpage, NY
Project Manager: Mrs. Jennifer Obrin

Dear Ms. Miller:

Please find enclosed the following information:

- The reissued PDF and EDD for work order SI2071.

The report and EDD were reissued because upon client request the laboratory investigated the issue that some samples may have been mislabeled. Samples SI2071-2, 3, 4, and 7 were reanalyzed three months out of hold time to confirm the results. These samples were analyzed with a 48 verbal turnaround time request. Because of the rush request, the samples with QC issues were reanalyzed immediately after the initial analyses. Apparently, more than one vial was mislabeled in the instrument logbook. The verbal results for SI2071-2RA and 7RA were also reported for the final report. The initial analysis of sample SI2071-3 was reported for the verbal result and the reanalyzed sample SI2071-3RA was reported for the final report.

After reviewing the verbal results and final report results with the reanalyses, there are three incorrect results. The verbal results for SI2071-2RA, 3, and 7RA are incorrect. The vials of samples SI2071-2RA and 3 were switched. The reported result of SI2071-3RA is correct. The vial for SI2071-7RA was mislabeled.

A report is reissued for the correct results of samples SI2071-2 and 7. These two samples had surrogate deviations, which is why they were reanalyzed. Since the reported result for sample SI2071-3RA is correct, there is no reissue for this sample.

Because the incorrect results for SI2071-2RA were reported, the MS/MSD WG160961-9 and 10 results are incorrect. The MS/MSD is reissued.

To avoid this mistake from reoccurring, a meeting was held with analysts. If rush samples are reanalyzed, the analyst were reminded that the results need to be compared before they are reported. If there are discrepancies, the sample needs to be reanalyzed again before reporting.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

P.O. Box 540, Scarborough, ME 04070 • Tel: (207) 874-2400 • Fax: (207) 775-4029 • 600 Technology Way, Scarborough, ME 04074
www.katahdinlab.com

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES

Jennifer Clarin

Authorized Signature

07/21/2015

Date

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	SI2157	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C and Total Organic Carbon (TOC) by Standard Method 5310B	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 07/01/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2157_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 3 to 6 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-TRIPBLANK-040615	Trip Blank	8260C
VPB141-GW-040315-338-340	Groundwater	8260C
VPB141-GW-040315-363-365	Groundwater	8260C
VPB141-EB-040315	Equipment Blank	8260C,5310B
VPB141-GW-040615-378-380	Groundwater	8260C
VPB141-FB-040615	Field Blankr	8260C,5310B
VPB141-EB-040615	Equipment Blank	8260C
VPB141-GW-040615-398-400	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
✓	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;

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- the laboratory sample login 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.

Positive and non-detected results for sample VPB141-GW-040315-363-365 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

ICV non-conformances are summarized in Attachment A in Table 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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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	VPB141-GW-040315-363-365	1,1,1-TRICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,1,2,2-TETRACHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,1,2-TRICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,1-DICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,1-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,2,4-TRICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	1.5	UJ
8260C	VPB141-GW-040315-363-365	1,2-DIBROMOETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,2-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,2-DICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,2-DICHLOROETHENE, TOTAL	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	1,2-DICHLOROPROPANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,3-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	1,4-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	2-BUTANONE	UG_L	5	UJ
8260C	VPB141-GW-040315-363-365	2-HEXANONE	UG_L	5	UJ
8260C	VPB141-GW-040315-363-365	4-METHYL-2-PENTANONE	UG_L	5	UJ
8260C	VPB141-GW-040315-363-365	ACETONE	UG_L	18	J
8260C	VPB141-GW-040315-363-365	BENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	BROMODICHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	BROMOFORM	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	BROMOMETHANE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	CARBON DISULFIDE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CARBON TETRACHLORIDE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CHLOROETHANE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	CHLOROFORM	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CHLOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	CIS-1,2-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CIS-1,3-DICHLOROPROPENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	CYCLOHEXANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	DIBROMOCHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	DICHLORODIFLUOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	ETHYLBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	ISOPROPYLBENZENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	M- AND P-XYLENE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	METHYL ACETATE	UG_L	1.5	UJ
8260C	VPB141-GW-040315-363-365	METHYL CYCLOHEXANE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	METHYL TERT-BUTYL ETHER	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	METHYLENE CHLORIDE	UG_L	5	UJ
8260C	VPB141-GW-040315-363-365	O-XYLENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	STYRENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	TETRACHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	TOLUENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	TRANS-1,2-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-040315-363-365	TRANS-1,3-DICHLOROPROPENE	UG_L	1	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-040315-363-365	TRICHLOROETHENE	UG_L	0.72	J
8260C	VPB141-GW-040315-363-365	TRICHLOROFLUOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	VINYL CHLORIDE	UG_L	2	UJ
8260C	VPB141-GW-040315-363-365	XYLENES, TOTAL	UG_L	3	UJ

Notes:

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

Table (A-2) Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-EB-040615	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-FB-040615	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040315-338-340	J
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040315-363-365	J
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040615-378-380	J
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040615-398-400	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-TRIPBLANK-040615	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-EB-040615	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-FB-040615	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040315-338-340	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040315-363-365	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040615-378-380	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040615-398-400	UJ
8260C	2-Methyl-2-pentanone	C218A.D	121.87	80-120	VPB141-TRIPBLANK-040615	UJ

Notes:

ICV = Initial calibration verification
%R = Percent recovery
J = Estimated value
UJ = Non-detect 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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D
Final Results after Data Review

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-1		
			Sample ID	VPB141-TRIPBLANK-040615		
			Sample Date	4/6/2015		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA		
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	UJ	c
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	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	

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-2		
			Sample ID	VPB141-GW-040315-338-340		
			Sample Date	4/3/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA		
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	UJ	c
8260C	ACETONE	67-64-1	UG_L	4.2	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	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	0.48	J	
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	

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-3DL		
			Sample ID	VPB141-GW-040315-363-365		
			Sample Date	4/3/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA		
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	1	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	1	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	1	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	1.5	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	1	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	1	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	1	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	1	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	1	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	1	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	5	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	5	UJ	c,mc
8260C	ACETONE	67-64-1	UG_L	18	J	c,mc
8260C	BENZENE	71-43-2	UG_L	1	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	1	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	1	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	2	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	1	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	1	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	2	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	1	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	2	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	1	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	1	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	1	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	2	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	1	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	1	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	2	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	1.5	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	1	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	1	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	1	UJ	mc
8260C	STYRENE	100-42-5	UG_L	1	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	1	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	1	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	1	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.72	J	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	2	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	2	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	3	UJ	mc

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-5		
			Sample ID	VPB141-GW-040615-378-380		
			Sample Date	4/6/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA		
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	1.2		
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	0.29	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	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	4.3	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	0.5	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	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.29	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	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	1.9		
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	31		
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	

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-6		
			Sample ID	VPB141-FB-040615		
			Sample Date	4/6/2015		
			Sample Type	Field Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	0.24	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	UJ	c
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	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	

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-4 / SI2157-7		
			Sample ID	VPB141-EB-040615		
			Sample Date	4/6/2015		
			Sample Type	Equipment Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	0.5	U	
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	UJ	c
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	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	

			Sample Delivery Group	SI2157		
			Lab ID	SI2157-8		
			Sample ID	VPB141-GW-040615-398-400		
			Sample Date	4/6/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA		
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	2.4		
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	0.44	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	0.8	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	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
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	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.8	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	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	4.3		
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	87		
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:

NA = Not analyzed
MG_L = Milligrams per liter
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:	SI2242	
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: 07/08/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2242_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 7to 9 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-TRIPBLANK-040915	Trip Blank	8260C
VPB141-GW-040715-423-425	Groundwater	8260C
VPB141-GW-040715-438-440	Groundwater	8260C
VPB141-GW-040715-458-460	Groundwater	8260C
VPB141-GW-040815-498-500	Groundwater	8260C
VPB141-GW-040815-478-480	Groundwater	8260C
VPB141-GW-040915-523-525	Groundwater	8260C
VPB141-GW-040915-543-545	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
✓	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 login 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.

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

- VPB141-GW-040715-438-440 had all three vials decanted, compounded into one vial and analyzed. Sample VPB141-GW-040715-458-460 had one vial decanted, analyzed.

Positive and non-detected results for sample's VPB141-GW-040715-438-440 and VPB141-GW-040715-458-460 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. Trip blank and lab 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 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

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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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	VPB141-GW-040715-438-440	1,1,1-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,1,2,2-TETRACHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,1,2-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,1-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,1-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,2,4-TRICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	0.75	UJ
8260C	VPB141-GW-040715-438-440	1,2-DIBROMOETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,2-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,2-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	1,2-DICHLOROPROPANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,3-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	1,4-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	2-BUTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-438-440	2-HEXANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-438-440	4-METHYL-2-PENTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-438-440	ACETONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-438-440	BENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	BROMODICHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	BROMOFORM	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	BROMOMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	CHLOROFORM	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CHLOROMETHANE	UG_L	0.61	J
8260C	VPB141-GW-040715-438-440	CIS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CIS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	DIBROMOCHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	DICHLORODIFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	ETHYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	ISOPROPYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB141-GW-040715-438-440	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-438-440	O-XYLENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	STYRENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	TETRACHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	TOLUENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	TRANS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	TRANS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-040715-438-440	TRICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-438-440	TRICHLOROFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB141-GW-040715-438-440	XYLENES, TOTAL	UG_L	1.5	UJ
8260C	VPB141-GW-040715-458-460	1,1,1-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,1,2,2-TETRACHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,1,2-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,1-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,1-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,2,4-TRICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	0.75	UJ
8260C	VPB141-GW-040715-458-460	1,2-DIBROMOETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,2-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,2-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	1,2-DICHLOROPROPANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,3-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	1,4-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	2-BUTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-458-460	2-HEXANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-458-460	4-METHYL-2-PENTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-458-460	ACETONE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-458-460	BENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	BROMODICHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	BROMOFORM	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	BROMOMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	CARBON DISULFIDE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	CHLOROFORM	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	CIS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CIS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	DIBROMOCHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	DICHLORODIFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	ETHYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	ISOPROPYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB141-GW-040715-458-460	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB141-GW-040715-458-460	O-XYLENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	STYRENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	TETRACHLOROETHENE	UG_L	1.4	J
8260C	VPB141-GW-040715-458-460	TOLUENE	UG_L	0.5	UJ

Table (A-1) Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-040715-458-460	TRANS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	TRANS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ
8260C	VPB141-GW-040715-458-460	TRICHLOROETHENE	UG_L	7.5	J
8260C	VPB141-GW-040715-458-460	TRICHLOROFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB141-GW-040715-458-460	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 Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040715-423-425	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040715-438-440	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040715-458-460	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040815-478-480	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040815-498-500	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040915-523-525	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-040915-543-545	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-TRIP BLANK-040915	J
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040715-423-425	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040715-438-440	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040715-458-460	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040815-478-480	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040815-498-500	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040915-523-525	UJ
8260C	2-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-040915-543-545	UJ
8260C	2-Methyl-2-pentanone	C218A.D	121.87	80-120	VPB141-TRIP BLANK-040915	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**
C2274.D	Chloroethane	26.77365	20	VPB141-GW-040715-423-425 VPB141-GW-040815-478-480 VPB141-GW-040815-498-500 VPB141-GW-040915-523-525	All associated non-detects qualified as estimated UJ.

