2014 OU2 GROUNDWATER INVESTIGATION
VPB 151
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

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List of Acronyms and Abbreviations

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

1.0 PROJECT BACKGROUND

Resolution Consultants has prepared this Data Summary Report for the Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic under contract task order WE15 Contract N62470-11-D-8013. This report describes vertical profile boring (VPB) installation activities (specifically at the VPB 151 location) in 2014 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 151. The purpose of the VPB 151 investigation was to ascertain subsurface conditions and contaminant levels upgradient of the South Farmington Water District Plant 6 wellfield and to design outpost wells that will be used to provide early warning of plume migration toward the South Farmington Water District Plant 6 wellfield. VPB locations within the general vicinity of VPB 151 are shown in Figure 2. VPB 151 was completed to 990 feet (ft) below ground surface (bgs).

Field tasks were conducted in 2014 in accordance with the *United Federal Programs Sampling and Analysis Plan (UFP SAP)*, Bethpage, New York and the UFP SAP Addendum Installation of Vertical Profile Borings and Monitoring Wells (Resolution Consultants, 2013). The field investigation included completing one vertical profile boring, groundwater grab samples, geophysical logging and surveying.

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

1.2 Site History

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

The Navy's property originally totaled 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by Northrop Grumman (NG) until September 1998. Prior to 2002, the NWIRP property was bordered on the north, west, and south

by current or former NG facilities, and on the east by a residential neighborhood. By March 2008, approximately 100 acres of NWIRP property were transferred to Nassau County in three separate actions. The remaining 9 acres and access easements were retained by the Navy to continue remedial efforts at Installation Restoration (IR) Site 1 – Former Drum Marshalling Area and Site 4 – Former Underground Storage Tanks (Area of Concern [AOC] 22). A parcel of land connecting the two sites was also retained. Currently, the 9-acre parcel of NWIRP is bordered on the east by the residential neighborhood and on the north, south, and west by Nassau County property. Access to the NWIRP is from South Oyster Bay Road.

1.3 Geology and Hydrogeology

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

The upper Pleistocene ranges in thickness from approximately 50 to 100 ft and consists of till and outwash deposits of medium to coarse sand and gravel with lenses of fine sand, silt and clay (Smolensky and Feldman, 1990); these deposits form the Upper Glacial Aquifer. Directly underlying this unit is the Magothy Formation with a thickness of 650 to 900 ft bgs observed onsite. The Magothy is characterized by fine to medium sands and silts interbedded with zones of clays, silty sands and sandy clays. Sand and gravel lenses are found in some areas between depths of 600 and 875 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 in the offsite plume to date. The Raritan Clay Unit is of continental origin and consists of clay, silty clay, clayey silt, and fine silty sand. This member acts as a confining layer over the Lloyd Sand Unit. The Lloyd Sand Unit is also of continental origin, having been deposited in a large fresh water lacustrine environment. The material consists of fine to coarse-grained sands, gravel, inter-bedded clay, and silty sand. These deposits form the Lloyd Aquifer.

The Upper Glacial Aquifer and the Magothy Aquifer comprise the aquifers of interest at the NWIRP. Regionally, these formations are generally considered to form a common, interconnected aquifer as

the coarse nature of each unit near their contact and the lack of any regionally confining clay unit allows for the unrestricted flow of groundwater between the formations.

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

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

2.0 FIELD PROGRAM

Field investigation activities at VPB 151 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 151) was completed during this field effort between July 8, 2014 and September 5, 2014. The total depth of VPB 151 was 990 ft. The location is shown in Figure 2 and details are summarized in Table 1.

2.1.1 Drilling

VPB 151 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 eight 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 977 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 151 is included in Appendix A.

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

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

2.1.3 Geophysics

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

2.2 Decontamination and Investigation Derived Waste (IDW)

Resolution Consultants utilized dedicated and disposable sampling equipment when possible to avoid the potential for cross-contamination of samples. The sampling equipment included dedicated plastic scoops, disposable Teflon or polyethylene tubing, disposable gloves, and laboratory supplied sample bottles. Hand held equipment, split spoons, and the hydropunch were decontaminated using Liquinox and water wash, a potable water rinse, followed by a distilled water rinse. Water was collected in 5-gallon pails or 55-gallon drums.

As part of the IDW management practices and in accordance with the SAP, the investigation waste (consisting of soil cuttings, drilling muds, IDW fluids, and personal protective equipment [PPE]) generated during the boring installation was containerized and staged at NWIRP Bethpage. IDW solids were characterized and disposed of properly. Representative samples from each roll off were submitted to Katahdin for analysis of:

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

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

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

2.3 Surveying

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

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

3.0 REFERENCES

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

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

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

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

Tables

TABLE 1
VERTICAL PROFILE BORING SUMMARY
2014 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	DATE OF AIR SAMPLE	MONITORING WELLS INSTALLED AT LOCATION
VPB 151	7/8/2014	9/5/2014	52.72	990	53	8	987	40/50	663 - 665 ft bgs	9/2/2014	Pending

Figures

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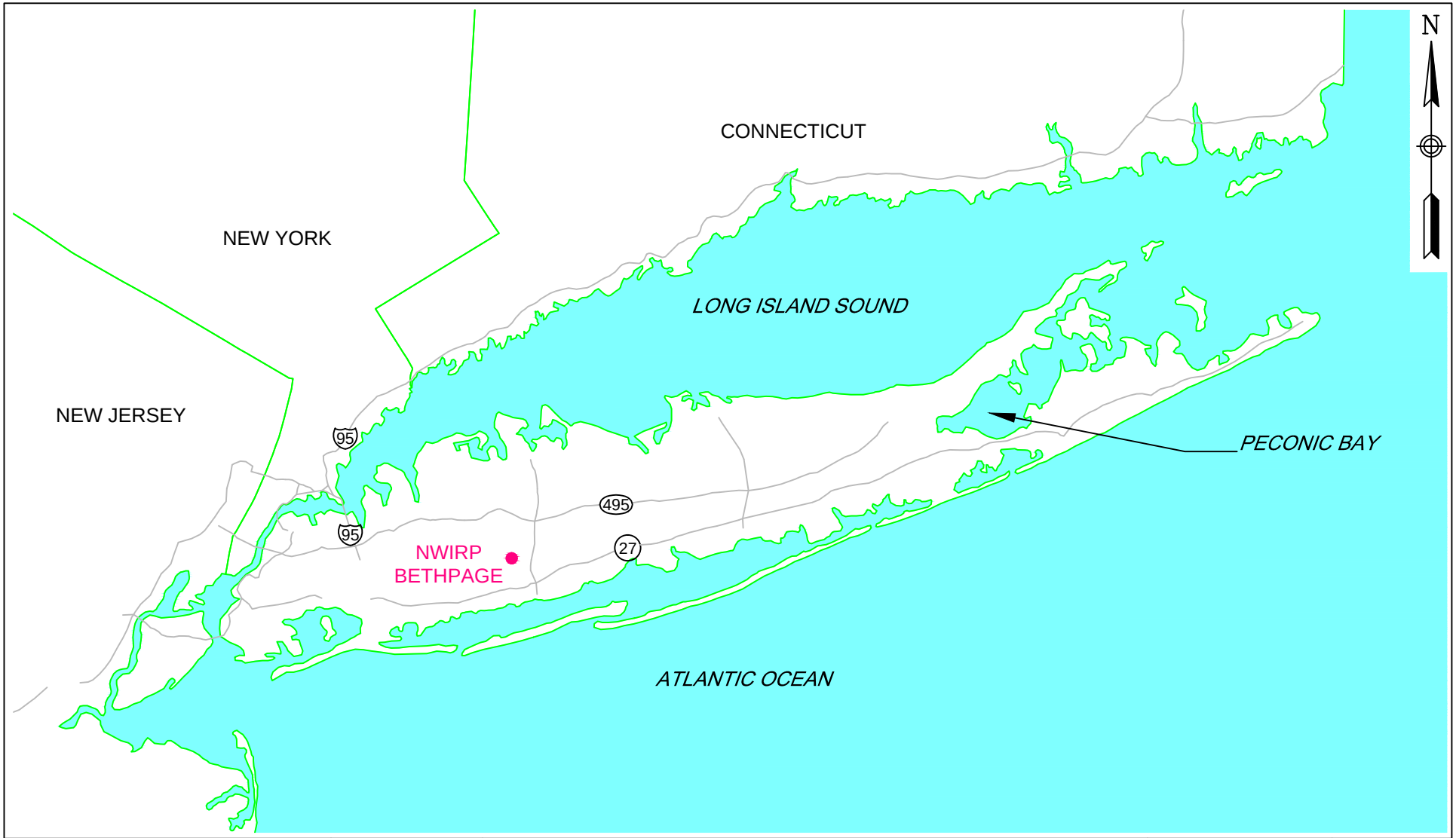

0 15 30

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. 1	REV 0

F:\Projects\Navy\Bethpage WXE0817.0 Deliverables\7.2 CADD\GIS_files\Bethpage\MAP DOCS\MXD\MISC\Location Maps\F2 VPB 151 2014 12 23 R1.mxd

Former Naval Weapons Industrial Reserve Plant

Former Northrop Grumman Site

Hempstead Tpke

Hicksville Rd

State Hwy 135

Southern State Parkway

Peter St

Duff Pl

Brian Ln

Pineneck Rd

Flowerdale Rd

Robert Pl

Lawrence Rd

Walkwood Rd

Carolyn Ct

Jean Pl

Harriad Dr W

Harriad Dr S

Seamans Neck Rd

Heywood Rd

New Rd

VPB 151

South Farmingdale Water District Plant 6

0 375 750 1,500 Feet

Inset: VPB 151 Location

0 750 1,500 3,000 Feet

Legend

- Monitoring Well
- Vertical Profile Boring
- Vertical Profile Boring - Proposed
- Water Supply Well
- Extraction Well

VPB 151 LOCATION MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY: PS	DATE: 12/23/2014
APPROVED BY: —	DATE: —
FIGURE NO.: 2	REV: 0

Appendix A

VPB 151

Section 1

VPB 151 Boring and Gamma Logs

Resolution Consultants

Boring Log

BORING #: VPB151

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		**Logged By:** Mike Zobel
Location: W. Harriad Dr. & Lawrence Rd., Seaford, NY	**Northing:** 196279.29 **Easting:** 1125182.04	**Drilling Company:** Delta Well & Pump
Project #: 60266526	**Ground Elevation (ft amsl):** 52.72	**Well Screen Interval (ft):** NA
Start Date: 7/8/2014	**Drilling Method:** Auger (0-50' bgs) Mud Rotary (>50' bgs)	**Water Level (ft):** NA
Finish Date: 9/5/2014		**Total Depth (ft):** 990.0

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 (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
0–2					Upper Glacial	SW		Brownish yellow (10 YR 6/6) well graded medium to coarse subrounded SAND with fine to coarse subrounded Gravel, few silt, few fine sand
2–6						SW		Yellow brown (10 YR 5/8) well graded fine to coarse subrounded SAND with fine to coarse subrounded Gravel, trace silt
6–12						SW		Yellow brown (10 YR 5/8) well graded fine to coarse subrounded SAND with fine to coarse subrounded Gravel, trace subrounded cobbles, trace silt
12–16						SW		Yellow brown (10 YR 5/8) well graded fine to coarse subrounded SAND with fine to coarse subrounded Gravel
16–22						SP		Yellow brown (10 YR 5/6) poorly graded medium to coarse subrounded SAND with fine to coarse subrounded Gravel, few fine sand
22–26						SP		Brownish yellow (10 YR 6/6) poorly graded medium to coarse subrounded SAND with fine to coarse subrounded Gravel, few fine sand, trace silt
26–32						SP		Brownish yellow (10 YR 6/6) poorly graded medium to coarse subrounded SAND with fine to coarse subrounded Gravel, few fine sand, trace silt
32–36						SW		Brownish yellow (10 YR 6/6) well graded fine to coarse subrounded SAND, with fine to coarse subrounded Gravel
36–42						SW		Brownish yellow (10 YR 6/6) well graded fine to coarse subrounded SAND, with fine to coarse subrounded Gravel
42–46						SW		Brownish yellow (10 YR 6/6) well graded fine to coarse subrounded SAND, with fine to coarse subrounded Gravel
46–52						SW		Brownish yellow (10 YR 6/6) well graded fine to coarse subrounded SAND with fine subrounded Gravel
52–54						SW		

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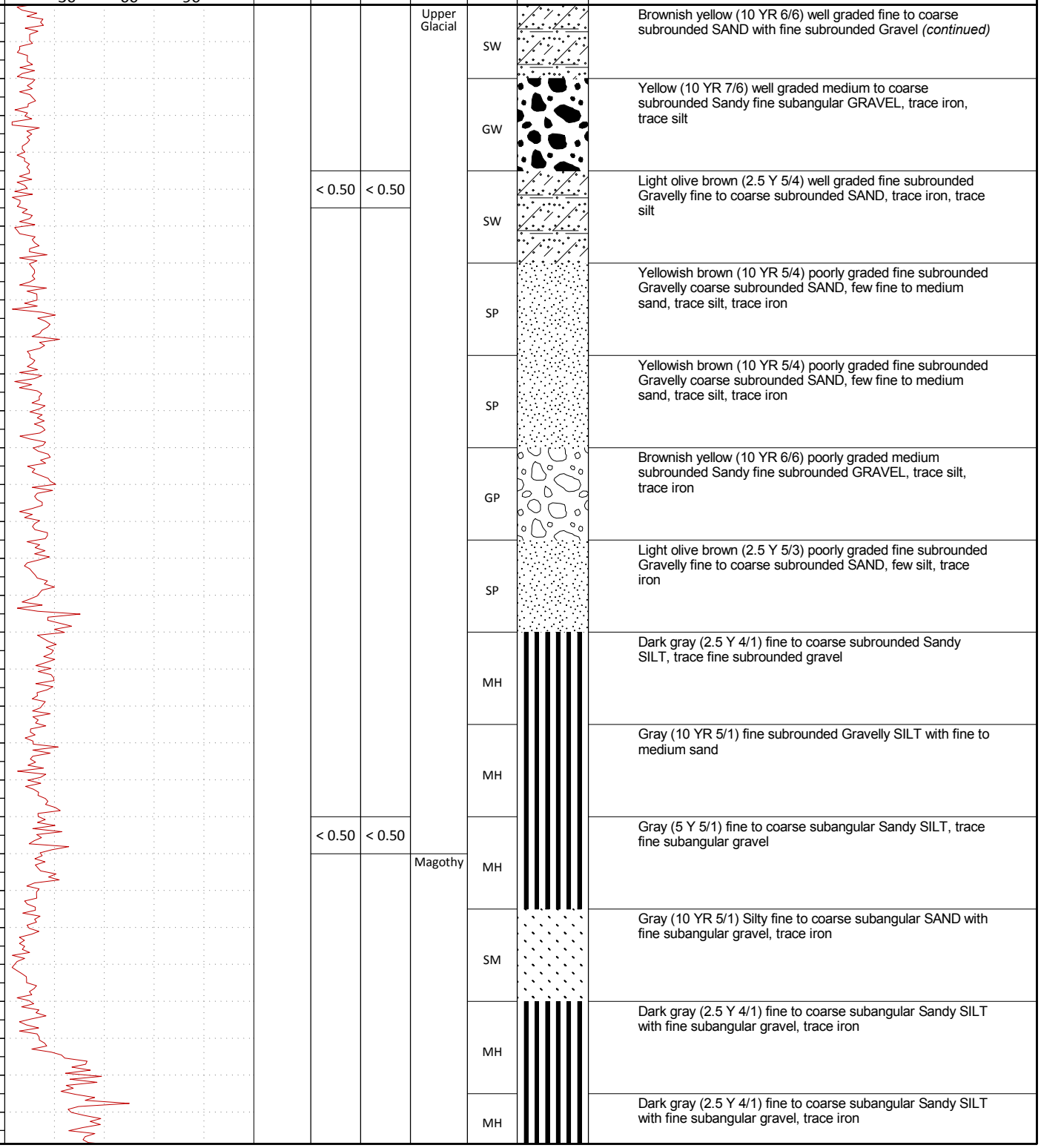
Resolution Consultants

Boring Log

BORING #: VPB151

Sheet 2 of 17



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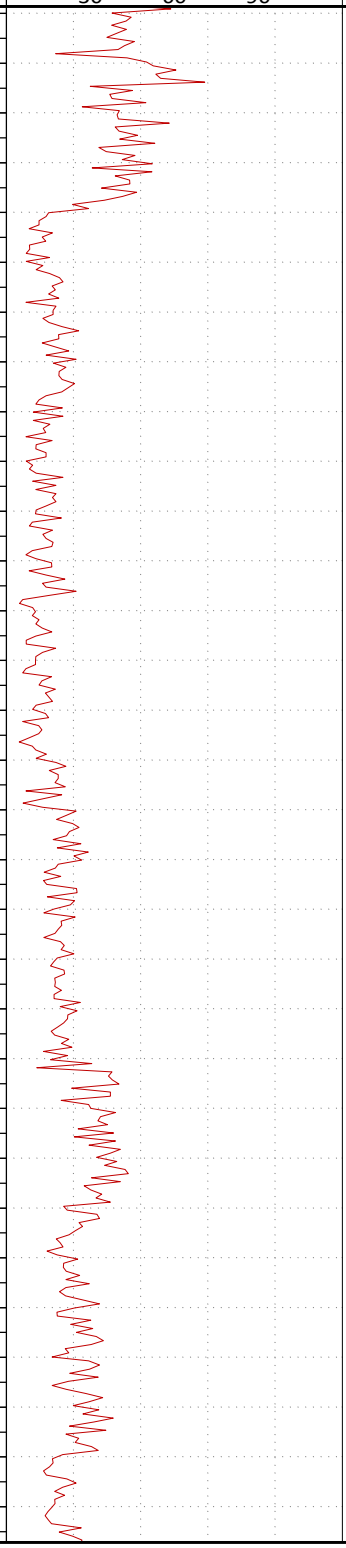
Boring Log

BORING #: VPB151

Sheet 3 of 17



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
116				Magothy	MH		Dark gray (2.5 Y 4/1) fine to coarse subangular Sandy SILT with fine subangular gravel, trace iron *(continued)*
118							
120					CH		Gray (Gley 1 5/N) fine Sandy medium fat CLAY, trace coarse subangular sand
122							
124					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace coarse subangular sand
126							
128					SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
130							
132					SC		Dark gray (Gley 1 4/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
134							
136					SC		Dark gray (Gley 1 4/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
138							
140					SP-SC		Pale brown (2.5 Y 7/3) poorly graded medium subangular SAND with medium fat Clay, trace coarse subangular sand
142							
144					SP/SC		Pale brown (2.5 Y 7/3) poorly graded medium subangular SAND with medium fat Clay, trace coarse subangular sand
146							
148					SP-SC		Pale brown (2.5 Y 7/4) and black (Gley 1 2.5/N) poorly graded fine SAND with medium fat Clay, trace silt, trace medium to coarse sand
150							
152					MH		Very dark gray (Gley 1 3/N) fine Sandy SILT, trace coarse subangular sand
154							
156					MH		Dark gray (Gley 1 4/N) SILT with fine Sand, trace coarse subangular sand
158		< 0.50	< 0.50				
160					MH		Gray (Gley 1 5/N) fine Sandy SILT, trace coarse subangular sand
162							
164					SM		Gray (5 Y 5/1) Silty fine to coarse subangular SAND
166							
168							
170							
172							
174							
176							

(Continued Next Page)

Resolution Consultants

Boring Log

BORING #: VPB151

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
178					Magothy			
180						SM		Gray (2.5 Y 6/1) Silty fine to medium subangular SAND, trace medium fat clay, trace lignite
182								
184						SP-SM		Gray (2.5 Y 6/1) poorly graded fine to medium subangular SAND with Silt, trace medium fat clay, trace lignite
186								
188						SP		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND, trace medium fat Clay, trace lignite
190								
192						SP		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND, few Lignite, trace medium fat clay
194								
196						SP		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND, few Lignite, trace coarse subangular sand
198								
200			< 0.50	< 0.50		SP		Brownish yellow (10 YR 6/6) poorly graded fine to coarse subangular SAND, few Lignite
202								
204						SP		Brownish yellow (10 YR 6/6) poorly graded fine to coarse subangular SAND, few Lignite
206								
208						SP		Brownish yellow (10 YR 6/6) poorly graded fine to coarse subrounded SAND, few Lignite
210								
212						SP		Gray (2.5 Y 5/1) poorly graded fine to coarse subrounded SAND, few Lignite
214								
216						SP-SM		Very dark gray (7.5 YR 3/1) poorly graded fine to coarse subrounded SAND with Silt, few fine subrounded gravel, trace lignite
218								
220			< 0.50	< 0.50		SP-SM		Very dark gray (7.5 YR 3/1) poorly graded fine to coarse subrounded SAND with Silt, few fine subrounded gravel, trace lignite
222								
224						GP-SM		Pale yellow (5 Y 8/2) poorly graded fine subrounded GRAVEL with Silt, few fine to medium subrounded sand, trace lignite
226								
228								
230								
232								
234								
236								
238			< 0.50	< 0.50		SW		

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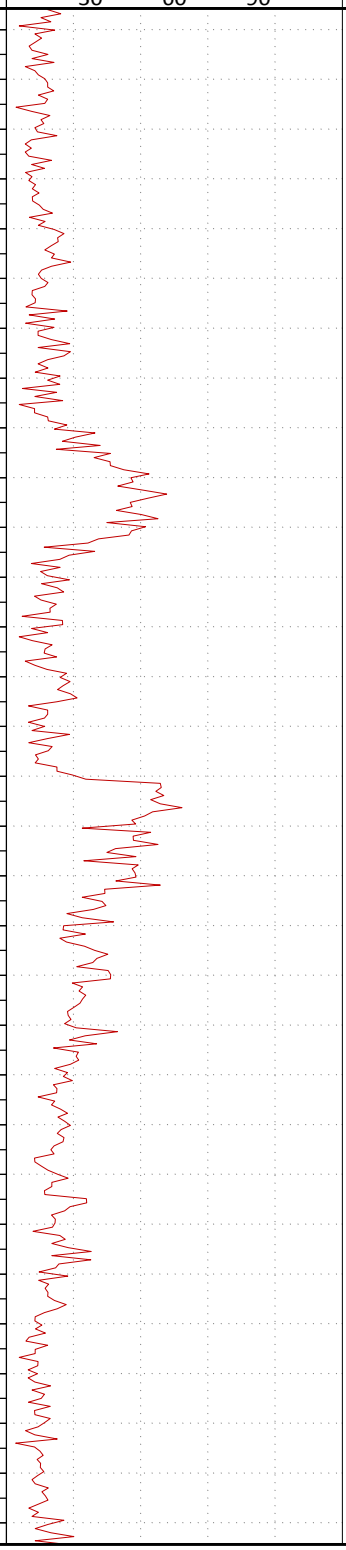
Resolution Consultants

Boring Log

BORING #: VPB151



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
240		< 0.50	< 0.50	Magothy	SW		Brownish yellow (10 YR 6/6) well graded fine to coarse subangular SAND with fine subangular Gravel, trace lignite *(continued)*
242							
244					SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with stiff fat Clay, trace fine subangular gravel, trace coarse subangular sand, trace lignite
246							
248							
250					SC		Gray (Gley 1 5/N) stiff fat Clayey fine to medium subangular SAND, trace coarse subangular sand, trace lignite
252							
254					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace medium sand, trace lignite
256							
258							
260		< 0.50	< 0.50		SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand, trace lignite
262							
264					SM		Gray (Gley 1 5/N) Silty fine SAND, trace lignite
266							
268					CH		Gray (Gley 1 5/N) stiff fat CLAY with fine to medium Sand, trace lignite
270							
272							
274					CH		Gray (Gley 1 5/N) stiff fat CLAY with fine to medium Sand, trace lignite
276							
278							
280		< 0.50	< 0.50		SC		Gray (Gley 1 5/N) loose Clayey fine to medium SAND, trace lignite
282							
284					MH		Gray (Gley 1 5/N) SILT with fine to medium Sand, trace stiff fat clay, trace lignite
286							
288							
290					SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with medium fat Clay, trace lignite
292							
294					SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with medium fat Clay, trace lignite
296							
298							
300					SC		Gray (2.5 Y 5/1) medium fat Clayey fine to medium subangular SAND, trace lignite, trace coarse subangular sand

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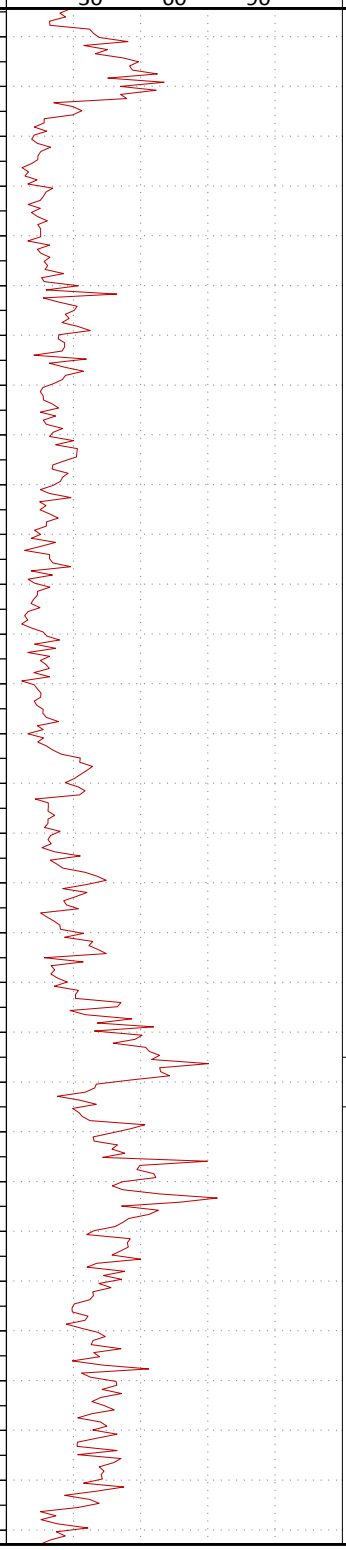
Boring Log