Notes:

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

Table (A-4) Laboratory Blank / Trip Blank Non-Conformance							
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**Sample Result LOQ**	**Qualifier**
WG161157-2	Carbon disulfide	0.33	1	VPB141-GW-040715-438-440	0.33	1	U
WG1611157-2	Carbon disulfide	0.33	1	VPB141-GW-040715-543-545	0.27	1	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-423-425	5.3	5	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-438-440	14	5	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-458-460	5.3	5	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-498-500	4.2	5	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-523-525	3.0	5	U
VBP141-TRIPBLANK-040915	Acetone	4.4	5	VPB141-GW-040715-543-545	4.7	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.

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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D

Final Results after Data Review

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-1		
			Sample ID	VPB141-TRIP BLANK-040915		
			Sample Date	4/9/2015		
			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	UJ	c
8260C	ACETONE	67-64-1	UG_L	4.4	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	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	

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-2RA		
			Sample ID	VPB141-GW-040715-423-425		
			Sample Date	4/7/2015		
			Sample Type	Groundwater		
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	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	UJ	c
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	0.69	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	16		
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	

			Sample Delivery Group Lab ID Sample ID Sample Date Sample Type	SI2242 SI2242-3 VPB141-GW-040715-438-440 4/7/2015 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	2.5	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	c,mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,c,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	bl,mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	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	CHLOROMETHANE	74-87-3	UG_L	0.61	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	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	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	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL 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	METHYLENE 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	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-4		
			Sample ID	VPB141-GW-040715-458-460		
			Sample Date	4/7/2015		
			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	2.5	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	c,mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	bt,c,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	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	CHLOROMETHANE	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	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	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	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL 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	METHYLENE 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	1.4	J	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	7.5	J	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-5RA		
			Sample ID	VPB141-GW-040815-498-500		
			Sample Date	4/8/2015		
			Sample Type	Groundwater		
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	0.26	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	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	0.97	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	UJ	c
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	0.26	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	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	0.43	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	3.4		
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	

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-6RA		
			Sample ID	VPB141-GW-040815-478-480		
			Sample Date	4/8/2015		
			Sample Type	Groundwater		
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	UJ	c
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	UJ	c
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	0.45	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	3.1		
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	

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-7RA		
			Sample ID	VPB141-GW-040915-523-525		
			Sample Date	4/9/2015		
			Sample Type	Groundwater		
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	2.4		
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	0.62	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	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	UJ	c
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	0.62	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	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	6.1		
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	36		
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	

			Sample Delivery Group	SI2242		
			Lab ID	SI2242-8		
			Sample ID	VPB141-GW-040915-543-545		
			Sample Date	4/9/2015		
			Sample Type	Groundwater		
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	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.36	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	2.4		
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	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	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	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	2.4		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	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	17		
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	170		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	0.32	J	
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 (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:	SI2314	
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: 06/18/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2314_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 and 13 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-GW-041015-578-580	Groundwater	8260C
VPB141-GW-041015-598-600	Groundwater	8260C
VPB141-GW-041315-618-620	Groundwater	8260C
VPB141-GW-041315-638-640	Groundwater	8260C
VPB141-GW-D-041015	Field Duplicate	8260C
VPB141-TRIPBLANK-041315	Trip Blank	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)/sample integrity
✓	Holding times and sample preservation
✓	GC/MS performance checks
✗	Initial calibration verification (ICV)/continuing calibration verification (CCV)
✗	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike and/or matrix spike duplicate 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 login 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.

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

- VPB141-GW-041015-598-600 and VPB141-GW-041315-638-640 had all three vials decanted, compounded into one vial for each sample and analyzed at a dilution of 1:40 and 1:20.

Positive and non-detected results for sample's VPB141-GW-041015-598-600 and VPB141-GW-041315-638-640 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 ICV standard percent recovery acceptance criteria were met;
- the CCV 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 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. Trip blank and lab 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 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 matrix spike/matrix

spike duplicates were not reported. In these instances, the laboratory determined precision between the duplicated values. Non-conformance is summarized in Attachment A in Table A-5. Data qualification to the analytes associated with the specific LCS/LCS duplicate was as follows:

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

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

Notes:

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

Qualifications Actions

The data 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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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	VPB141-GW-041015-598-600	1,1,1-TRICHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,1,2,2-TETRACHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,1,2-TRICHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,1-DICHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,1-DICHLOROETHENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,2,4-TRICHLOROBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	30	UJ
8260C	VPB141-GW-041015-598-600	1,2-DIBROMOETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,2-DICHLOROBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,2-DICHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,2-DICHLOROETHENE, TOTAL	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	1,2-DICHLOROPROPANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,3-DICHLOROBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	1,4-DICHLOROBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	2-BUTANONE	UG_L	100	UJ
8260C	VPB141-GW-041015-598-600	2-HEXANONE	UG_L	100	UJ
8260C	VPB141-GW-041015-598-600	4-METHYL-2-PENTANONE	UG_L	100	UJ
8260C	VPB141-GW-041015-598-600	ACETONE	UG_L	100	UJ
8260C	VPB141-GW-041015-598-600	BENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	BROMODICHLOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	BROMOFORM	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	BROMOMETHANE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	CARBON DISULFIDE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CARBON TETRACHLORIDE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CHLOROBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CHLOROETHANE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	CHLOROFORM	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CHLOROMETHANE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	CIS-1,2-DICHLOROETHENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CIS-1,3-DICHLOROPROPENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	CYCLOHEXANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	DIBROMOCHLOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	DICHLORODIFLUOROMETHANE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	ETHYLBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	ISOPROPYLBENZENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	M- AND P-XYLENE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	METHYL ACETATE	UG_L	30	UJ
8260C	VPB141-GW-041015-598-600	METHYL CYCLOHEXANE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	METHYL TERT-BUTYL ETHER	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	METHYLENE CHLORIDE	UG_L	100	UJ
8260C	VPB141-GW-041015-598-600	O-XYLENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	STYRENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	TETRACHLOROETHENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	TOLUENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	TRANS-1,2-DICHLOROETHENE	UG_L	20	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041015-598-600	TRANS-1,3-DICHLOROPROPENE	UG_L	20	UJ
8260C	VPB141-GW-041015-598-600	TRICHLOROETHENE	UG_L	32	J
8260C	VPB141-GW-041015-598-600	TRICHLOROFLUOROMETHANE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	VINYL CHLORIDE	UG_L	40	UJ
8260C	VPB141-GW-041015-598-600	XYLENES, TOTAL	UG_L	60	UJ
8260C	VPB141-GW-041315-638-640	1,1,1-TRICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,1,2,2-TETRACHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,1,2-TRICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,1-DICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,1-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,2,4-TRICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	15	UJ
8260C	VPB141-GW-041315-638-640	1,2-DIBROMOETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,2-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,2-DICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,2-DICHLOROETHENE, TOTAL	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	1,2-DICHLOROPROPANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,3-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	1,4-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	2-BUTANONE	UG_L	50	UJ
8260C	VPB141-GW-041315-638-640	2-HEXANONE	UG_L	50	UJ
8260C	VPB141-GW-041315-638-640	4-METHYL-2-PENTANONE	UG_L	50	UJ
8260C	VPB141-GW-041315-638-640	ACETONE	UG_L	50	UJ
8260C	VPB141-GW-041315-638-640	BENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	BROMODICHLOROMETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	BROMOFORM	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	BROMOMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	CARBON DISULFIDE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CARBON TETRACHLORIDE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	CHLOROFORM	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CHLOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	CIS-1,2-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CIS-1,3-DICHLOROPROPENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	CYCLOHEXANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	DIBROMOCHLOROMETHANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	DICHLORODIFLUOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	ETHYLBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	ISOPROPYLBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	M- AND P-XYLENE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	METHYL ACETATE	UG_L	15	UJ
8260C	VPB141-GW-041315-638-640	METHYL CYCLOHEXANE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	METHYL TERT-BUTYL ETHER	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	METHYLENE CHLORIDE	UG_L	50	UJ
8260C	VPB141-GW-041315-638-640	O-XYLENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	STYRENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	TETRACHLOROETHENE	UG_L	10	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041315-638-640	TOLUENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	TRANS-1,2-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	TRANS-1,3-DICHLOROPROPENE	UG_L	10	UJ
8260C	VPB141-GW-041315-638-640	TRICHLOROETHENE	UG_L	18	J
8260C	VPB141-GW-041315-638-640	TRICHLOROFLUOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	VINYL CHLORIDE	UG_L	20	UJ
8260C	VPB141-GW-041315-638-640	XYLENES, TOTAL	UG_L	30	UJ

Table A-2 Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-041015-578-580	J
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-041015-598-600	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-041315-618-620	J
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-041315-638-640	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-GW-D-041015	UJ
8260C	Acetone	C2182A.D	129.17	80-120	VPB141-TRIPBLANK-041315	J
8260C	4-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-041015-578-580	UJ
8260C	4-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-041015-598-600	UJ
8260C	4-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-041315-618-620	UJ
8260C	4-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-041315-638-640	UJ
8260C	4-Methyl-2-pentanone	C2182A.D	121.87	80-120	VPB141-GW-D-041015	UJ
8260C	4-Methyl-2-pentanone	C218A.D	121.87	80-120	VPB141-TRIPBLANK-041315	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**
C2298.D	Bromomethane	-46.96515	20	VPB141-TRIPBLANK-041315 VPB141-GW-041015-578-580 VPB141-GW-041015-598-600 VPB141-GW-041315-618-620 VPB141-GW-D-041015 VPB141-GW-041315-638-640	All associated non-detects qualified as estimated UJ and all associated detects were qualified estimated J.