BORING #: VPB151



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
302				Magothy	SC		
304		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine to medium subangular Sandy stiff fat CLAY, trace lignite, trace coarse subangular sand
306							
308							
310					SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace lignite, trace coarse subangular sand
312							
314					SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace lignite, trace coarse subangular sand
316							
318							
320		< 0.50	< 0.50		SP		Gray (2.5 Y 6/1) poorly graded fine SAND, trace medium fat Clay, trace medium to coarse subangular sand
322							
324					SP		Light brownish gray (2.5 Y 6/2) poorly graded fine SAND, trace medium fat Clay, trace medium to coarse subangular sand
326							
328							
330					SP-SC		Gray (2.5 Y 6/1) poorly graded fine SAND with medium fat Clay, trace medium to coarse subangular sand
332							
334					SP-SC		Gray (2.5 Y 6/1) poorly graded fine SAND with medium fat Clay, trace medium to coarse subangular sand
336							
338							
340		< 0.50	< 0.50		SP-SC		Gray (2.5 Y 6/1) poorly graded fine SAND with medium fat Clay, trace medium to coarse subangular sand
342							
344	0				SC		Light gray (2.5 Y 7/1) and black (Gley 1 2.5/N) interbedded (2"-4") fine to medium subangular SAND, some stiff fat Clay, few fine subrounded gravel, trace lignite
346					CH		Gray (Gley 1 5/N) loose fat CLAY with fine to coarse subangular Sand, trace fine subrounded gravel
348							
350					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to coarse subangular Sand, trace lignite
352							
354					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to coarse subangular Sand, trace lignite
356							
358							
360					CH		Gray (Gley 1 5/N) stiff fat CLAY, trace fine to coarse subangular Sand, trace lignite
362							

(Continued Next Page)

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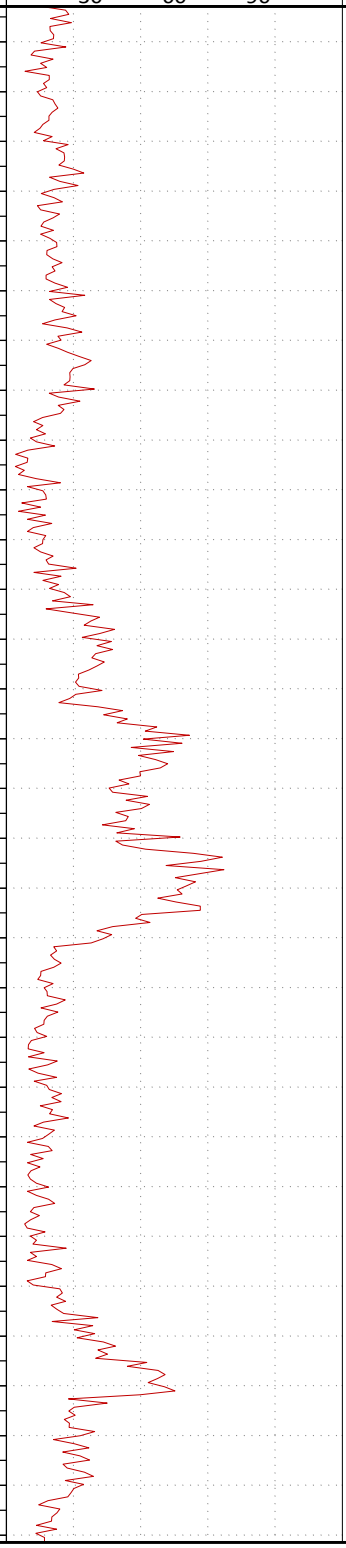

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
364				Magothy	SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace lignite
366							
368							
370		< 0.50	< 0.50		SC		Gray (Gley 1 6/N) medium fat Clayey fine SAND, trace medium to coarse subangular sand
372							
374					SM		Gray (Gley 1 6/N) Silty fine SAND, trace medium to coarse subangular sand, trace medium fat clay
376							
378							
380		< 0.50	< 0.50		SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
382							
384					CH		Gray (Gley 1 5/N) fine to medium Sandy loose fat CLAY, few pyrite, trace coarse subangular sand
386							
388							
390					CH		Gray (Gley 1 5/N) fine to medium Sandy loose fat CLAY, few pyrite, trace coarse subangular sand
392							
394					CH		Gray (Gley 1 5/N) fine to medium Sandy loose fat CLAY, trace pyrite, trace coarse subangular sand
396							
398							
400		< 0.50	< 0.50		SC		Gray (Gley 1 6/N) medium fat Clayey fine to medium SAND, trace coarse subangular sand
402							
404					SP		Gray (2.5 Y 5/N) poorly graded fine to medium subangular SAND, trace medium fat Clay, trace coarse subangular sand
406							
408							
410					SP		Gray (2.5 Y 5/N) poorly graded fine to medium subangular SAND, trace medium fat Clay, trace coarse subangular sand
412							
414					SC		Gray (2.5 Y 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
416							
418							
420		< 0.50	< 0.50		SC		Gray (2.5 Y 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand
422							
424					SC		

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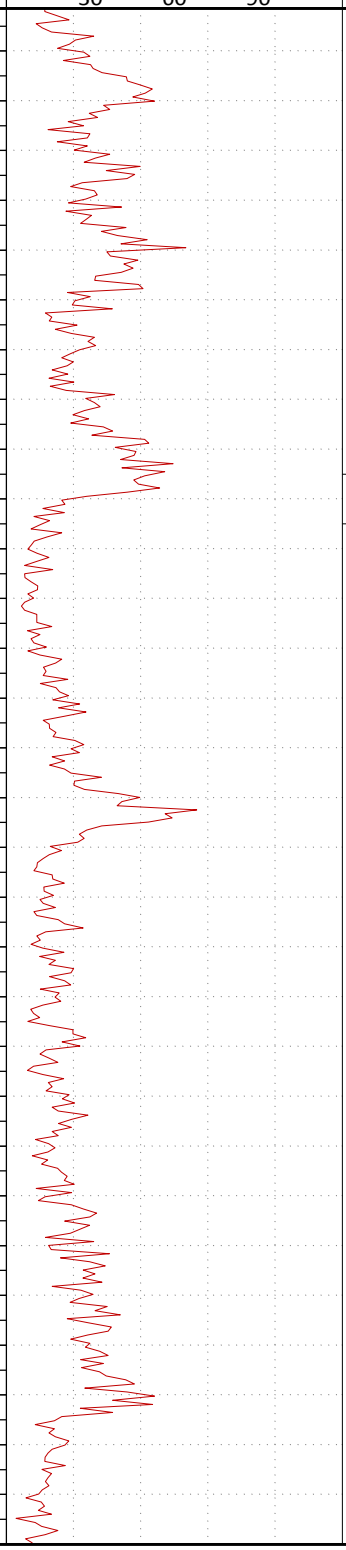

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
426				Magothy	SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace pyrite, trace lignite *(continued)*
428							
430					SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace pyrite, trace lignite
432							
434					SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace pyrite, trace lignite
436							
438							
440		< 0.50	< 0.50		CH		Dark gray (Gley 1 4/N) fine Sandy medium fat CLAY, few lignite
442							
444	0				CL		Black (Gley 1 2.5/N) laminated medium lean CLAY, few Lignite, trace fine sand
446					CL		Black (Gley 1 2.5/N) laminated medium lean CLAY, few Lignite, trace fine sand
448							
450					SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace lignite
452							
454					SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace lignite
456							
458							
460					SC		Dark gray (Gley 1 4/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand, trace lignite
462							
464		< 0.50	< 0.50		SP/SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with loose fat Clay, trace coarse subangular sand, trace lignite
466							
468							
470					SP/SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with fat Clay, trace coarse subangular sand, trace lignite
472							
474					SC		Gray (2.5 Y 5/1) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand, trace pyrite, trace lignite
476							
478							
480		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine to medium subangular Sandy medium fat CLAY, trace coarse subangular sand, trace lignite, trace pyrite
482							
484					SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace coarse subangular sand, trace lignite, trace pyrite
486							

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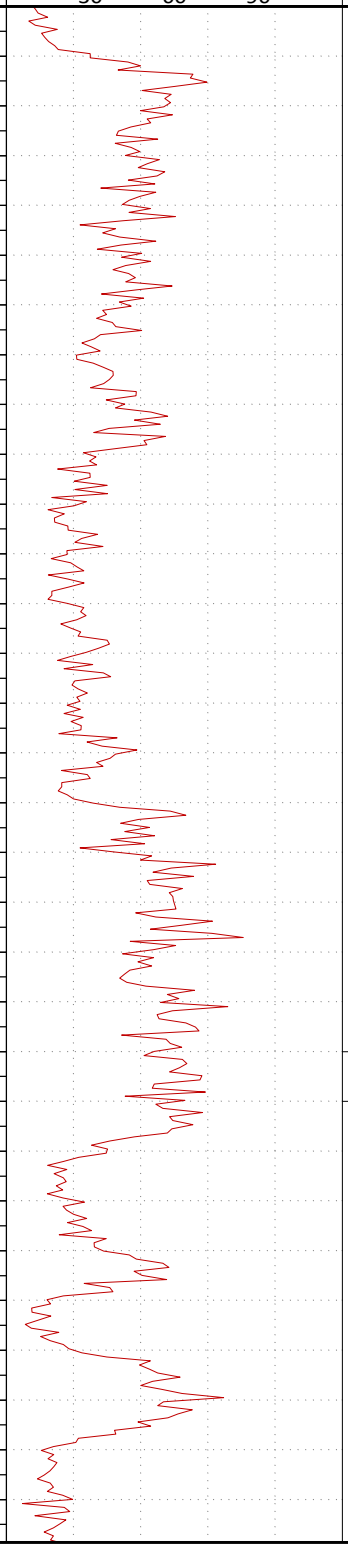

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
486				Magothy	SC		
488							
490					CH		Gray (Gley 1 5/N) fine to medium subangular Sandy medium fat CLAY, trace coarse subangular sand, trace pyrite, trace lignite
492							
494					CH		Gray (Gley 1 5/N) fine to medium subangular Sandy medium fat CLAY, trace coarse subangular sand, trace pyrite, trace lignite
496							
498							
500		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine Sandy loose fat CLAY, trace medium to coarse subangular sand
502							
504					CH		Gray (Gley 1 5/N) fine Sandy loose fat CLAY, trace medium to coarse subangular sand
506							
508							
510					SC		Gray (Gley 1 5/N) loose fat Clayey fine SAND, trace medium to coarse subangular sand
512							
514					CH		Gray (Gley 1 5/N) fine Sandy loose fat CLAY, trace medium to coarse subangular sand
516							
518							
520					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace medium subangular sand
522							
524					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace medium subangular sand
526							
528							
530	0				CH		Gray (Gley 1 5/N) fine Sandy loose fat CLAY
532					CH		Gray (Gley 1 5/N) fine Sandy loose fat CLAY, trace medium subangular sand
534					SC		Gray (Gley 1 5/N) loose fat Clayey fine to medium subangular SAND, trace stiff fat clay
536							
538							
540		< 0.50	< 0.50		SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with loose fat Clay
542							
544					SC		Gray (2.5 Y 5/1) loose fat Clayey fine to medium subangular SAND, trace pyrite
546							

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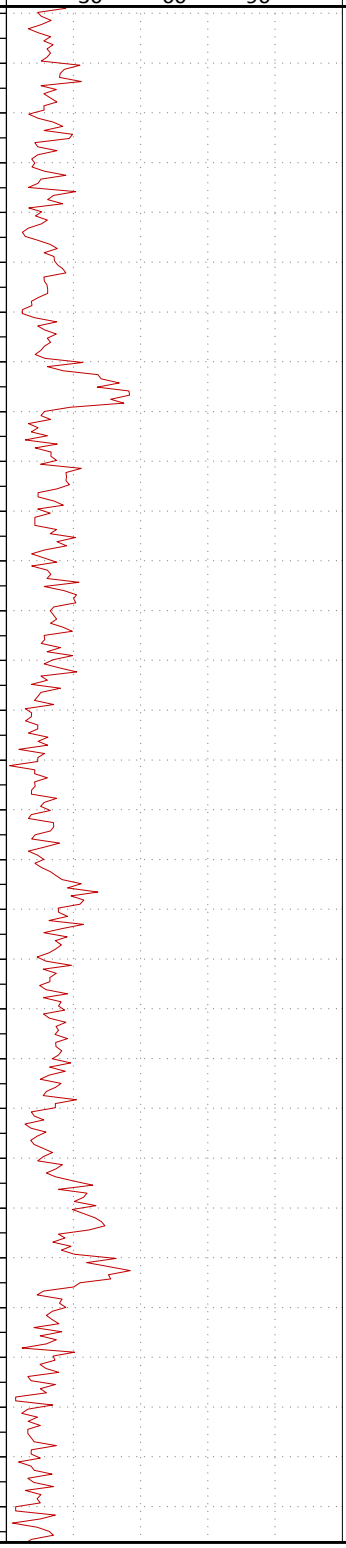

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
548				Magothy			
550					SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with loose fat Clay
552							
554					SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with loose fat Clay
556							
558							
560		< 0.50	< 0.50		SP-SC		Gray (2.5 Y 5/1) poorly graded fine to medium subangular SAND with loose fat Clay
562							
564					SW		Gray (2.5 Y 6/1) well graded fine to coarse subangular SAND, trace loose fat Clay, trace lignite
566							
568							
570					SW		Gray (2.5 Y 6/1) well graded fine to coarse subangular SAND, trace loose fat Clay, trace lignite
572							
574					SP		Gray (2.5 Y 6/1) poorly graded fine to medium subangular SAND, trace medium fat Clay, trace lignite
576							
578							
580					SC		Gray (Gley 1 5/N) loose fat Clayey fine to medium subangular SAND, trace lignite
582							
584		< 0.50	< 0.50		SP		Gray (Gley 1 5/N) poorly graded fine to coarse subangular SAND, trace medium fat Clay, trace lignite
586							
588							
590					SP		Gray (Gley 1 5/N) poorly graded fine to coarse subangular SAND, trace fine subangular Gravel, trace medium fat clay, trace lignite
592							
594					SP		Gray (Gley 1 5/N) poorly graded fine to coarse subangular SAND, trace fine subangular Gravel, trace medium fat clay, trace lignite
596							
598							
600		< 0.50	< 0.50		SP-SM		Gray (Gley 1 6/N) poorly graded fine to medium subangular SAND with Silt, trace loose fat clay
602							
604					SW-SM		Gray (Gley 1 6/N) well graded fine to coarse subangular SAND with Silt, trace loose fat clay, trace pyrite
606							
608							
					SW-SM		

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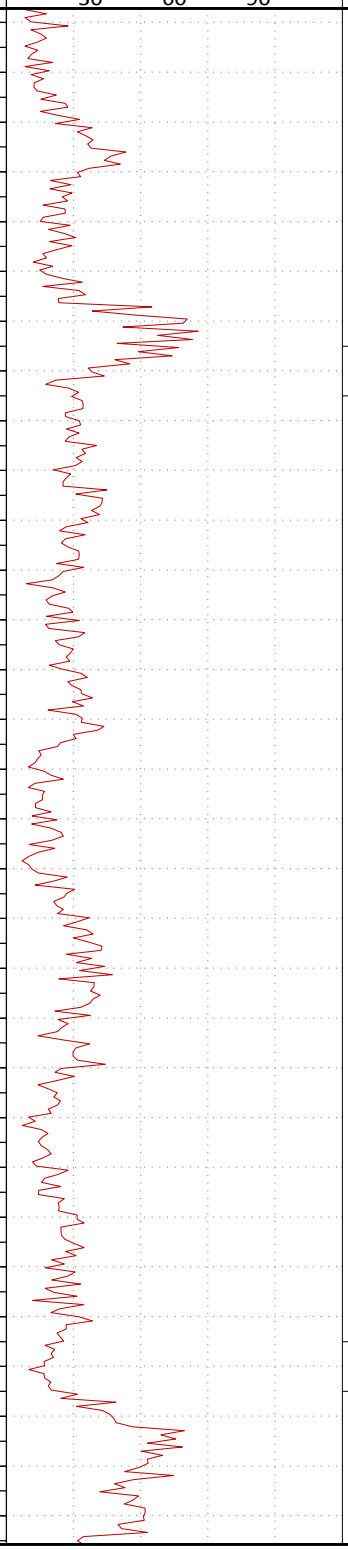

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
610				Magothy	SW-SM		Gray (Gley 1 6/N) well graded fine to coarse subangular SAND with Silt, trace loose fat clay, trace pyrite *(continued)*
612							
614					SW-SM		Gray (Gley 1 6/N) well graded fine to coarse subangular SAND with Silt, trace loose fat clay, trace pyrite
616							
618							
620		< 0.50	< 0.50		SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND
622							
624	0				CH		Gray (Gley 1 5/N) stiff fat CLAY with fine Sand, laminated
626					CH		Gray (Gley 1 6/N) fine to medium subangular Sandy medium fat CLAY, trace lignite
628							
630					SW-SC		Gray (Gley 1 6/N) well graded fine to coarse subangular SAND with medium fat Clay, trace pyrite, trace lignite
632							
634					SW-SC		Gray (Gley 1 6/N) well graded fine to coarse subangular SAND with medium fat Clay, trace pyrite, trace lignite
636							
638							
640		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine to medium subangular Sandy loose fat CLAY, trace pyrite, trace lignite
642							
644					CH		Gray (Gley 1 5/N) fine to medium subangular Sandy loose fat CLAY, trace pyrite, trace lignite
646							
648							
650					CH		Gray (Gley 1 5/N) fine to coarse subangular Sandy loose fat CLAY, trace pyrite, trace lignite
652							
654					CH		Gray (Gley 1 5/N) fine to coarse subangular Sandy loose fat CLAY, trace pyrite, trace lignite
656							
658							
660		< 0.50	< 0.50		SC		Gray (Gley 1 5/N) loose fat Clayey fine to medium subangular SAND, trace pyrite, trace lignite
662							
664	0				SC		Gray (Gley 1 5/N) medium fat Clayey fine to medium subangular SAND, trace pyrite, trace lignite
666					CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace pyrite
668							
670					CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace pyrite

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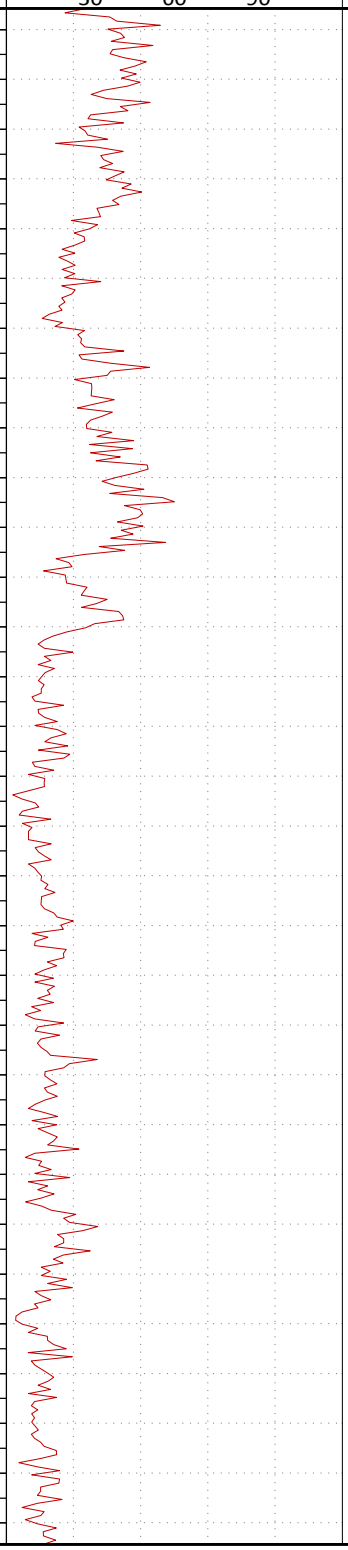

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
672				Magothy	CH		Gray (Gley 1 5/N) medium fat CLAY with fine to medium subangular Sand, trace pyrite *(continued)*
674							
676					CH		Gray (Gley 1 5/N) fine to coarse subangular Sandy stiff fat CLAY, trace pyrite, trace lignite
678							
680		< 0.50	< 0.50		CH		Gray (Gley 1 5/N) fine to coarse subangular Sandy stiff fat CLAY, trace lignite
682							
684					CH		Gray (Gley 1 5/N) loose fat CLAY with fine to medium subangular Sand, trace pyrite, trace lignite
686							
688					SC		Gray (Gley 1 5/N) loose fat Clayey fine to medium subangular SAND, trace pyrite, trace lignite
690							
692					SC		Gray (Gley 1 5/N) loose fat Clayey fine to coarse subangular SAND, trace pyrite, trace lignite
694							
696					SW-SC		Gray (Gley 1 5/N) well graded fine to coarse subangular SAND with medium fat Clay, trace pyrite, trace lignite
698							
700					SW-SC		Gray (Gley 1 5/N) well graded fine to coarse subangular SAND with medium fat Clay, trace pyrite, trace lignite
702							
704					GW		Gray (Gley 1 5/N) well graded fine to coarse subangular GRAVEL, trace Pyrite
706							
708					GW		Gray (Gley 1 5/N) well graded fine to coarse subangular GRAVEL, trace Pyrite
710		< 0.50	< 0.50				
712					SW-SC		Gray (Gley 1 5/N) well graded fine to coarse subrounded to subangular SAND with loose fat Clay
714							
716					SW		Gray (Gley 1 5/N) well graded fine to coarse subrounded to subangular SAND
718							
720		< 0.50	< 0.50		SW		Gray (2.5 Y 5/1) well graded fine to coarse subrounded to subangular SAND, little fine subangular Gravel
722							
724							
726							
728							
730							
732							

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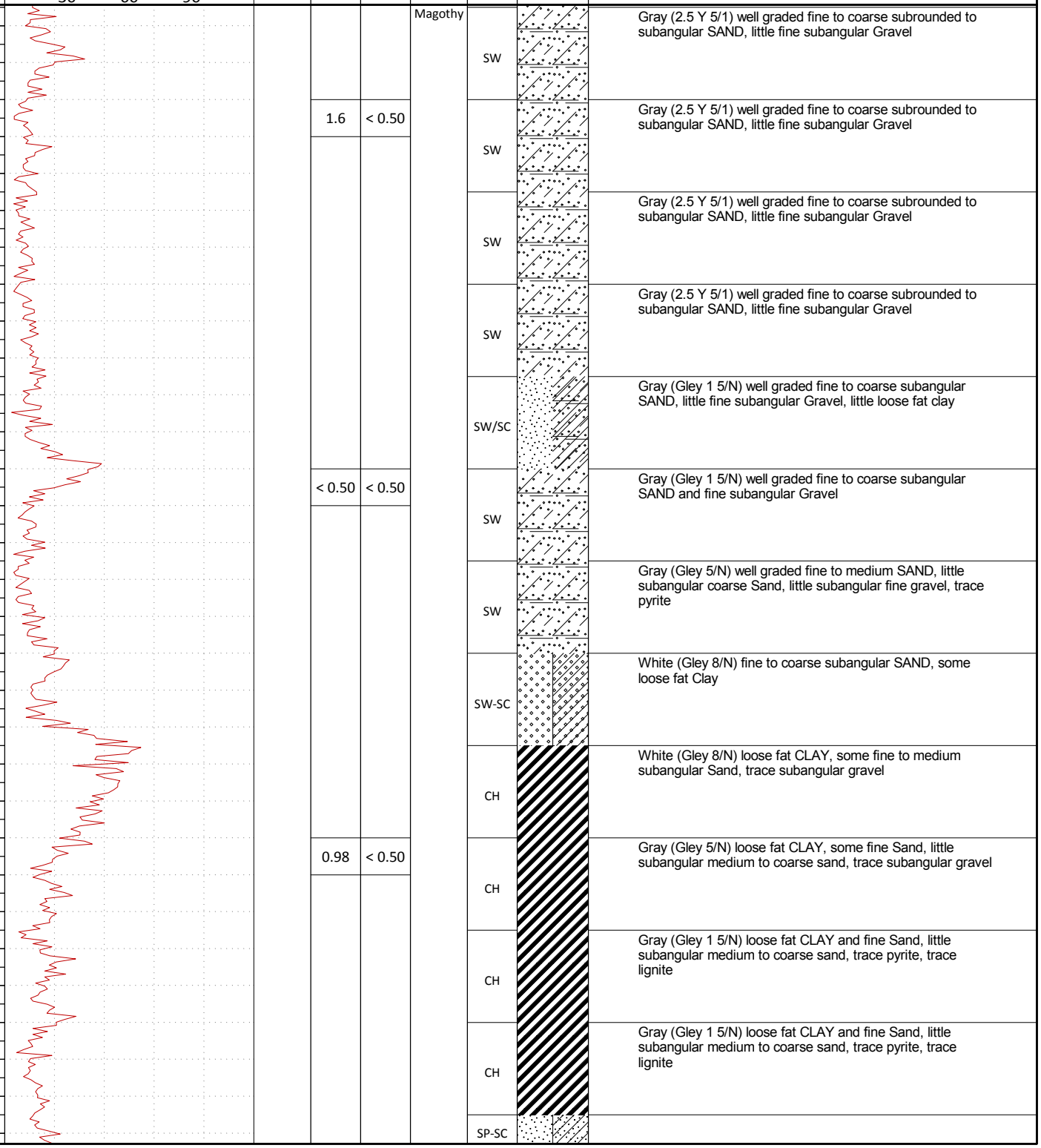

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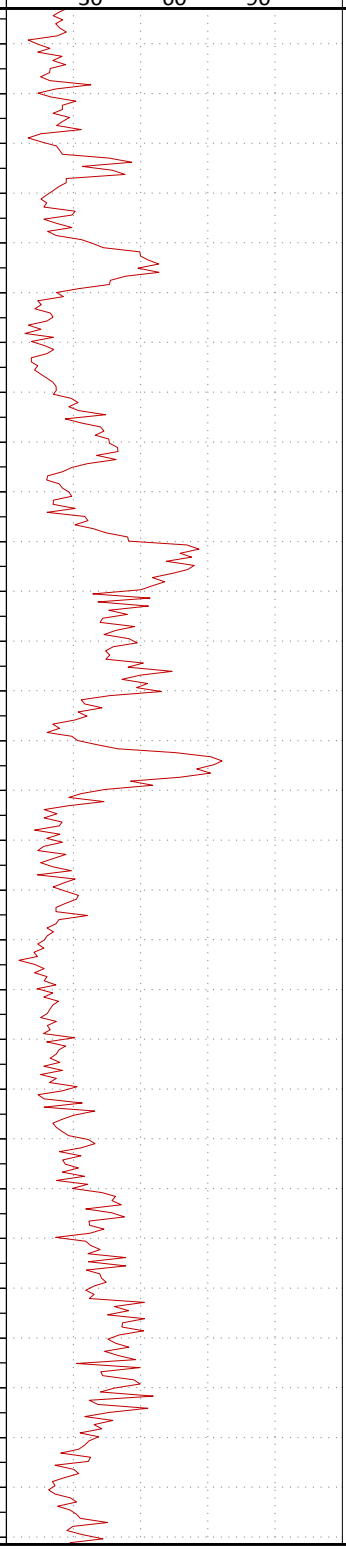