Notes:

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

Table A-4 Laboratory Blank / Trip Blank Non-Conformance							
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**LOQ**	**Qualifier**
VPB141-TRIPBLANK-041315	Acetone	6.5	5.0	VPB141-GW-041015-578-580	4.4 J	5.0	U
VPB141-TRIPBLANK-041315	Bromomethane	0.94	2.0	VPB141-GW-041015-578-580	0.54 J	2.0	U
VPB141-TRIPBLANK-041315	Carbon Disulfide	0.29	1.0	VPB141-GW-041015-578-580	0.26 J	1.0	U
VPB141-TRIPBLANK-041315	Carbon Disulfide	0.29	1.0	VPB141-GW-041015-598-600	10 J	40	U
VPB141-TRIPBLANK-041315	Carbon Disulfide	0.29	1.0	VPB141-GW-041315-618-620	0.45 J	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-5 Laboratory Control Sample Non-Conformance						
LCS	**Batch**	**Analyte**	**%R**	**Limits**	**Associated Sample**	**Qualifier**
WG161248-1	WG161248	Dichlorodifluoromethane	29.6	30-155	All samples in sample delivery group	Detected analytes qualify J and non-detects qualify UJ

Notes:

LCS = Laboratory control sample
%R = Percent recovery
UJ = Non-detected analyte in associated sample qualified estimated "UJ" because %R is lower than lower control limit.
J = Detected analyte in associated sample qualified estimated "J" because %R is lower than lower control limit.

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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D
Final Results after Data Review

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-1		
			Sample ID	VPB141-TRIPBLANK-041315		
			Sample Date	4/10/2015		
			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	UJ	c
8260C	ACETONE	67-64-1	UG_L	6.5	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	0.94	J	c
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.29	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	UJ	l
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	

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-2		
			Sample ID	VPB141-GW-041015-578-580		
			Sample Date	4/10/2015		
			Sample Type	Groundwater		
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	0.36	J	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.54	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	5.5		
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	UJ	c
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c,bt
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,bt
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	bt
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	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	5.5		
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	0.31	J	l
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	24		
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	280		
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	

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-3DL		
			Sample ID	VPB141-GW-041015-598-600		
			Sample Date	4/10/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	20	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	20	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	20	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	20	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	20	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	20	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	20	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	30	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	20	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	20	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	20	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	40	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	20	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	20	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	20	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	100	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	100	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	100	UJ	c,mc
8260C	ACETONE	67-64-1	UG_L	100	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	20	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	20	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	20	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	40	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	20	UJ	mc,bt
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	20	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	20	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	40	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	20	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	40	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	20	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	20	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	20	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	20	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	40	UJ	mc,l
8260C	ETHYLBENZENE	100-41-4	UG_L	20	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	20	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	40	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	30	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	20	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	20	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	100	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	20	UJ	mc
8260C	STYRENE	100-42-5	UG_L	20	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	20	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	20	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	20	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	20	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	32	J	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	40	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	40	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	60	UJ	mc

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-4		
			Sample ID	VPB141-GW-041315-618-620		
			Sample Date	4/13/2015		
			Sample Type	Groundwater		
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	7.7		
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	1.7	J	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	C
8260C	ACETONE	67-64-1	UG_L	47	J	c
8260C	BENZENE	71-43-2	UG_L	0.32	J	
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	0.5	UJ	bt
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	UJ	l
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	3.5		
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	1.7		
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	

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-5		
			Sample ID	VPB141-GW-D-041015		
			Sample Date	4/10/2015		
			Sample Type	Field Duplicate		
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	17		
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	0.42	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	4.7		
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	UJ	c
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	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	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	0.45	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	4.7		
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	0.26	J	l
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	23		
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	260		
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	

			Sample Delivery Group	SI2314		
			Lab ID	SI2314-6DL		
			Sample ID	VPB141-GW-041315-638-640		
			Sample Date	4/13/2015		
			Sample Type	Groundwater		
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	c,mc
8260C	ACETONE	67-64-1	UG_L	50	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	10	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	10	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	10	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	20	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	10	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	10	UJ	mc
8260C	CHLOROBENZENE	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	CHLOROMETHANE	74-87-3	UG_L	20	UJ	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	DIBROMOCHLOROMETHANE	124-48-1	UG_L	10	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	20	UJ	mc,l
8260C	ETHYLBENZENE	100-41-4	UG_L	10	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	10	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	20	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	15	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	10	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	10	UJ	mc
8260C	METHYLENE 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	18	J	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	20	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	20	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	30	UJ	mc

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:	SI2412	
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: 06/21/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2412_8260C_9060A

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage Site on 14 and 16 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-EB-041615	Equipment Blank	8260C
VPB141-GW-041415-658-660	Groundwater	8260C
VPB141-GW-041415-678-680	Groundwater	8260C
VPB141-GW-041615-698-700	Groundwater	8260C
VPB141-GW-041615-718-720	Groundwater	8260C
VPB141-TRIP BLANK-041615	Groundwater	8260C
VPB141-SOIL-041615-723-725	Soil	9060A
VPB141-SOIL-D-041615-723-725	Soil	9060A

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), *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
✓	Gas chromatography/mass spectrometer performance checks
✗	Initial calibration verification/continuing calibration verification
✗	Laboratory blanks/trip blanks
✗	Surrogate spike recoveries
NA	Matrix spike and/or matrix spike duplicate results
✓	Laboratory control sample/laboratory control sample duplicate 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 login 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.

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

- VPB141-GW-041415-678-680, VPB141-GW-0416-698-700 and VPB141-GW -041615-718-720 had all three vials decanted, compounded into one vial for each sample and analyzed at a dilution of 1:200, 1:20 and 1:2. Sample VPB141-GW-041415-658-660 had all three vials decanted, compounded into one vial analyzed.

Positive and non-detected results for samples VPB141-GW-041415-678-680 , VPB141-GW-0416-698-700, VPB141-GW -041615-718-720 and VPB141-GW-041415-658-660 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 (ICV) 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:

ICAL Linearity Non-conformance:

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

Notes:

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

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. Trip blank and lab 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

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Trip, Field, or Equipment	Detects	Not detected	No qualification
		≥ 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

Surrogate Spike Recoveries

Surrogates provide information needed to assess the accuracy of analyses. Known amounts of surrogate compounds, or compounds which are not likely to be found in the actual samples, 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	Rejected

Notes:

%R	=	Percent recovery
UL	=	Upper limit
LL	=	Lower limit
J	=	Estimated
UJ	=	Undetected and estimated