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
796				Magothy	SP-SC		Gray (Gley 1 5/N) fine SAND, some loose fat Clay, little medium to coarse subangular sand, trace pyrite, trace lignite *(continued)*
798							
800		0.77	< 0.50		SP-SC		Gray (Gley 1 5/N) fine to medium SAND, little loose fat Clay, trace pyrite, trace lignite
802							
804					SP-SC		Gray (Gley 1 5/N) fine to medium SAND, little loose fat Clay, trace pyrite, trace lignite
806							
808					SP-SC		Gray (Gley 1 5/N) fine to medium SAND, little loose fat Clay, trace pyrite, trace lignite
810							
812					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
814							
816					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
818							
820		< 0.50	< 0.50		CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
822							
824					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
826							
828					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
830							
832					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
834							
836					CH		Gray (Gley 5/N) loose fat CLAY, some fine to coarse subangular Sand, trace pyrite, trace lignite
838							
840		< 0.50	< 0.50		SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace lignite, trace pyrite
842							
844					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace lignite, trace pyrite
846							
848					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace lignite, trace pyrite
850							
852					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace fine subangular gravel, trace pyrite, trace lignite
854							
856							

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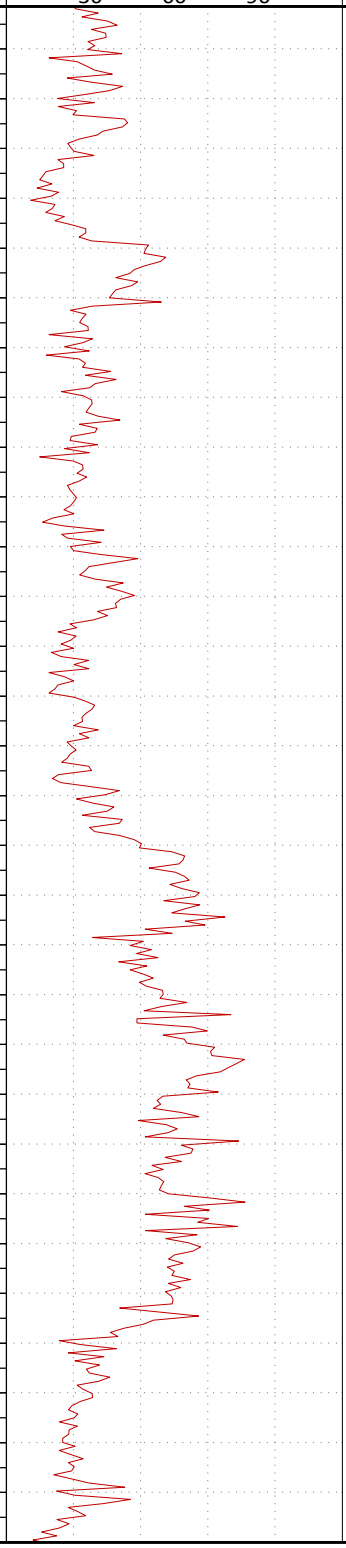

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
858				Magothy	SP-SC		
860		< 0.50	< 0.50		SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace fine subangular gravel, trace pyrite, trace lignite
862							
864					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace fine subangular gravel, trace pyrite, trace lignite
866							
868							
870					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace pyrite, trace lignite
872							
874					SP-SC		Gray (Gley 1 5/N) fine SAND, loose fat Clay, trace pyrite, trace lignite
876							
878							
880		< 0.50	< 0.50		SC		Gray (Gley 1 6/N) loose fat Clayey fine SAND, trace lignite
882							
884					SC		Gray (Gley 1 6/N) loose fat Clayey fine SAND, trace lignite
886							
888							
890					SC		Gray (Gley 1 6/N) loose fat Clayey fine SAND, trace lignite
892							
894					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace lignite
896							
898							
900					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace lignite
902							
904					CH		Gray (Gley 1 5/N) medium fat CLAY with fine Sand, trace lignite
906							
908							
910					CH		Gray (Gley 1 6/N) fine to medium Sandy loose fat CLAY, trace lignite
912							
914							
916					SC		Gray (Gley 1 6/N) loose fat Clayey fine to medium subrounded SAND, trace lignite
918							

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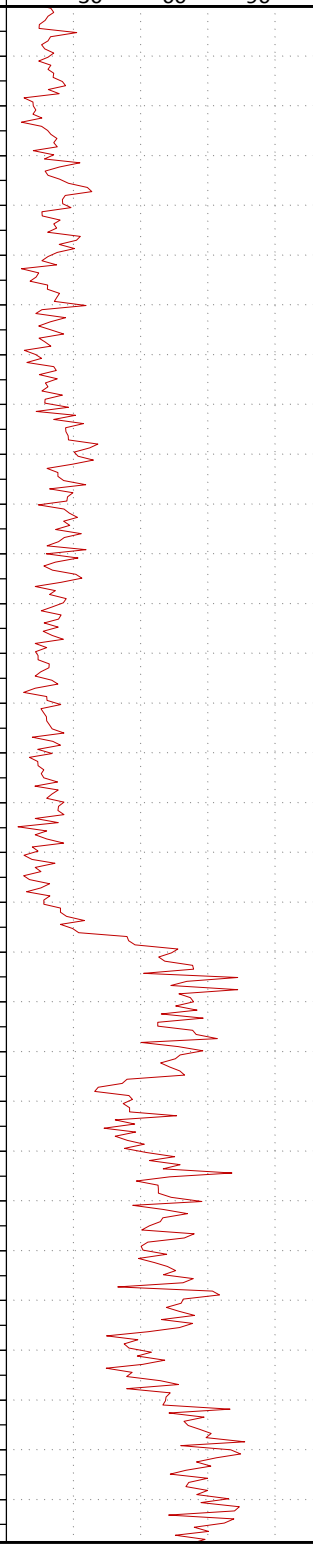

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
918				Magothy	SC		Gray (Gley 1 6/N) loose fat Clayey fine to coarse subrounded SAND, trace lignite
924		< 5.0	< 5.0		SC		Gray (Gley 1 6/N) loose fat Clayey fine to coarse subrounded SAND, trace lignite
930					SW-SC		Gray (Gley 1 6/N) well graded fine to coarse subrounded SAND with loose fat Clay, trace lignite
934					SW-SC		Gray (Gley 1 6/N) well graded fine to coarse subrounded SAND with loose fat Clay, trace lignite
940		< 5.0	< 5.0		SW-SC		Gray (Gley 1 6/N) well graded fine to coarse subrounded SAND with loose fat Clay, trace lignite
944					SW-SM		Gray (Gley 1 6/N) well graded fine to coarse subrounded SAND with Silt
950					SP-SM		Gray (Gley 1 6/N) poorly graded fine to coarse subangular SAND with Silt, trace lignite, trace clay
954					SP-SM		Gray (Gley 1 6/N) poorly graded fine to coarse subangular SAND with Silt, trace lignite, trace clay
960		< 20	< 20		SM		Gray (Gley 1 6/N) Silty fine to coarse subangular SAND, trace lignite, trace clay
964					SM		Gray (Gley 1 6/N) Silty fine to coarse subangular SAND, trace lignite, trace clay
970					SM		Gray (Gley 1 6/N) Silty fine to coarse subangular SAND, trace lignite, trace clay
974					SC		Gray (Gley 1 6/N) medium fat Clayey fine to coarse subangular SAND, trace lignite
978	0			Raritan	CH		Gray (Gley 1 6/N) stiff fat CLAY, trace Lignite

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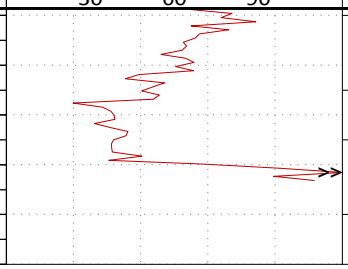
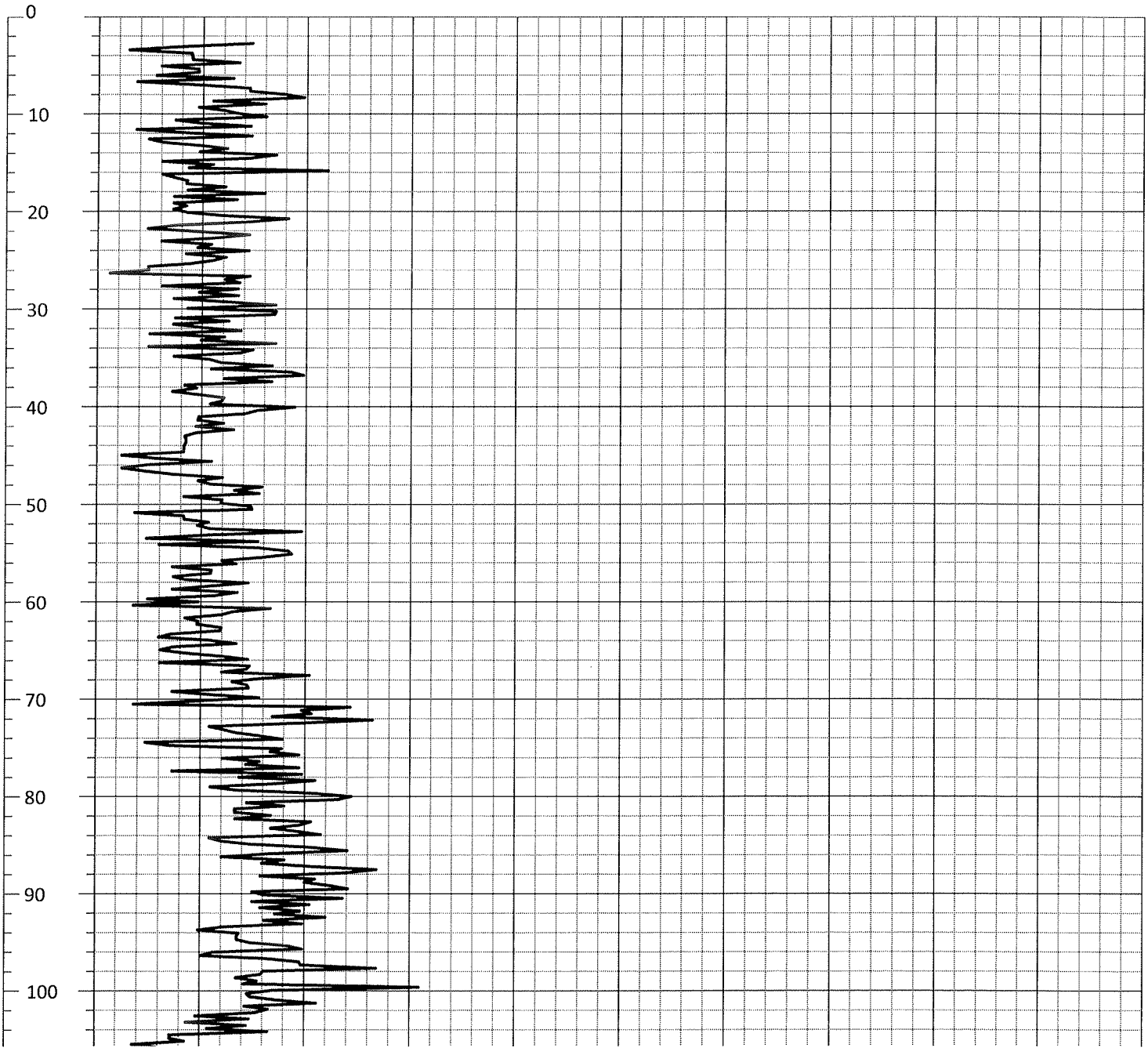
DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
980					Raritan			
982						CH		Gray (Gley 1 6/N) stiff fat CLAY, trace Lignite
984		0				CH		Light reddish brown (2.5 YR 6/4) and white (5 Y 8/1) mottled stiff fat CLAY
986						CH		Light reddish brown (2.5 YR 6/4) and white (5 Y 8/1) mottled stiff fat CLAY
988								
990		0				CH		Red (10 R 4/6) and light gray (Gley 1 7/N) mottled stiff fat CLAY, trace Lignite