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

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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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	VPB141-GW-041415-658-660	1,1,1-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,1,2,2-TETRACHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,1,2-TRICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,1-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,1-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,2,4-TRICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	0.75	UJ
8260C	VPB141-GW-041415-658-660	1,2-DIBROMOETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,2-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,2-DICHLOROETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,2-DICHLOROETHENE, TOTAL	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	1,2-DICHLOROPROPANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,3-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	1,4-DICHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	2-BUTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-041415-658-660	2-HEXANONE	UG_L	2.5	UJ
8260C	VPB141-GW-041415-658-660	4-METHYL-2-PENTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-041415-658-660	ACETONE	UG_L	2.5	UJ
8260C	VPB141-GW-041415-658-660	BENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	BROMODICHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	BROMOFORM	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	BROMOMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	CARBON DISULFIDE	UG_L	0.78	J
8260C	VPB141-GW-041415-658-660	CARBON TETRACHLORIDE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	CHLOROBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	CHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	CHLOROFORM	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	CHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	CIS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	CIS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	DIBROMOCHLOROMETHANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	DICHLORODIFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	ETHYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	ISOPROPYLBENZENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	M- AND P-XYLENE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB141-GW-041415-658-660	METHYL CYCLOHEXANE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	METHYL TERT-BUTYL ETHER	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB141-GW-041415-658-660	O-XYLENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	STYRENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	TETRACHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	TOLUENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	TRANS-1,2-DICHLOROETHENE	UG_L	0.5	UJ
8260C	VPB141-GW-041415-658-660	TRANS-1,3-DICHLOROPROPENE	UG_L	0.5	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041415-658-660	TRICHLOROETHENE	UG_L	0.33	J
8260C	VPB141-GW-041415-658-660	TRICHLOROFLUOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	VINYL CHLORIDE	UG_L	1	UJ
8260C	VPB141-GW-041415-658-660	XYLENES, TOTAL	UG_L	1.5	UJ
8260C	VPB141-GW-041415-678-680	1,1,1-TRICHLOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,1,2,2-TETRACHLOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,1,2-TRICHLOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,1-DICHLOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,1-DICHLOROETHENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,2,4-TRICHLOROBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	150	UJ
8260C	VPB141-GW-041415-678-680	1,2-DIBROMOETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,2-DICHLOROBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,2-DICHLOROETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,2-DICHLOROETHENE, TOTAL	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	1,2-DICHLOROPROPANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,3-DICHLOROBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	1,4-DICHLOROBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	2-BUTANONE	UG_L	500	UJ
8260C	VPB141-GW-041415-678-680	2-HEXANONE	UG_L	500	UJ
8260C	VPB141-GW-041415-678-680	4-METHYL-2-PENTANONE	UG_L	500	UJ
8260C	VPB141-GW-041415-678-680	ACETONE	UG_L	500	UJ
8260C	VPB141-GW-041415-678-680	BENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	BROMODICHLOROMETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	BROMOFORM	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	BROMOMETHANE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	CARBON DISULFIDE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CARBON TETRACHLORIDE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CHLOROBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CHLOROETHANE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	CHLOROFORM	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CHLOROMETHANE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	CIS-1,2-DICHLOROETHENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CIS-1,3-DICHLOROPROPENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	CYCLOHEXANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	DIBROMOCHLOROMETHANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	DICHLORODIFLUOROMETHANE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	ETHYLBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	ISOPROPYLBENZENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	M- AND P-XYLENE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	METHYL ACETATE	UG_L	150	UJ
8260C	VPB141-GW-041415-678-680	METHYL CYCLOHEXANE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	METHYL TERT-BUTYL ETHER	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	METHYLENE CHLORIDE	UG_L	500	UJ
8260C	VPB141-GW-041415-678-680	O-XYLENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	STYRENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	TETRACHLOROETHENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	TOLUENE	UG_L	100	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041415-678-680	TRANS-1,2-DICHLOROETHENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	TRANS-1,3-DICHLOROPROPENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	TRICHLOROETHENE	UG_L	100	UJ
8260C	VPB141-GW-041415-678-680	TRICHLOROFLUOROMETHANE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	VINYL CHLORIDE	UG_L	200	UJ
8260C	VPB141-GW-041415-678-680	XYLENES, TOTAL	UG_L	300	UJ
8260C	VPB141-GW-041615-698-700	1,1,1-TRICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,1,2,2-TETRACHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,1,2-TRICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,1-DICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,1-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,2,4-TRICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	15	UJ
8260C	VPB141-GW-041615-698-700	1,2-DIBROMOETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,2-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,2-DICHLOROETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,2-DICHLOROETHENE, TOTAL	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	1,2-DICHLOROPROPANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,3-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	1,4-DICHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	2-BUTANONE	UG_L	50	UJ
8260C	VPB141-GW-041615-698-700	2-HEXANONE	UG_L	50	UJ
8260C	VPB141-GW-041615-698-700	4-METHYL-2-PENTANONE	UG_L	50	UJ
8260C	VPB141-GW-041615-698-700	ACETONE	UG_L	50	UJ
8260C	VPB141-GW-041615-698-700	BENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	BROMODICHLOROMETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	BROMOFORM	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	BROMOMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	CARBON DISULFIDE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CARBON TETRACHLORIDE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CHLOROBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CHLOROETHANE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	CHLOROFORM	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CHLOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	CIS-1,2-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CIS-1,3-DICHLOROPROPENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	CYCLOHEXANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	DIBROMOCHLOROMETHANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	DICHLORODIFLUOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	ETHYLBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	ISOPROPYLBENZENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	M- AND P-XYLENE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	METHYL ACETATE	UG_L	15	UJ
8260C	VPB141-GW-041615-698-700	METHYL CYCLOHEXANE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	METHYL TERT-BUTYL ETHER	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	METHYLENE CHLORIDE	UG_L	50	UJ
8260C	VPB141-GW-041615-698-700	O-XYLENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	STYRENE	UG_L	10	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041615-698-700	TETRACHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	TOLUENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	TRANS-1,2-DICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	TRANS-1,3-DICHLOROPROPENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	TRICHLOROETHENE	UG_L	10	UJ
8260C	VPB141-GW-041615-698-700	TRICHLOROFLUOROMETHANE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	VINYL CHLORIDE	UG_L	20	UJ
8260C	VPB141-GW-041615-698-700	XYLENES, TOTAL	UG_L	30	UJ
8260C	VPB141-GW-041615-718-720	1,1,1-TRICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,1,2,2-TETRACHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,1,2-TRICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,1-DICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,1-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,2,4-TRICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	1.5	UJ
8260C	VPB141-GW-041615-718-720	1,2-DIBROMOETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,2-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,2-DICHLOROETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,2-DICHLOROETHENE, TOTAL	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	1,2-DICHLOROPROPANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,3-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	1,4-DICHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	2-BUTANONE	UG_L	5	UJ
8260C	VPB141-GW-041615-718-720	2-HEXANONE	UG_L	5	UJ
8260C	VPB141-GW-041615-718-720	4-METHYL-2-PENTANONE	UG_L	5	UJ
8260C	VPB141-GW-041615-718-720	ACETONE	UG_L	5	UJ
8260C	VPB141-GW-041615-718-720	BENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	BROMODICHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	BROMOFORM	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	BROMOMETHANE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	CARBON DISULFIDE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CARBON TETRACHLORIDE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CHLOROBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CHLOROETHANE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	CHLOROFORM	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CHLOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	CIS-1,2-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CIS-1,3-DICHLOROPROPENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	CYCLOHEXANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	DIBROMOCHLOROMETHANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	DICHLORODIFLUOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	ETHYLBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	ISOPROPYLBENZENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	M- AND P-XYLENE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	METHYL ACETATE	UG_L	1.5	UJ
8260C	VPB141-GW-041615-718-720	METHYL CYCLOHEXANE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	METHYL TERT-BUTYL ETHER	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	METHYLENE CHLORIDE	UG_L	5	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041615-718-720	O-XYLENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	STYRENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TETRACHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TOLUENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TRANS-1,2-DICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TRANS-1,3-DICHLOROPROPENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TRICHLOROETHENE	UG_L	1	UJ
8260C	VPB141-GW-041615-718-720	TRICHLOROFLUOROMETHANE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	VINYL CHLORIDE	UG_L	2	UJ
8260C	VPB141-GW-041615-718-720	XYLENES, TOTAL	UG_L	3	UJ

Notes:

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

Table A-2 Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Acetone	WG161547-7	129.17	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
8260C	4-Methyl-2-pentanone	WG161547-7	121.87	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ).

Notes:

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

Table A-3 Continuing Calibration Verification Non-Conformance					
Lab ID / Calibration ID	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG161476-4/C2387.D	Bromomethane	-28.98328	20	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).

Notes:

%D = Percent difference
SDG = Sample delivery group
UJ = Non-detect estimated value
J = Estimated value

Table A-4 Laboratory Blank / Trip Blank Non-Conformance							
Blank ID	**Analyte**	**Blank Result (UG_L)**	**LOQ**	**Associated Sample**	**Sample Result (UG_L)**	**LOQ**	**Qualifier**
WG160961-2	Carbon Disulfide	0.27	1	VPB141-GW-041415-658-660	0.78	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-5 Surrogate Non-Conformance					
Method	**Sample**	**Analyte**	**%R**	**Limits**	**Qualifiers**
8206C	VPB141-GW-041415-658-660	1,2-Dichloroethane-D4	129	70-120	J -TCE and carbon disulfide. Acetone was qualified as U due to lab blank detect, therefore will not qualify for surrogate.
8260C	VPB141-GW-041415-658-660	Dibromofluoromethane	117	85-115	J -TCE and carbon disulfide. Acetone was qualified as U due to lab blank detect, therefore will not qualify for surrogate.

Notes:

%R = Percent recovery

J = Analytes in sample qualified estimated "J" because %R is higher than limits.

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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D

Final Results after Data Review

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-1		
			Sample ID	VPB141-TRIP BLANK-041615		
			Sample Date	4/14/2015		
			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	UJ	c
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	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	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	

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-2		
			Sample ID	VPB141-GW-041415-658-660		
			Sample Date	4/14/2015		
			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	2.5	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	c,mc
8260C	ACETONE	67-64-1	UG_L	2.5	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.78	UJ	bl,mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	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	CHLOROMETHANE	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	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	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	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL 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	METHYLENE 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	0.33	J	s,mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-3DL		
			Sample ID	VPB141-GW-041415-678-680		
			Sample Date	4/14/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	100	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	100	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	100	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	100	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	100	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	100	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	100	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	150	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	100	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	100	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	100	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	200	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	100	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	100	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	100	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	500	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	500	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	500	UJ	c,mc
8260C	ACETONE	67-64-1	UG_L	500	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	100	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	100	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	100	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	200	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	100	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	100	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	100	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	200	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	100	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	200	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	100	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	100	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	100	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	100	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	200	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	100	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	100	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	200	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	150	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	100	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	100	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	500	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	100	UJ	mc
8260C	STYRENE	100-42-5	UG_L	100	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	100	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	100	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	100	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	100	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	100	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	200	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	200	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	300	UJ	mc

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-4DL		
			Sample ID	VPB141-GW-041615-698-700		
			Sample Date	4/16/2015		
			Sample Type	Groundwater		
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	c,mc
8260C	ACETONE	67-64-1	UG_L	50	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	10	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	10	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	10	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	20	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	10	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	10	UJ	mc
8260C	CHLOROBENZENE	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	CHLOROMETHANE	74-87-3	UG_L	20	UJ	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	DIBROMOCHLOROMETHANE	124-48-1	UG_L	10	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	20	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	10	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	10	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	20	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	15	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	10	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	10	UJ	mc
8260C	METHYLENE 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	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	20	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	20	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	30	UJ	mc

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-5DL		
			Sample ID	VPB141-GW-041615-718-720		
			Sample Date	4/16/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	1	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	1	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	1	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	1.5	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	1	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	1	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	1	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	1	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	1	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	1	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	5	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	5	UJ	c,mc
8260C	ACETONE	67-64-1	UG_L	5	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	1	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	1	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	1	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	2	UJ	c,mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	1	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	1	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	2	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	1	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	2	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	1	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	1	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	1	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	2	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	1	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	1	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	2	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	1.5	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	1	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	1	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	1	UJ	mc
8260C	STYRENE	100-42-5	UG_L	1	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	1	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	1	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	1	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	1	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	2	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	2	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	3	UJ	mc

			Sample Delivery Group	SI2412		
			Lab ID	SI2412-6		
			Sample ID	VPB141-EB-041615		
			Sample Date	4/16/2015		
			Sample Type	Equipment 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	UJ	c
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	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	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 (Refer to Attachment B)
RC = Reason code (Refer to Attachment C)

			Sample Delivery Group	SI2412	
			Lab ID	SI2412-7	
			Sample ID	VPB141-SOIL-041615-723-725	
			Sample Date	4/16/2015	
			Sample Type	Soil	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
2540G	TOTAL SOLIDS	-29	PCT	84	
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA	
9060	TOTAL ORGANIC CARBON	-28	UG_G	350	J

			Sample Delivery Group	SI2412	
			Lab ID	SI2412-8	
			Sample ID	VPB141-SOIL-D-041615-723-725	
			Sample Date	4/16/2015	
			Sample Type	Field Duplicate (Soil)	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
2540G	TOTAL SOLIDS	-29	PCT	83	
5310B	TOTAL ORGANIC CARBON	-28	MG_L	NA	
9060	TOTAL ORGANIC CARBON	-28	UG_G	240	J

Notes:

PCT = Percent
MG_L = Milligrams per liter
UG_G= Micrograms per gram
NA = Not analyzed
Qual = Final qualifier (Refer to Attachment B)

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	SI2495	
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: 06/21/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2495_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 17 and 20 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-GW-041715-743-745	Groundwater	8260C
VPB141-GW-041715-758-760	Groundwater	8260C
VPB141-GW-042015-778-780	Groundwater	8260C
VPB141-TRIPBLANK-042015	Trip Blank	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
✓	Gas chromatography/Mass spectrometer performance checks
✗	Initial calibration verification/continuing calibration verification
✓	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
✗	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample/laboratory control sample duplicate 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 login 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.

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

- VPB141-GW-041715-743-745 and VPB141-GW-041715-758-760 had all three vials decanted, compounded into one vial for each sample and analyzed at a dilution of 1:2 and 1:8. Sample VPB141-GW-042015-778-780 had one vial decanted, analyzed.

Positive and non-detected results for sample's 041715-743-745, VPB141-GW-041715-758-760 and VPB141-GW-042015-778-780 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 (ICV) 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:

ICAL Linearity Non-conformance:

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

Notes:

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

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

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

Matrix Spike/Matrix Spike Duplicate Results

MS/MSDs are generated to provide information about the effect of each sample matrix on the sample preparation and the measurement methodology. MS/MSD percent recoveries (%Rs) assess the effect of the sample matrix on the accuracy of the analytical results and %Rs above the recovery control limits could indicate a potential high result bias while %Rs below the recovery QC limits could indicate a potential low result bias. The relative percent differences between the MS and MSD results are evaluated to assess sample precision. The MS/MSD %Rs and relative percent differences were reviewed for conformance with the QC acceptance criteria. Non-conformances are summarized in Attachment A in Table A-5. Data qualification to the analytes associated with the specific MS/MSD non-conformances were as follows:

MS/MSD Non-conformances Chart:

Criteria	Action	
	Detected Compounds	Non-detected Compounds
%R>Upper Limit	J	No qualification
20% ≤ %R < Lower Limit	J	UJ
%R <20%	J	Rejected
The MS/MSD recovery control limits do not apply for the MS/MSD performed on sample locations where the analyte concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.		

Notes:

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

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 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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	VPB141-GW-041715-743-745	1,1,1-TRICHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,1,2,2-TETRACHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,1,2-TRICHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,1-DICHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,1-DICHLOROETHENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,2,4-TRICHLOROBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	1.5	UJ
8260C	VPB141-GW-041715-743-745	1,2-DIBROMOETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,2-DICHLOROBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,2-DICHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,2-DICHLOROETHENE, TOTAL	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	1,2-DICHLOROPROPANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,3-DICHLOROBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	1,4-DICHLOROBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	2-BUTANONE	UG_L	6.9	J
8260C	VPB141-GW-041715-743-745	2-HEXANONE	UG_L	5.0	UJ
8260C	VPB141-GW-041715-743-745	4-METHYL-2-PENTANONE	UG_L	5.0	UJ
8260C	VPB141-GW-041715-743-745	ACETONE	UG_L	28	J
8260C	VPB141-GW-041715-743-745	BENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	BROMODICHLOROMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	BROMOFORM	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	BROMOMETHANE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	CARBON DISULFIDE	UG_L	1.1	J
8260C	VPB141-GW-041715-743-745	CARBON TETRACHLORIDE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	CHLOROBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	CHLOROETHANE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	CHLOROFORM	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	CHLOROMETHANE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	CIS-1,2-DICHLOROETHENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	CIS-1,3-DICHLOROPROPENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	CYCLOHEXANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	DIBROMOCHLOROMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	DICHLORODIFLUOROMETHANE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	ETHYLBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	ISOPROPYLBENZENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	M- AND P-XYLENE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	METHYL ACETATE	UG_L	1.5	UJ
8260C	VPB141-GW-041715-743-745	METHYL CYCLOHEXANE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	METHYL TERT-BUTYL ETHER	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	METHYLENE CHLORIDE	UG_L	5.0	UJ
8260C	VPB141-GW-041715-743-745	O-XYLENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	STYRENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	TETRACHLOROETHENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	TOLUENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	TRANS-1,2-DICHLOROETHENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	TRANS-1,3-DICHLOROPROPENE	UG_L	1.0	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041715-743-745	TRICHLOROETHENE	UG_L	1.0	UJ
8260C	VPB141-GW-041715-743-745	TRICHLOROFLUOROMETHANE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	VINYL CHLORIDE	UG_L	2.0	UJ
8260C	VPB141-GW-041715-743-745	XYLENES, TOTAL	UG_L	3.0	UJ
8260C	VPB141-GW-041715-758-760	1,1,1-TRICHLOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,1,2,2-TETRACHLOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,1,2-TRICHLOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,1-DICHLOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,1-DICHLOROETHENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,2,4-TRICHLOROBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	6.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DIBROMOETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DICHLOROBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DICHLOROETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DICHLOROETHENE, TOTAL	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	1,2-DICHLOROPROPANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,3-DICHLOROBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	1,4-DICHLOROBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	2-BUTANONE	UG_L	20	UJ
8260C	VPB141-GW-041715-758-760	2-HEXANONE	UG_L	20	UJ
8260C	VPB141-GW-041715-758-760	4-METHYL-2-PENTANONE	UG_L	20	UJ
8260C	VPB141-GW-041715-758-760	ACETONE	UG_L	20	UJ
8260C	VPB141-GW-041715-758-760	BENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	BROMODICHLOROMETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	BROMOFORM	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	BROMOMETHANE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	CARBON DISULFIDE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CARBON TETRACHLORIDE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CHLOROBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CHLOROETHANE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	CHLOROFORM	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CHLOROMETHANE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	CIS-1,2-DICHLOROETHENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CIS-1,3-DICHLOROPROPENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	CYCLOHEXANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	DIBROMOCHLOROMETHANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	DICHLORODIFLUOROMETHANE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	ETHYLBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	ISOPROPYLBENZENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	M- AND P-XYLENE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	METHYL ACETATE	UG_L	6.0	UJ
8260C	VPB141-GW-041715-758-760	METHYL CYCLOHEXANE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	METHYL TERT-BUTYL ETHER	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	METHYLENE CHLORIDE	UG_L	20	UJ
8260C	VPB141-GW-041715-758-760	O-XYLENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	STYRENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	TETRACHLOROETHENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	TOLUENE	UG_L	4.0	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-041715-758-760	TRANS-1,2-DICHLOROETHENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	TRANS-1,3-DICHLOROPROPENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	TRICHLOROETHENE	UG_L	4.0	UJ
8260C	VPB141-GW-041715-758-760	TRICHLOROFLUOROMETHANE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	VINYL CHLORIDE	UG_L	8.0	UJ
8260C	VPB141-GW-041715-758-760	XYLENES, TOTAL	UG_L	12	UJ
8260C	VPB141-GW-042015-778-780	1,1,1-TRICHLOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,1,2,2-TETRACHLOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,1,2-TRICHLOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,1-DICHLOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,1-DICHLOROETHENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,2,4-TRICHLOROBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,2-DIBROMO-3-CHLOROPROPANE	UG_L	0.75	UJ
8260C	VPB141-GW-042015-778-780	1,2-DIBROMOETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,2-DICHLOROBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,2-DICHLOROETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,2-DICHLOROETHENE, TOTAL	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	1,2-DICHLOROPROPANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,3-DICHLOROBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	1,4-DICHLOROBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	2-BUTANONE	UG_L	2.8 J	J
8260C	VPB141-GW-042015-778-780	2-HEXANONE	UG_L	2.5	UJ
8260C	VPB141-GW-042015-778-780	4-METHYL-2-PENTANONE	UG_L	2.5	UJ
8260C	VPB141-GW-042015-778-780	ACETONE	UG_L	12 J	J
8260C	VPB141-GW-042015-778-780	BENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	BROMODICHLOROMETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	BROMOFORM	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	BROMOMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	CARBON DISULFIDE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CARBON TETRACHLORIDE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CHLOROBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CHLOROETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	CHLOROFORM	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CHLOROMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	CIS-1,2-DICHLOROETHENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CIS-1,3-DICHLOROPROPENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	CYCLOHEXANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	DIBROMOCHLOROMETHANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	DICHLORODIFLUOROMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	ETHYLBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	ISOPROPYLBENZENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	M- AND P-XYLENE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	METHYL ACETATE	UG_L	0.75	UJ
8260C	VPB141-GW-042015-778-780	METHYL CYCLOHEXANE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	METHYL TERT-BUTYL ETHER	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	METHYLENE CHLORIDE	UG_L	2.5	UJ
8260C	VPB141-GW-042015-778-780	O-XYLENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	STYRENE	UG_L	0.50	UJ

Table A-1 Sample Integrity Non-Conformance					
Method	**Sample ID**	**Analyte**	**Units**	**Result**	**Qualifier**
8260C	VPB141-GW-042015-778-780	TETRACHLOROETHENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	TOLUENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	TRANS-1,2-DICHLOROETHENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	TRANS-1,3-DICHLOROPROPENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	TRICHLOROETHENE	UG_L	0.50	UJ
8260C	VPB141-GW-042015-778-780	TRICHLOROFLUOROMETHANE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	VINYL CHLORIDE	UG_L	1.0	UJ
8260C	VPB141-GW-042015-778-780	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**	**Instrument ID / Date**	**%RSD**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Chloroethane	GCMS-D / 04/21/2015	18.10453	≤15%	All samples in sample delivery group	UJ

Notes:

GCMS-C = Gas chromatography/Mass spectrometer
%RSD = Relative standard deviation
UJ = Non-detected analyte in associate sample qualified estimated "UJ" due to potential bias.