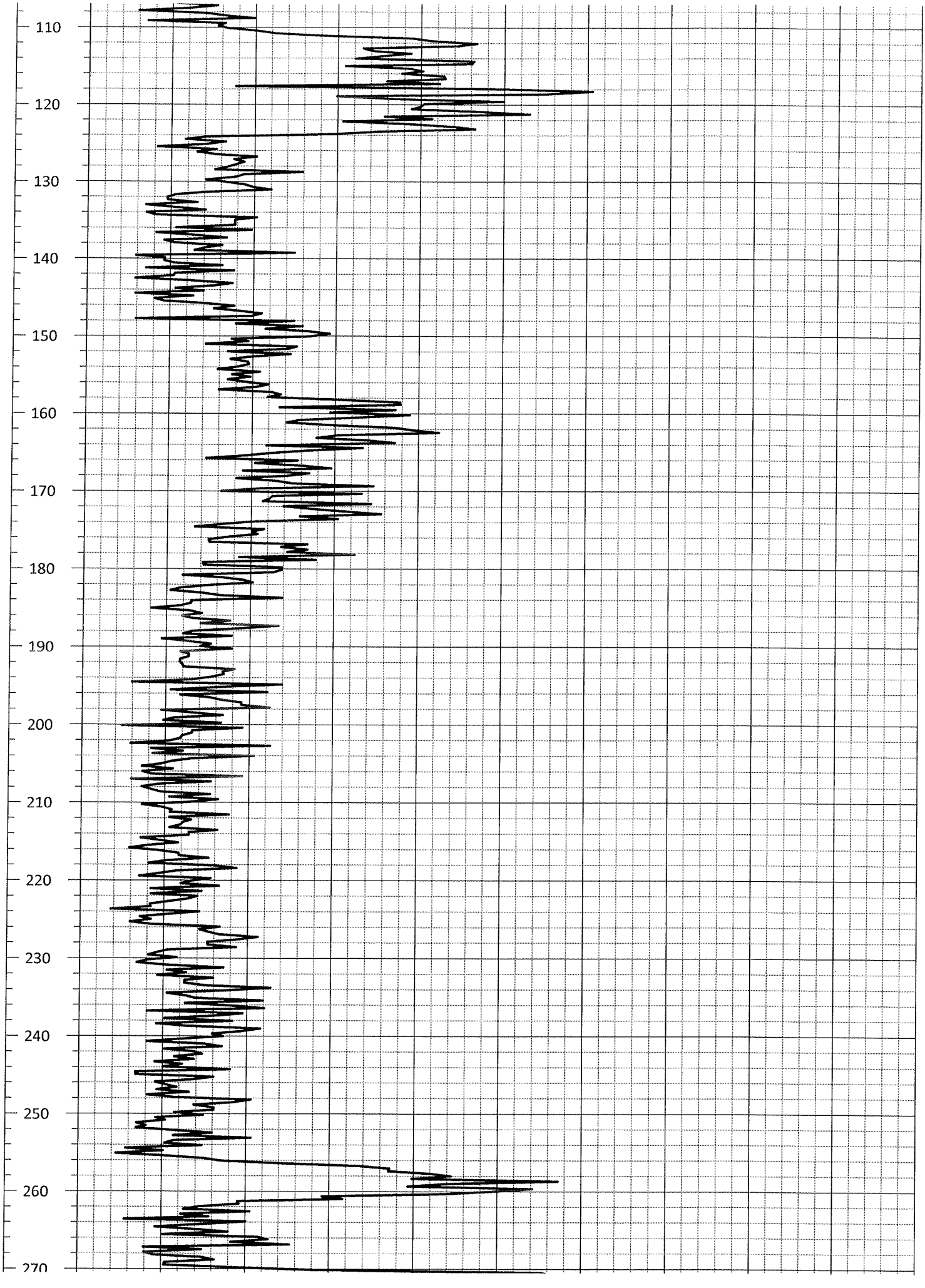
End of boring at 990.0 ft. bgs.

Down

COMPANY:	DELTA WELL & PUMP CO., INC.
LOCATION:	NWIRP HARRIAD DR W
Well: VP-151	Depth Driller:
	Depth Logger:
Date: 08/29/2014 Time:	Logged by: CMO
File Name: 739	Witness: MIKE