Table A-3 Initial Calibration Verification Non-Conformance						
Method	**Analyte**	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Carbon Disulfide	WG161547-7	65.51	80-120	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
8260C	Acetone	WG161547-7	144.2	80-120	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
8260C	2-Butanone	WG161547-7	131.82	80-120	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
8260C	2-Hexanone	WG161547-7	120.68	80-120	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).

Notes:

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

Table A-4 Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG161585-4/D1560.D	Dichlorodifluoromethane	25.43287	20	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
WG161585-4/D1560.D	Trichlorofluoromethane	28.07768	20	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
WG161585-4/D1560.D	Carbon Tetrachloride	24.92062	20	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
WG161585-4/D1560.D	1,1,1-Trichloroethane	23.26284	20	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).
WG161585-4/D1560.D	1,2-Dichloroethane	21.93266	20	All samples in sample delivery group	All associated non-detect results for analyte were qualified as estimated (UJ). All associated detected results for analyte were qualified as estimated (J).

Notes:

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

Table A-5 Matrix Spike/Matrix Spike Duplicate								
Spiked Sample	**Analyte**	**Sample Result (µg/L)**	**Spike Added**	**MS %R**	**MS D %R**	**%R Limits**	**RPD**	**Qualifier**
VPB141-GW-042015-778-780	Ethylbenzene	<0.50	50.0	**73.4***	90	75-125	20	UJ
VPB141-GW-042015-778-780	cis-1,3-Dichloropropene	<0.50	50.0	**68.8***	89.2	70-130	26	UJ
VPB141-GW-042015-778-780	1,2-Dibromethane	<0.50	50.0	**77.2***	97.4	80-120	23	UJ
VPB141-GW-042015-778-780	Methyl cyclohexane	<0.50	50.0	**27.4***	98.6	73-125	**113****	UJ
VPB141-GW-042015-778-780	Toluene	<0.50	50.0	**72.8***	94.6	75-120	26	UJ
VPB141-GW-042015-778-780	Xylenes, total	<1.5	150	**76.7***	96	89-116	22	UJ
VPB141-GW-042015-778-780	Methyl tert butyl ether	<0.50	100	**52.4***	95.4	65-125	**58****	UJ
VPB141-GW-042015-778-780	1,2-Dichloroethene, total	<1.0	100	**68.5***	87.4	84-121	24	UJ
VPB141-GW-042015-778-780	Benzene	<0.50	50.0	**71.4***	88.2	80-120	21	UJ
VPB141-GW-042015-778-780	Freon-113	<0.50	50.0	**29***	98.2	73-126	**109****	UJ
VPB141-GW-042015-778-780	Methyl acetate	<0.75	50.0	**29.4***	84.6	70-132	**97****	UJ
VPB141-GW-042015-778-780	O-xylene	<0.50	50.0	**78***	101	80-120	26	UJ

Notes:

µg/L = Micrograms per liter
MS = Matrix spike
MSD = Matrix spike duplicate
%R = Percent recovery
RPD = Relative percent difference
Bold* = Percent recovery less than lower control limit
Bold** = Relative percent difference outside control limit
UJ = Non-detected analyte in associated sample qualified estimated "UJ" because %R is lower than 20% in associated sample.

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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D

Final Results after Data Review

			Sample Delivery Group	SI2495		
			Lab ID	SI2495-2DL		
			Sample ID	VPB141-GW-041715-743-745		
			Sample Date	4/17/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	1.0	UJ	c,mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	1.0	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1.0	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1.0	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.0	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1.0	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	1.0	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	1.5	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	1.0	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	1.0	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	1.0	UJ	c,mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	2.0	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	1.0	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	1.0	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	1.0	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	6.9	J	c,mc
8260C	2-HEXANONE	591-78-6	UG_L	5.0	UJ	c,mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	5.0	UJ	mc
8260C	ACETONE	67-64-1	UG_L	28	J	c,mc
8260C	BENZENE	71-43-2	UG_L	1.0	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	1.0	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	1.0	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	2.0	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	1.1	J	c,mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1.0	UJ	c,mc
8260C	CHLOROBENZENE	108-90-7	UG_L	1.0	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	2.0	UJ	c,mc
8260C	CHLOROFORM	67-66-3	UG_L	1.0	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	2.0	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.0	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	1.0	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	1.0	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	1.0	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	2.0	UJ	c,mc
8260C	ETHYLBENZENE	100-41-4	UG_L	1.0	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	1.0	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	2.0	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	1.5	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	1.0	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	1.0	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	5.0	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	1.0	UJ	mc
8260C	STYRENE	100-42-5	UG_L	1.0	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1.0	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	1.0	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	1.0	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	1.0	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	1.0	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	2.0	UJ	c,mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	2.0	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	3.0	UJ	mc

			Sample Delivery Group	SI2495		
			Lab ID	SI2495-3DL		
			Sample ID	VPB141-GW-041715-758-760		
			Sample Date	4/17/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	4.0	UJ	c,mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	4.0	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	4.0	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	4.0	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	4.0	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	4.0	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	4.0	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	6.0	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	4.0	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	4.0	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	4.0	UJ	c,mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	8.0	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	4.0	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	4.0	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	4.0	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	20	UJ	c,mc
8260C	2-HEXANONE	591-78-6	UG_L	20	UJ	c,mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	20	UJ	mc
8260C	ACETONE	67-64-1	UG_L	20	UJ	c,mc
8260C	BENZENE	71-43-2	UG_L	4.0	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	4.0	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	4.0	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	8.0	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	4.0	UJ	c,mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	4.0	UJ	c,mc
8260C	CHLOROBENZENE	108-90-7	UG_L	4.0	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	8.0	UJ	c,mc
8260C	CHLOROFORM	67-66-3	UG_L	4.0	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	8.0	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	4.0	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	4.0	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	4.0	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	4.0	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	8.0	UJ	c,mc
8260C	ETHYLBENZENE	100-41-4	UG_L	4.0	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	4.0	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	8.0	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	6.0	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	4.0	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	4.0	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	20	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	4.0	UJ	mc
8260C	STYRENE	100-42-5	UG_L	4.0	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	4.0	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	4.0	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	4.0	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	4.0	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	4.0	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	8.0	UJ	c,mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	8.0	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	12	UJ	mc

			Sample Delivery Group	SI2495		
			Lab ID	SI2495-4		
			Sample ID	VPB141-GW-042015-778-780		
			Sample Date	4/20/2015		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.50	UJ	c,mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.50	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.50	UJ	m,mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.50	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.50	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.50	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.50	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	0.50	UJ	m,mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.50	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.50	UJ	c,mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.0	UJ	m,mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.50	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.50	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.50	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2.8 J	J	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	12 J	J	c,mc
8260C	BENZENE	71-43-2	UG_L	0.50	UJ	m,mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.50	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.50	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1.0	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.50	UJ	c,mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.50	UJ	c,mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.50	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1.0	UJ	c,mc
8260C	CHLOROFORM	67-66-3	UG_L	0.50	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1.0	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.50	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.50	UJ	m,mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.50	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.50	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1.0	UJ	c,mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.50	UJ	m,mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.50	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1.0	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	m,mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.50	UJ	m,mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.50	UJ	m,mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.50	UJ	m,mc
8260C	STYRENE	100-42-5	UG_L	0.50	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.50	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.50	UJ	m,mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.50	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.50	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.50	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1.0	UJ	c,mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1.0	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	m,mc

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:	SI2601	
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: 06/21/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2601_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 21 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-GW-042115-823-825	Groundwater	8260C
VPB141-TRIPBLANK-042315	Trip Blank	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)/sample integrity
✓	Holding times and sample preservation
✓	Gas chromatography/mass spectrometer performance checks
✗	Initial calibration /continuing calibration verification
✓	Laboratory blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike and/or matrix spike duplicate results
✓	Laboratory control sample/laboratory control sample duplicate 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 (ICAL) percent relative standard deviation, correlation coefficient/coefficient of determination, and/or response factor method acceptance criteria were met;

- the initial calibration verification (ICV) 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:

ICAL Linearity Non-conformance:

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

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

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

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

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No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. 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 Linearity Non-Conformance						
Method	**Analyte**	**Calibration Date**	**%RSD**	**Limit**	**Associated Samples**	**Qualifier**
8260C	Chloroethane	4/27/2015	19.48199	15	All samples in SDG	UJ
8260C	Isoproplybenzene	4/27/2015	15.09998	15	All samples in SDG	UJ

Notes:

%RSD = Percent relative standard deviation
SDG = Sample delivery group
UJ = Non-detected analyte in associate sample qualified estimated "UJ" due to potential bias.

Table A-2 Initial Calibration Verification Non-Conformance					
Analyte	**ICV ID**	**%R**	**Limit**	**Associated Samples**	**Qualifier**
Dichlorodifluoromethane	C2463A.D	147.02	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ)
Acetone	C2463A.D	164.19	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ) All associated detected results for analyte were qualified as estimated (J)
2-Butanone	C2463A.D	127.21	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ)
2-Hexanone	C2463A.D	141.36	80-120	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ)

Notes:

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

Table A-3 Continuing Calibration Verification Non-Conformance					
Calibration	**Analyte**	**%D**	**%D Limit**	**Associated Samples**	**Qualifiers**
WG161939-4 C2497.D	Acetone	-24.3365	20	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ)
WG161939-4 C2497.D	Chloromethane	-20.94377	20	All samples in SDG	All associated non-detect results for analyte were qualified as estimated (UJ)

Notes:

%D = Percent difference
SDG = Sample delivery group
UJ = Non-detect 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	Field blank contamination
bl	Laboratory blank contamination
bt	Trip blank contamination
c	Calibration issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal 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	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

Attachment D
Final Results after Data Review

			Sample Delivery Group	SI2601		
			Lab ID	SI2601-1RA		
			Sample ID	VPB141-TRIPBLANK-042315		
			Sample Date	4/21/2015		
			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	UJ	c
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	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	UJ	c
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	UJ	c
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	

			Sample Delivery Group	SI2601		
			Lab ID	SI2601-2RA		
			Sample ID	VPB141-GW-042115-823-825		
			Sample Date	4/21/2015		
			Sample Type	Groundwater		
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	UJ	c
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	6.8	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	UJ	c
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	UJ	c
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 (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:	SI2721	
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: 07/14/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: SI2721_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 21 April 2015 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB141-AIR-042115	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

Attachment A
Final Results after Data Review

			Sample Delivery Group	200-27688 / SI2721	
			Lab ID	200-27688-1	
			Sample ID	VPB141-AIR-042115	
			Sample Date	4/21/2015	
			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	0.5	U
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	0.5	U
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	0.2	U
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 and not detected above the reported sample quantitation limit.

Section 5

VPB 141 Analytical Data Table

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		3/26/2015	3/27/2015	3/31/2015	3/31/2015
Sample ID		VPB141-GW-032615-58-60	VPB141-GW-032715-103-105	VPB141-GW-033115-148-150	VPB141-GW-033115-198-200
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
2-BUTANONE	50	**3.6 J**	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 UJ	< 2.5 UJ
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
BENZENE	1	**0.39 J**	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 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	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
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 UJ	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 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 UJ	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 UJ	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 UJ	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	**0.79 J**	< 0.50 UJ	< 0.50 UJ
TOLUENE	5	**0.86 J**	< 0.50 U	< 0.50 UJ	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	**0.54 J**	**1.0 J**	**1.6 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 UJ	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		3/31/2015	4/1/2015	4/1/2015	4/1/2015
Sample ID		VPB141-GW-D-033115	VPB141-GW-040115-218-220	VPB141-GW-040115-238-240	VPB141-GW-040115-258-260
Sample type code		FD	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 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	**6.2 J**	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHENE	5	**0.85 J**	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	**1.1 J**	< 1.0 U	< 1.0 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 U	< 2.5 UJ	< 2.5 UJ	**1.5 J**
2-HEXANONE	50	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
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 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CHLOROFORM	7	**0.46 J**	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	**1.1**	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	**4.8 J**	< 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 UJ***	***< 0.50 UJ***	***< 0.50 UJ***
TRICHLOROETHENE	5	**180 J**	**0.89 J**	**0.50 J**	**1.4 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 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)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/2/2015	4/2/2015	4/2/2015	4/3/2015
Sample ID		VPB141-GW-040215-278-280	VPB141-GW-040215-298-300	VPB141-GW-040215-318-320	VPB141-GW-040315-338-340
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 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	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	**4.2 J**
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 U
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ	< 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 U
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 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 UJ	< 0.50 UJ	< 0.50 UJ	< 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 UJ***	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	**0.42 J**	**0.81 J**	**4.1**	**0.48 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/3/2015	4/6/2015	4/6/2015	4/7/2015
Sample ID		VPB141-GW-040315-363-365	VPB141-GW-040615-378-380	VPB141-GW-040615-398-400	VPB141-GW-040715-423-425
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 1.0 UJ	**1.2**	**2.4**	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHENE	5	< 1.0 UJ	< 0.50 U	**0.44 J**	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 1.5 UJ***	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 2.0 UJ	**0.29 J**	**0.80 J**	< 1.0 U
1,2-DICHLOROPROPANE	1	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,3-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 5.0 UJ	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 5.0 UJ	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 5.0 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
ACETONE	50	**18 J**	**4.3 J**	< 2.5 UJ	< 2.5 UJ
BENZENE	1	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 UJ
CHLOROFORM	7	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 1.0 UJ	**0.29 J**	**0.80 J**	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 1.0 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
ETHYLBENZENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 1.5 UJ	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 5.0 UJ	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 1.0 UJ	**1.9**	**4.3**	**0.69 J**
TOLUENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 1.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 1.0 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	**0.72 J**	**31**	**87**	**16**
TRICHLOROFLUOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 2.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 3.0 UJ	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/7/2015	4/7/2015	4/8/2015	4/8/2015
Sample ID		VPB141-GW-040715-438-440	VPB141-GW-040715-458-460	VPB141-GW-040815-478-480	VPB141-GW-040815-498-500
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 U***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 UJ	< 1.0 U	**0.26 J**
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
ACETONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
BENZENE	1	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 UJ	< 0.50 UJ	< 0.50 U	**0.97 J**
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CHLOROFORM	7	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	**0.61 J**	< 1.0 UJ	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	**0.26 J**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 UJ	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 UJ	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	**1.4 J**	**0.45 J**	**0.43 J**
TOLUENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 UJ	**7.5 J**	**3.1**	**3.4**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 UJ	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/9/2015	4/9/2015	4/10/2015	4/10/2015
Sample ID		VPB141-GW-040915-523-525	VPB141-GW-040915-543-545	VPB141-GW-041015-578-580	VPB141-GW-D-041015
Sample type code		N	N	N	FD
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 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	**2.4**	**12**	**19**	**17**
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	**0.36 J**	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 U	**0.36 J**	**0.54 J**	**0.42 J**
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	**0.62 J**	**2.4**	**5.5**	**4.7**
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 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
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 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 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 U	< 0.50 U	**0.50 J**	**0.45 J**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**0.62 J**	**2.4**	**5.5**	**4.7**
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 U	< 1.0 U	**0.31 J**	**0.26 J**
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 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 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	**6.1**	**17**	**24**	**23**
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	**36**	**170**	**280**	**260**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	**0.32 J**	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/10/2015	4/13/2015	4/13/2015	4/14/2015
Sample ID		VPB141-GW-041015-598-600	VPB141-GW-041315-618-620	VPB141-GW-041315-638-640	VPB141-GW-041415-658-660
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	***< 20 UJ***	**7.7**	***< 10 UJ***	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,1-DICHLOROETHANE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,1-DICHLOROETHENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 30 UJ***	***< 0.75 U***	***< 15 UJ***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
1,2-DICHLOROBENZENE	3	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,2-DICHLOROETHANE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	***< 40 UJ***	< 1.0 U	***< 20 UJ***	< 1.0 UJ
1,2-DICHLOROPROPANE	1	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,3-DICHLOROBENZENE	3	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
1,4-DICHLOROBENZENE	3	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
2-BUTANONE	50	***< 100 UJ***	**1.7 J**	< 50 UJ	< 2.5 UJ
2-HEXANONE	50	***< 100 UJ***	< 2.5 U	< 50 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 100 UJ	< 2.5 UJ	< 50 UJ	< 2.5 UJ
ACETONE	50	***< 100 UJ***	**47 J**	< 50 UJ	< 2.5 UJ
BENZENE	1	***< 20 UJ***	**0.32 J**	***< 10 UJ***	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
BROMOFORM	50	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
BROMOMETHANE	5	***< 40 UJ***	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
CARBON DISULFIDE	60	< 20 UJ	< 0.50 UJ	< 10 UJ	0.78 UJ
CARBON TETRACHLORIDE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
CHLOROBENZENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
CHLOROETHANE	5	***< 40 UJ***	< 1.0 U	***< 20 UJ***	< 1.0 UJ
CHLOROFORM	7	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
CHLOROMETHANE	5	***< 40 UJ***	< 1.0 U	***< 20 UJ***	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 20 UJ***	***< 0.50 U***	***< 10 UJ***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	***< 40 UJ***	< 1.0 UJ	***< 20 UJ***	< 1.0 UJ
ETHYLBENZENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
ISOPROPYLBENZENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
M- AND P-XYLENE	NL	< 40 UJ	< 1.0 U	< 20 UJ	< 1.0 UJ
METHYL ACETATE	NL	< 30 UJ	< 0.75 U	< 15 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	***< 20 UJ***	< 0.50 U	< 10 UJ	< 0.50 UJ
METHYLENE CHLORIDE	5	***< 100 UJ***	< 2.5 U	***< 50 UJ***	< 2.5 UJ
O-XYLENE	NL	< 20 UJ	< 0.50 U	< 10 UJ	< 0.50 UJ
STYRENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
TETRACHLOROETHENE	5	***< 20 UJ***	**3.5**	***< 10 UJ***	< 0.50 UJ
TOLUENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	***< 20 UJ***	< 0.50 U	***< 10 UJ***	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 20 UJ***	***< 0.50 U***	***< 10 UJ***	***< 0.50 UJ***
TRICHLOROETHENE	5	**32 J**	**1.7**	**18 J**	**0.33 J**
TRICHLOROFLUOROMETHANE	5	***< 40 UJ***	< 1.0 U	***< 20 UJ***	< 1.0 UJ
VINYL CHLORIDE	2	***< 40 UJ***	< 1.0 U	***< 20 UJ***	< 1.0 UJ
XYLENES, TOTAL	5	***< 60 UJ***	< 1.5 U	***< 30 UJ***	< 1.5 UJ