Depth (ft.)	0.0	GAMMA (cps)	100.0

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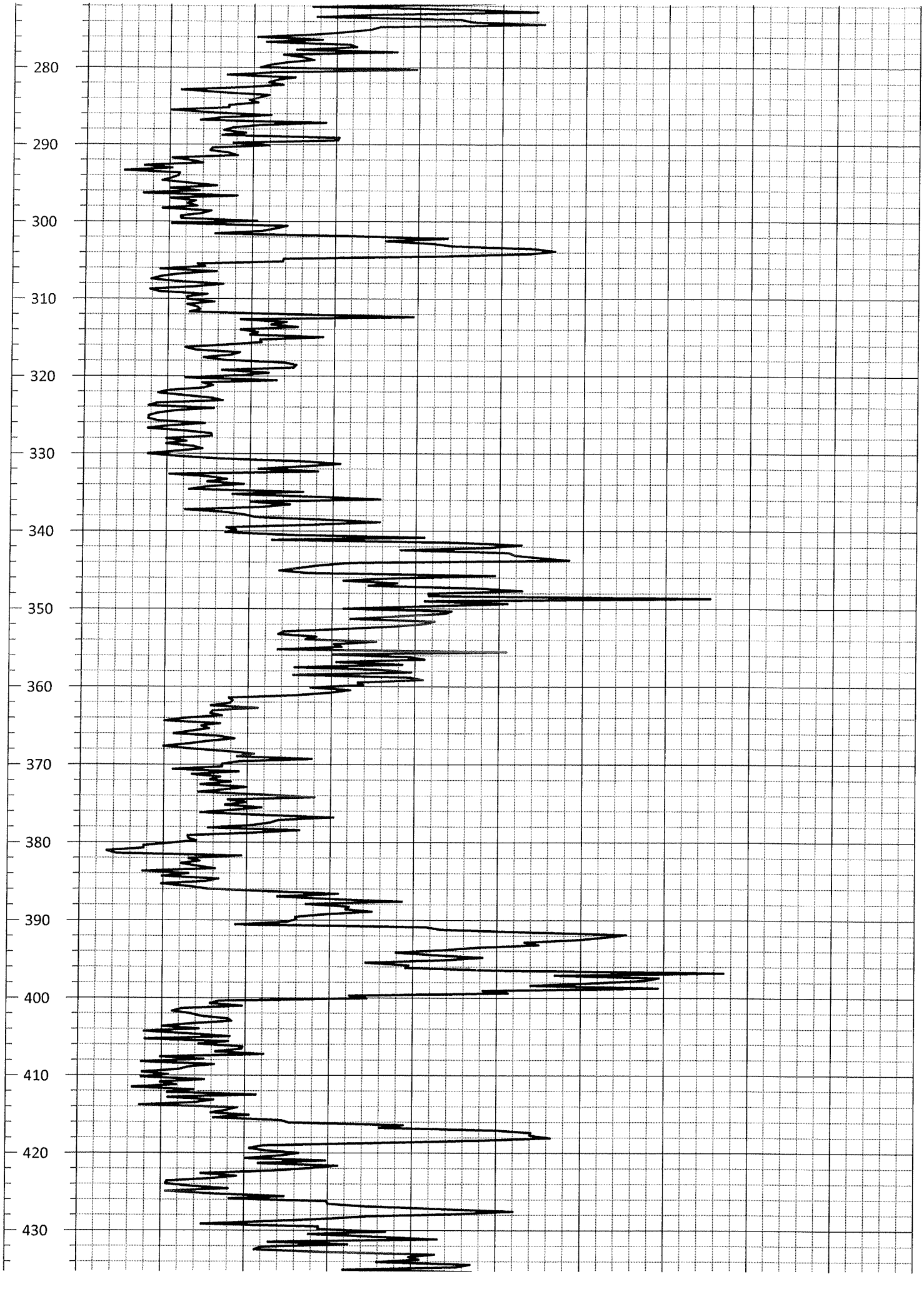
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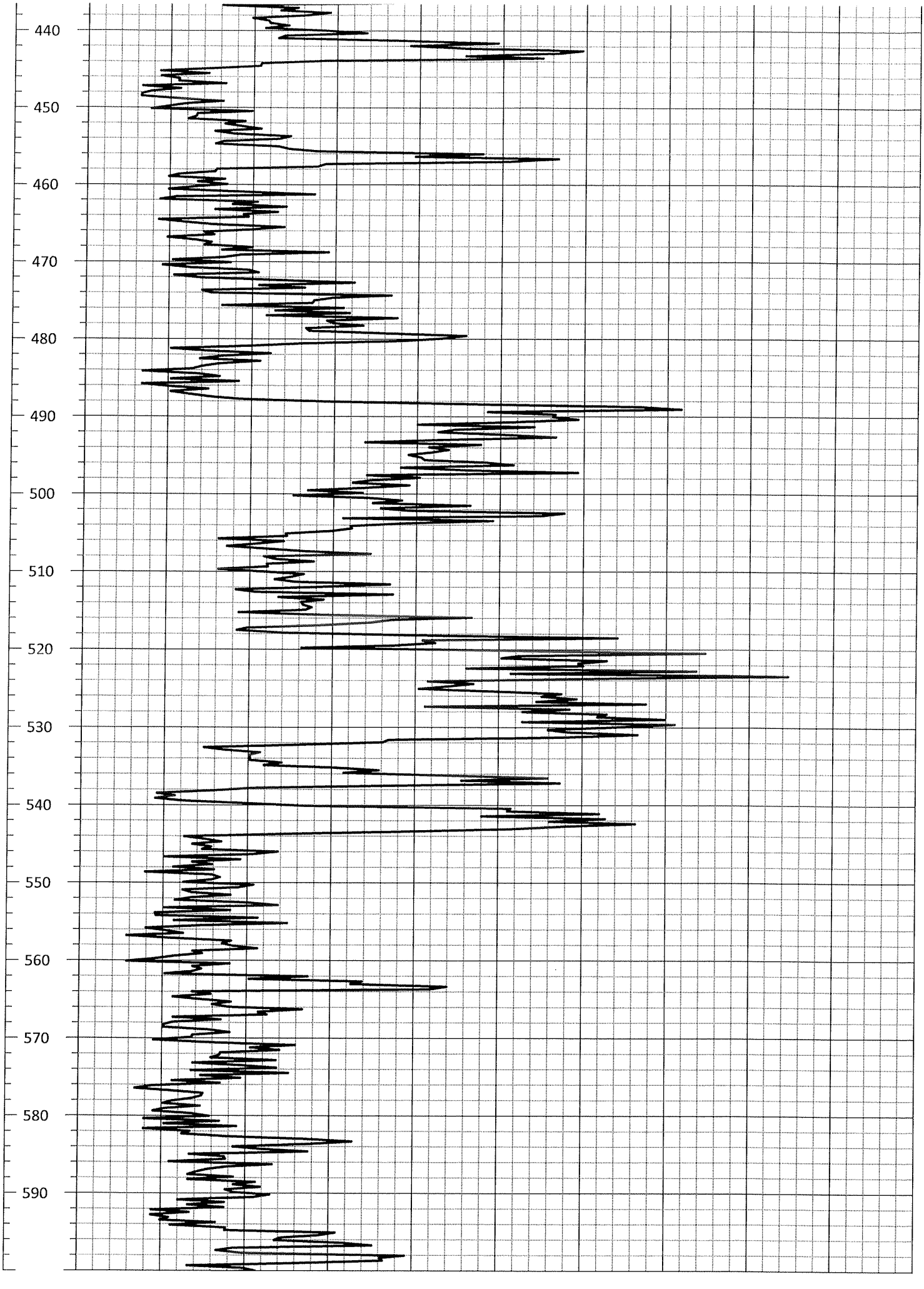
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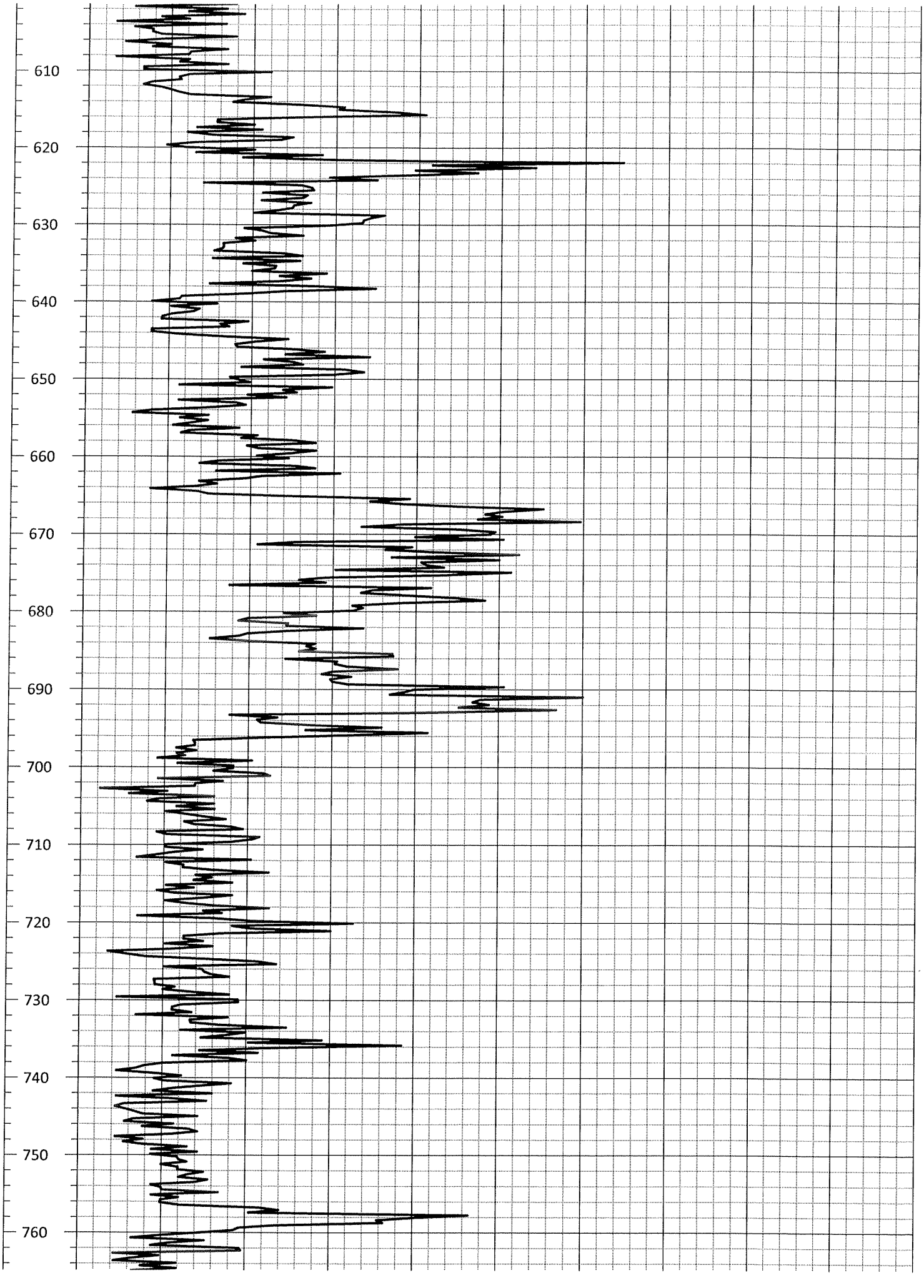
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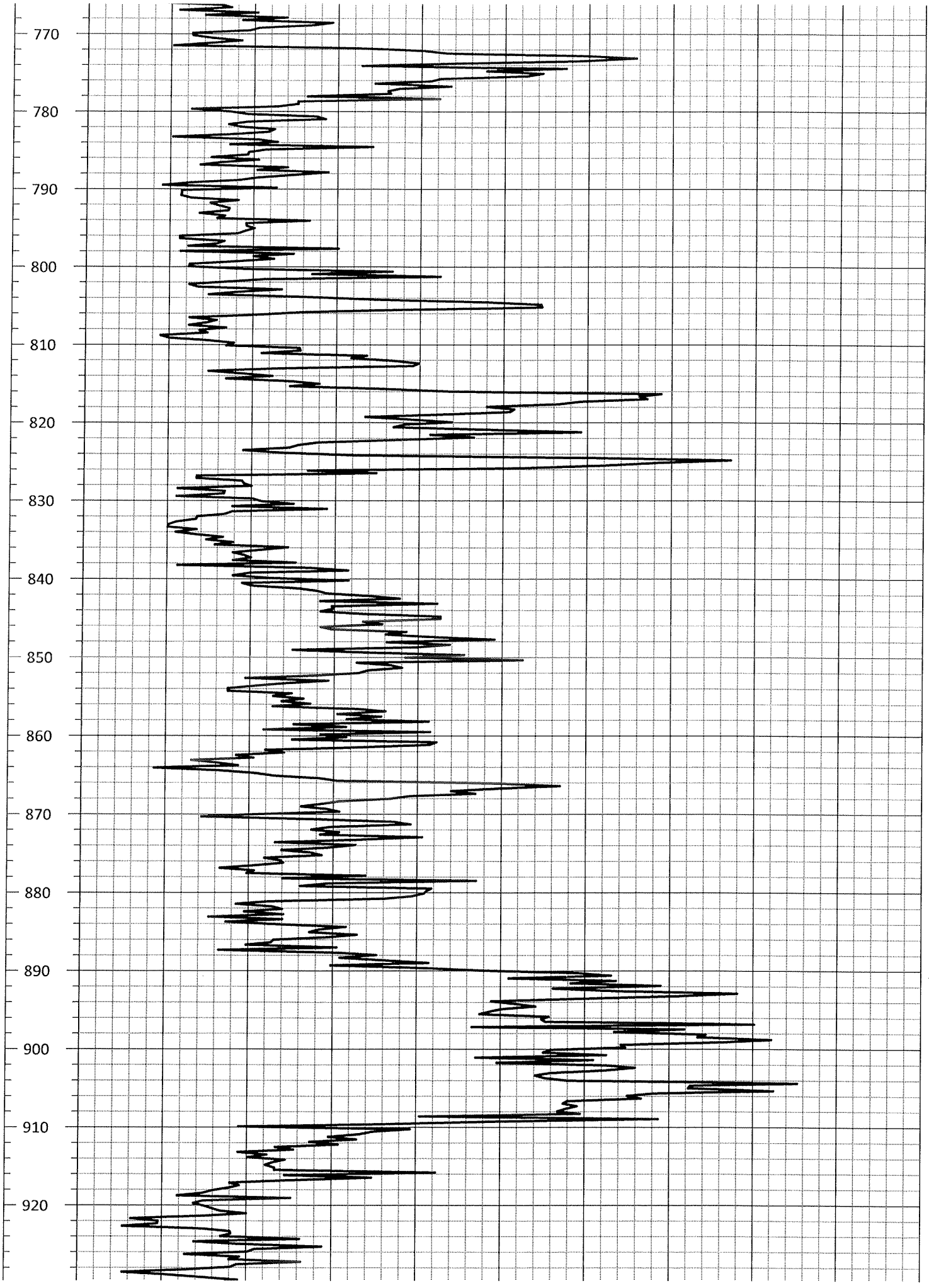
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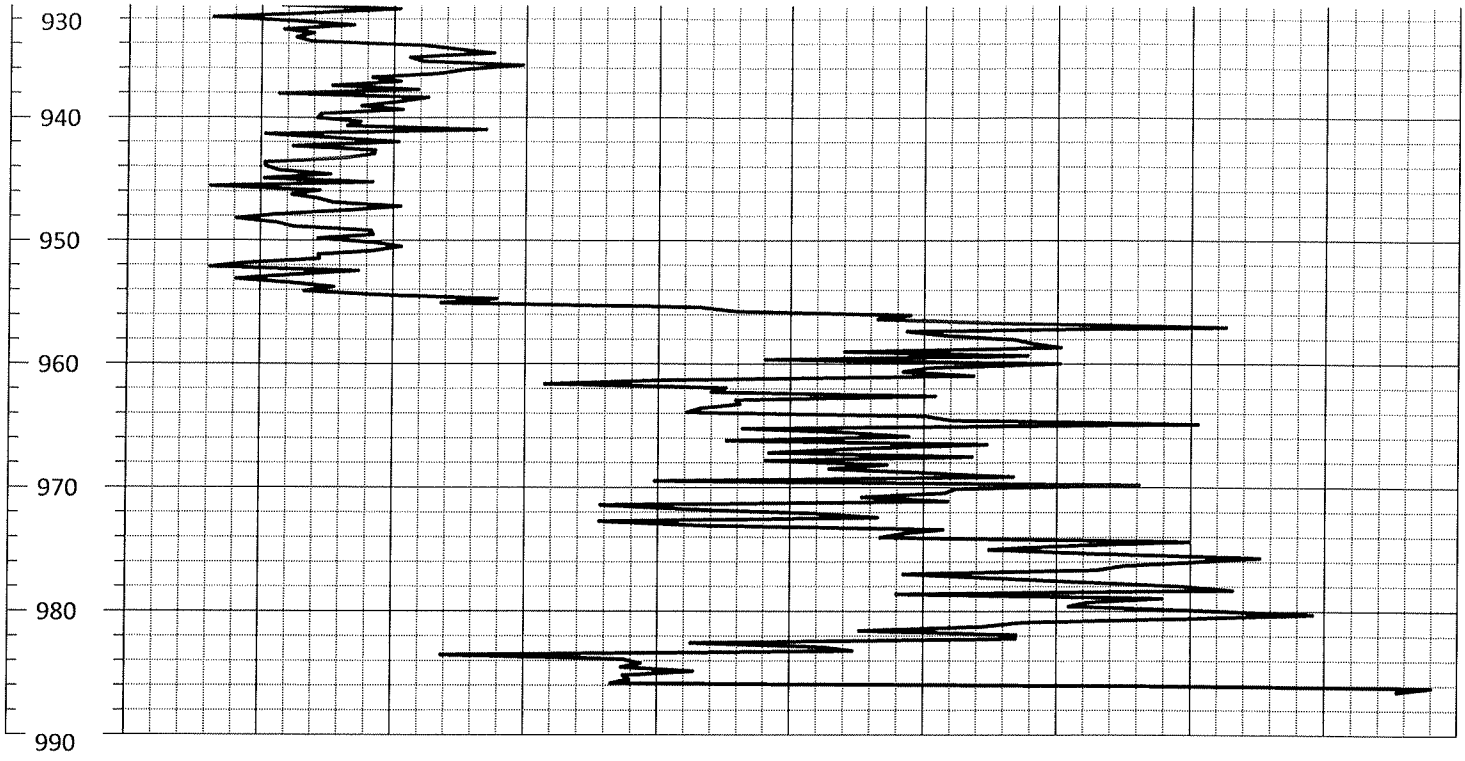
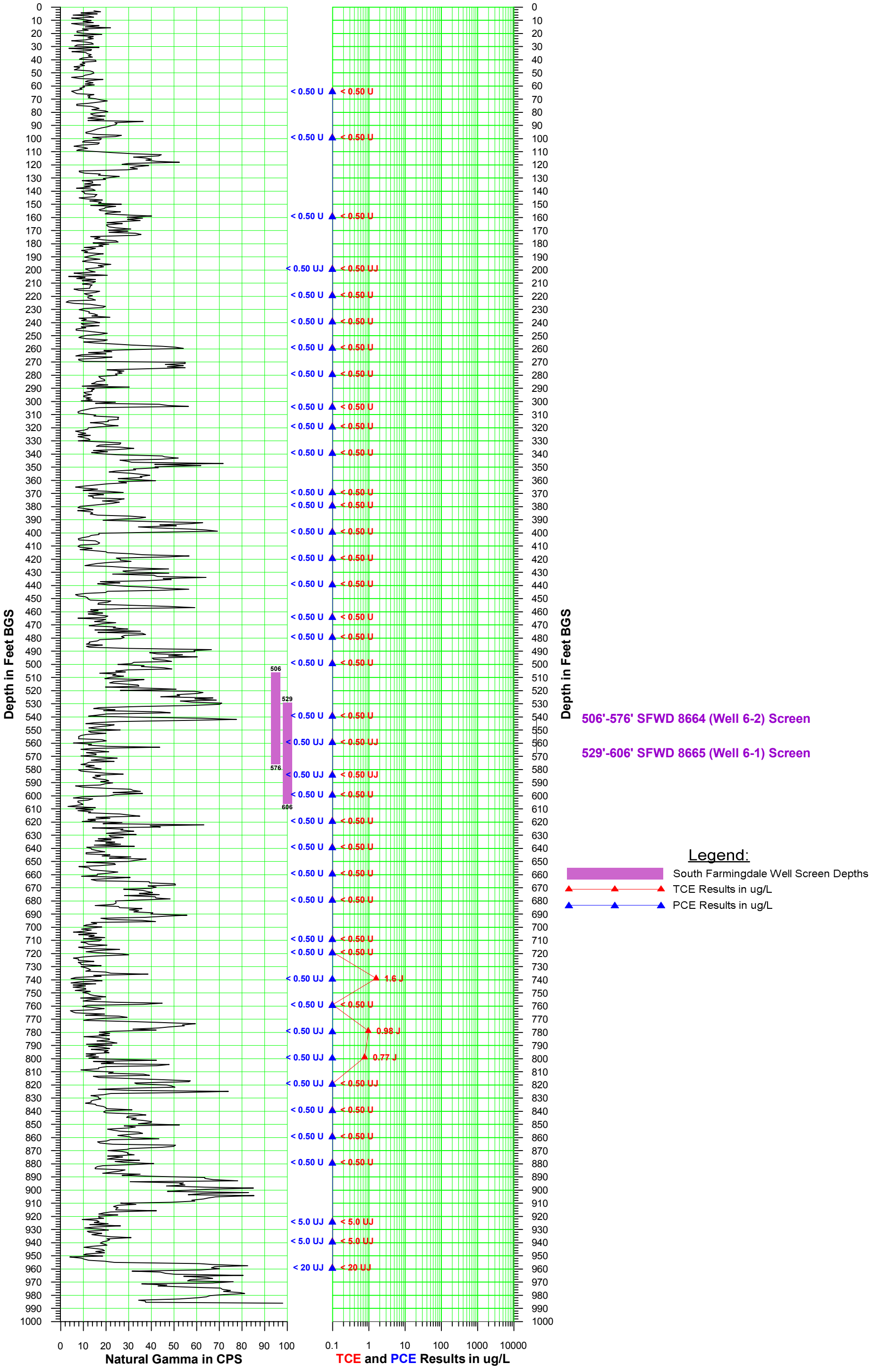