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141	VPB141	VPB141	VPB141
Sample Date		4/14/2015	4/16/2015	4/16/2015	4/17/2015
Sample ID		VPB141-GW-041415-678-680	VPB141-GW-041615-698-700	VPB141-GW-041615-718-720	VPB141-GW-041715-743-745
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,1,2,2-TETRACHLOROETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,1,2-TRICHLOROETHANE	1	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,1-DICHLOROETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,1-DICHLOROETHENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,2,4-TRICHLOROBENZENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 150 UJ***	***< 15 UJ***	***< 1.5 UJ***	***< 1.5 UJ***
1,2-DIBROMOETHANE	NL	< 100 UJ	< 10 UJ	< 1.0 UJ	< 1.0 UJ
1,2-DICHLOROBENZENE	3	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,2-DICHLOROETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,2-DICHLOROETHENE, TOTAL	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
1,2-DICHLOROPROPANE	1	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,3-DICHLOROBENZENE	3	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
1,4-DICHLOROBENZENE	3	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
2-BUTANONE	50	***< 500 UJ***	< 50 UJ	< 5.0 UJ	**6.9 J**
2-HEXANONE	50	***< 500 UJ***	< 50 UJ	< 5.0 UJ	< 5.0 UJ
4-METHYL-2-PENTANONE	NL	< 500 UJ	< 50 UJ	< 5.0 UJ	< 5.0 UJ
ACETONE	50	***< 500 UJ***	< 50 UJ	< 5.0 UJ	**28 J**
BENZENE	1	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
BROMODICHLOROMETHANE	50	***< 100 UJ***	< 10 UJ	< 1.0 UJ	< 1.0 UJ
BROMOFORM	50	***< 100 UJ***	< 10 UJ	< 1.0 UJ	< 1.0 UJ
BROMOMETHANE	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
CARBON DISULFIDE	60	***< 100 UJ***	< 10 UJ	< 1.0 UJ	**1.1 J**
CARBON TETRACHLORIDE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
CHLOROBENZENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
CHLOROETHANE	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
CHLOROFORM	7	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
CHLOROMETHANE	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
CIS-1,2-DICHLOROETHENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 100 UJ***	***< 10 UJ***	***< 1.0 UJ***	***< 1.0 UJ***
CYCLOHEXANE	NL	< 100 UJ	< 10 UJ	< 1.0 UJ	< 1.0 UJ
DIBROMOCHLOROMETHANE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
DICHLORODIFLUOROMETHANE	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
ETHYLBENZENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
ISOPROPYLBENZENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
M- AND P-XYLENE	NL	< 200 UJ	< 20 UJ	< 2.0 UJ	< 2.0 UJ
METHYL ACETATE	NL	< 150 UJ	< 15 UJ	< 1.5 UJ	< 1.5 UJ
METHYL CYCLOHEXANE	NL	< 100 UJ	< 10 UJ	< 1.0 UJ	< 1.0 UJ
METHYL TERT-BUTYL ETHER	10	***< 100 UJ***	< 10 UJ	< 1.0 UJ	< 1.0 UJ
METHYLENE CHLORIDE	5	***< 500 UJ***	***< 50 UJ***	< 5.0 UJ	< 5.0 UJ
O-XYLENE	NL	< 100 UJ	< 10 UJ	< 1.0 UJ	< 1.0 UJ
STYRENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
TETRACHLOROETHENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
TOLUENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
TRANS-1,2-DICHLOROETHENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 100 UJ***	***< 10 UJ***	***< 1.0 UJ***	***< 1.0 UJ***
TRICHLOROETHENE	5	***< 100 UJ***	***< 10 UJ***	< 1.0 UJ	< 1.0 UJ
TRICHLOROFLUOROMETHANE	5	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
VINYL CHLORIDE	2	***< 200 UJ***	***< 20 UJ***	< 2.0 UJ	< 2.0 UJ
XYLENES, TOTAL	5	***< 300 UJ***	***< 30 UJ***	< 3.0 UJ	< 3.0 UJ

Location Sample Date Sample ID Sample type code	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB141 4/17/2015 VPB141-GW-041715-758-760 N	VPB141 4/20/2015 VPB141-GW-042015-778-780 N	VPB141 4/21/2015 VPB141-GW-042115-823-825 N
VOC 8260C (ug/L)				
1,1,1-TRICHLOROETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLOROETHANE	1	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 6.0 UJ***	***< 0.75 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 U
1,2-DICHLOROPROPANE	1	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
1,3-DICHLOROBENZENE	3	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
1,4-DICHLOROBENZENE	3	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
2-BUTANONE	50	< 20 UJ	**2.8 J**	< 2.5 UJ
2-HEXANONE	50	< 20 UJ	< 2.5 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 20 UJ	< 2.5 UJ	< 2.5 U
ACETONE	50	< 20 UJ	**12 J**	**6.8 J**
BENZENE	1	***< 4.0 UJ***	< 0.50 UJ	< 0.50 U
BROMODICHLOROMETHANE	50	< 4.0 UJ	< 0.50 UJ	< 0.50 U
BROMOFORM	50	< 4.0 UJ	< 0.50 UJ	< 0.50 U
BROMOMETHANE	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 U
CARBON DISULFIDE	60	< 4.0 UJ	< 0.50 UJ	< 0.50 U
CARBON TETRACHLORIDE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
CHLOROBENZENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
CHLOROETHANE	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 UJ
CHLOROFORM	7	< 4.0 UJ	< 0.50 UJ	< 0.50 U
CHLOROMETHANE	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 4.0 UJ***	***< 0.50 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 4.0 UJ	< 0.50 UJ	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
DICHLORODIFLUOROMETHANE	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 UJ
ETHYLBENZENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
ISOPROPYLBENZENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 UJ
M- AND P-XYLENE	NL	< 8.0 UJ	< 1.0 UJ	< 1.0 U
METHYL ACETATE	NL	< 6.0 UJ	< 0.75 UJ	< 0.75 U
METHYL CYCLOHEXANE	NL	< 4.0 UJ	< 0.50 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 4.0 UJ	< 0.50 UJ	< 0.50 U
METHYLENE CHLORIDE	5	***< 20 UJ***	< 2.5 UJ	< 2.5 U
O-XYLENE	NL	< 4.0 UJ	< 0.50 UJ	< 0.50 U
STYRENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
TETRACHLOROETHENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
TOLUENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 4.0 UJ***	***< 0.50 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	< 4.0 UJ	< 0.50 UJ	< 0.50 U
TRICHLOROFLUOROMETHANE	5	***< 8.0 UJ***	< 1.0 UJ	< 1.0 U
VINYL CHLORIDE	2	***< 8.0 UJ***	< 1.0 UJ	< 1.0 U
XYLENES, TOTAL	5	***< 12 UJ***	< 1.5 UJ	< 1.5 U

Notes:

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

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

Yellow highlighted values exceed Groundwater Standards or guidance value

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

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

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

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

M = the matrix spike or matrix spike duplicate did not meet recovery or precision requirements.

Section 6

VBP141 Location Map on Photo Base

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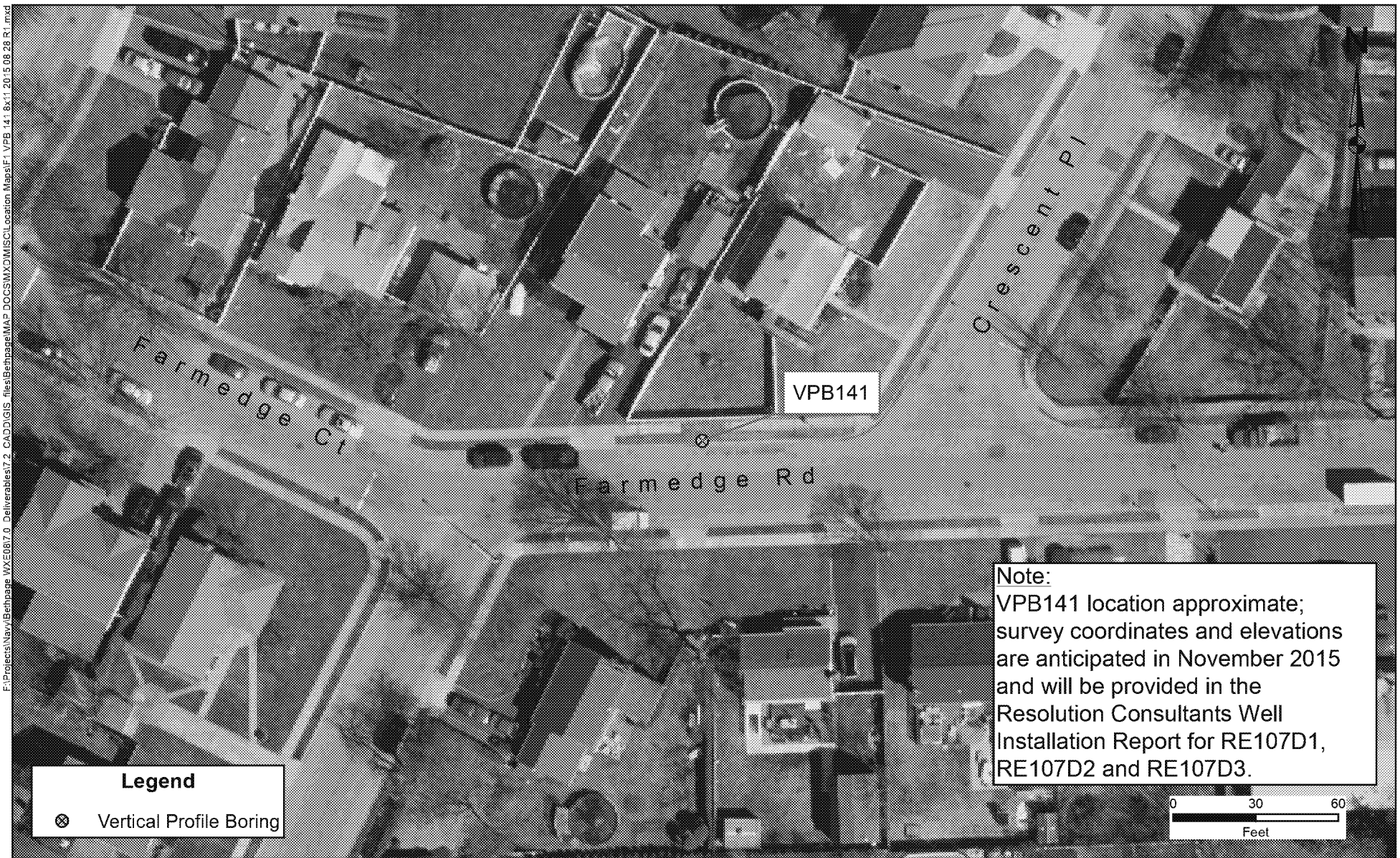

Note:
VPB141 location approximate; survey coordinates and elevations are anticipated in November 2015 and will be provided in the Resolution Consultants Well Installation Report for RE107D1, RE107D2 and RE107D3.

NAVFAC

VPB141 LOCATION MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY: PS	DATE: 8/31/2015
APPROVED BY: —	DATE: —
FIGURE NO. 1	REV 0