Depth (ft.)	GAMMA (cps)
	0.0 — 100.0

Section 2

VPB 151 Gamma and PCE/TCE Plot

Vertical Profile Boring VPB-151
Downward Run - August 29, 2014
Validated Analytical Data



Section 3

VPB 151 Groundwater Sample Log Sheets

Hydropunch Sample

Client: Navy (ResCon)
Project No: 60266526
Site Location: NWIRP Bethpage
Weather Conds:

Date :
VPB: 151
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
7-21-14	1250	24.23	6.84	574	5.18	77.2	456.0	63	65	cloudy / ~~yellow~~ brown
7-21-14	1520	24.04	6.31	495	3.92	4.7	359.7	95	100	Cloudy
7-23-14	1245	23.89	6.16	156	8.55	64.7	195.8	158	160	cloudy / yellow brown
7-23-14	1430	23.61	7.27	772	0.70	-13.4	<1,000	198	200	gray brown
7-24-14	1510	23.42	7.24	727	1.57	5.6	<1,000	218	220	gray
7-25-14 MS/MSD	1020	21.18	6.36	324	3.21	4.2	705.9	238	240	cloudy
7-25-14	1445	22.84	6.03	222	1.61	53.2	145.4	258	260	Clear
7-30-14 Dup	1000	21.88	6.04	260	6.91	48.3	230.7	278	280	cloudy
7-30-14	1410	21.80	6.08	204	6.68	91.8	639.2	303	305	cloudy
7-31-14	1020	21.04	5.86	252	3.26	87.7	483.7	318	320	cloudy
7-31-14	1300	23.47	5.63	254	2.91	60.9	239.3	338	340	Cloudy
8-1-14	1005	22.23	6.77	284	4.48	41.3	317.4	368	370	Cloudy
8-1-14	1210	22.91	5.87	243	5.14	42.4	389.1	378	380	cloudy
8-1-14	1410	22.83	5.76	227	4.10	79.4	656.4	398	400	light brown
8-4-14	1045	20.86	5.96	282	4.31	81.2	248.3	418	420	light brown
8-4-14	1345	21.53	5.98	261	4.16	80.2	304.1	438	440	light brown
8-5-14	1130	22.41	5.89	298	2.23	57.4	323.3	463	465	light brown
8-5-14	1345	23.08	5.92	300	3.22	101.4	441.8	478	480	light brow
8-5-14	1550	22.96	5.88	284	2.18	103.9	782.4	498	500	light gray
8-11-14	1120	Note enough sample to measure						538	540	gray
8-11-14	1350	22.73	6.27	249	3.71	42.7	821.3	558	560	light gray
8-12-14	1205	not enough sample to measure						583	585	dark gray

Hydropunch Sample

Client: Navy (ResCon)
Project No: 60266526
Site Location: NWIRP Bethpage
Weather Conds:

Date: c
VPB: ~~15~~ 15 1
Collector(s): Mike Zabel

Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
8-12-14	1430	22.91	6.14	238	3.72	112.1	680.2	598	600	light gray
8-14-14	1035	20.15	7.43	128	3.69	84.4	365.3	618	620	cloudy
8-14-14	1415	20.22	6.19	54	6.09	115.5	376.3	638	640	cloudy
DUP & MS/MSD → 8-15-14	1020	21.06	6.69	144	1.80	85.1	720.9	658	660	light brown
8-15-14	1340	21.39	6.13	118	2.64	108.4	638.5	678	680	light gray
8/19/14	1030	19.68	6.90	180	3.98	-8.6	>1100.0	708	710	cloudy, brown
8/19/14	1300	21.45	6.60	196	4.72	5.4	1100.0	718	720	light brown
8/19/14	1550							738	740	not enough sample
8/20/14	1130	23.52	6.00	85	5.06	109.9	1100.0	758	760	cloudy, light brown
8/20/14	1440	20.49	6.54	260	2.85	-21.5	over	778	780	cloudy, brown
8/21/14	1115	21.47	6.45	551	1.06	-5.8	over	798	800	cloudy, brown
8/21/14	1405	20.29	5.62	57	2.22	161.8	8208	818	820	Very light brown
8/22/14	1005	19.78	6.31	237	6.64	35.1	213.8	838	840	light brown
8/22/14	1245	21.67	6.08	296	1.06	84.2	679.8	858	860	cloudy brown
8-25-14	1110	21.07	7.25	101	3.72	73.6	655.8	878	880	light brown
8-26-14	1330	—	Not	enough	to sample	—	—	923	925	gray - very muddy
8-27-14	1040	21.23	7.12	614	0.25	-155.5	>1,100	938	940	gray - very muddy
8-27-14	1350	21.48	7.18	561	0.43	-168.2	>1,100	958	960	gray - very muddy

Section 4

VPB 151 Analytical Data Validation

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

RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH5188	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) and EPA SW-846 Method 8270D for SVOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/18/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH5188_2540G, 8260B and 8270D

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on July 11, 2014.

Sample ID	Matrix/Sample Type
VPB151-SOIL-071114-20-25	Soil
VPB151-TB-071114	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *SW-846 Method 8270D, Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 2007), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results

NA	Field duplicates
✓	Internal standards
✓	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness

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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and truncated the IDs for the Trip Blank and the Soil in the report.

Holding Times/Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The 8260B data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

The 8270C data were reviewed to ensure that the decafluorotriphenylphosphine (DFTPP) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Table A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required. The QC acceptance criteria were met and/or qualification of the sample results was not required.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS/LCSD Results

The LCS/LCSD %Rs and/or relative percent recoveries (RPDs) were reviewed for conformance with the QC acceptance criteria.

Nonconformances are summarized in Attachment A in Table A-3.

Data qualification to the analytes associated with the specific LCS %Rs or RPDs was as follows:

Nonconformances[1]	Action	
	Detected Compounds	Nondetected Compounds
%R or RPD > UL	J	No qualification
%R < LL	J	UJ
%R < 20% (see note 1)	J	R
(LL = lower limit, UL = upper limit)		

Notes:

1. Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject sample results previously negated (U) on the basis of blank contamination.

Qualified sample results are shown in Table 1.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-SOIL-071114-20-25	SO	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		2.4	UG/KG	UJ	c
VPB151-SOIL-071114-20-25	SO	2-HEXANONE		12	UG/KG	UJ	c
VPB151-SOIL-071114-20-25	SO	2,2'-OXYBIS(1-CHLOROPROPANE)		220	UG/KG	UJ	c
VPB151-SOIL-071114-20-25	SO	2-CHLORONAPHTHALENE		220	UG/KG	UJ	l
VPB151-SOIL-071114-20-25	SO	BIS(2-CHLOROETHOXY)METHANE		220	UG/KG	UJ	l
VPB151-TB-071114	SQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		2.5	UG/KG	UJ	c
VPB151-TB-071114	SQ	2-HEXANONE		12	UG/KG	UJ	c

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG145897-8	2,2'-OXYBIS(1-CHLOROPROPANE)	73	80-120%
Associated sample: VPB151-SOIL-071114-20-25			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG146479-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	26	≤20%
	2-HEXANONE	-23	≤20%
Associated samples: all samples in SDG SH5188			

Table A-3 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	RPD	RPD Limit	Associated Samples
WG146521-2	BIS(2-CHLOROETHOXY)METHANE	44.6	42	45	110	6	50	VPB151-SOIL-071114-20-25
WG146521-2	2-CHLORONAPHTHALENE	41.2	41.9	45	105	2	50	VPB151-SOIL-071114-20-25

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 425-4900	( )

Address	City	State	Zip Code
100 Red Schoolhouse Rd	Chestnut Ridge	NY	10977

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage / 60266526	

Bill (if different than above)	Address

Sampler (Print / Sign)	Copies To:
Michael Zobel / Michael Zobel	

LAB USE ONLY WORK ORDER #: 5H5188

KATAHDIN PROJECT NUMBER _____

REMARKS: _____

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO: _____

TEMP°C _____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: 8260 VOC	8270 SVOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-Soil-071114-20-25	7-11-14 / 1300	Soil	6	✓	✓									
	VPB151-TripBlank-071114	10-8-13 / 1000	W	4	✓										
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	7-11-14 / 1600	[signature] 7/12			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL

KAS-COC1

Katahdin
ANALYTICAL SERVICES

Accredited in accordance with nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-1
Client ID: 151-SL-071114-20-25
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: T1846.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 14-JUL-14
Extracted By: REC
Extraction Method: SW846 5035
Lab Prep Batch: WG146479

Analysis Date: 14-JUL-14
Analyst: REC
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 86.
Report Date: 23-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	4.8	ug/Kgdrywt	1	10	9.6	0.88	4.8
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.6	0.87	4.8
Freon-113	~~U~~ U5	2.4	ug/Kgdrywt	1	5	4.8	0.86	2.4
Methyl Acetate	U	2.9	ug/Kgdrywt	1	5	4.8	2.6	2.9
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.0	2.4
Cyclohexane	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Methylcyclohexane	U	2.4	ug/Kgdrywt	1	5	4.8	0.92	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.3	4.8
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.0	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.6	0.84	4.8
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.2	4.8
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.6	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.96	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.40	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.96	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.93	2.4
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.82	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.67	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.

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R 12/24/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-1
Client ID: 151-SL-071114-20-25
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: T1846.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 14-JUL-14
Extracted By: REC
Extraction Method: SW846 5035
Lab Prep Batch: WG146479

Analysis Date: 14-JUL-14
Analyst: REC
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 86.
Report Date: 23-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	~~U~~ UJ	12	ug/Kgdrywt	1	25	24.	4.6	12.
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.62	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.6	1.6	4.8
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Xylenes (Total)	U	7.2	ug/Kgdrywt	1	15	14.	1.2	7.2
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.42	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.73	2.4
Dibromofluoromethane		105.	%					
1,2-Dichloroethane-d4		104.	%					
Toluene-d8		103.	%					
P-Bromofluorobenzene		93.0	%					

R 12/22/14

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-2
Client ID: VPB151-TB-071114
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: T1845.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 14-JUL-14
Extracted By: REC
Extraction Method: SW846 5035
Lab Prep Batch: WG146479

Analysis Date: 14-JUL-14
Analyst: REC
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 100
Report Date: 23-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Freon-113	~~U~~ UJ	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Methyl Acetate	U	3.0	ug/Kgdrywt	1	5	5.0	2.7	3.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Cyclohexane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
Methylcyclohexane	U	2.5	ug/Kgdrywt	1	5	5.0	0.96	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.

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12/21/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-2
Client ID: VPB151-TB-071114
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: T1845.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 14-JUL-14
Extracted By: REC
Extraction Method: SW846 5035
Lab Prep Batch: WG146479

Analysis Date: 14-JUL-14
Analyst: REC
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 100
Report Date: 23-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	~~U~~ UJ	12	ug/Kgdrywt	1	25	25.	4.8	12.
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Xylenes (Total)	U	7.5	ug/Kgdrywt	1	15	15.	1.3	7.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
Dibromofluoromethane		111.	%					
1,2-Dichloroethane-d4		111.	%					
Toluene-d8		108.	%					
P-Bromofluorobenzene		100.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-1
Client ID: 151-SL-071114-20-25
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: U6542.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 15-JUL-14
Extracted By: JMS
Extraction Method: SW846 3550
Lab Prep Batch: WG146521

Analysis Date: 19-JUL-14
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: SL
% Solids: 86.
Report Date: 22-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Phenol	U	220	ug/Kgdrywt	1	330	300	140	220
Bis(2-Chloroethyl)Ether	U	220	ug/Kgdrywt	1	330	300	73.	220
2-Chlorophenol	U	220	ug/Kgdrywt	1	330	300	150	220
1,3-Dichlorobenzene	U	220	ug/Kgdrywt	1	330	300	70.	220
1,4-Dichlorobenzene	U	220	ug/Kgdrywt	1	330	300	77.	220
1,2-Dichlorobenzene	U	220	ug/Kgdrywt	1	330	300	79.	220
2-Methylphenol	U	220	ug/Kgdrywt	1	330	300	180	220
2,2'-Oxybis(1-Chloropropane)	~~U~~ UJ	220	ug/Kgdrywt	1	330	300	80.	220
3&4-Methylphenol	U	220	ug/Kgdrywt	1	330	300	170	220
N-Nitroso-Di-N-Propylamine	U	220	ug/Kgdrywt	1	330	300	75.	220
Hexachloroethane	U	220	ug/Kgdrywt	1	330	300	86.	220
Nitrobenzene	U	220	ug/Kgdrywt	1	330	300	82.	220
Isophorone	U	220	ug/Kgdrywt	1	330	300	68.	220
2-Nitrophenol	U	220	ug/Kgdrywt	1	330	300	150	220
2,4-Dimethylphenol	U	220	ug/Kgdrywt	1	330	300	150	220
Bis(2-Chloroethoxy)Methane	~~ULL~~ UJ	220	ug/Kgdrywt	1	330	300	86.	220
2,4-Dichlorophenol	U	220	ug/Kgdrywt	1	330	300	140	220
1,2,4-Trichlorobenzene	U	220	ug/Kgdrywt	1	330	300	73.	220
Naphthalene	U	220	ug/Kgdrywt	1	330	300	78.	220
4-Chloroaniline	U	220	ug/Kgdrywt	1	330	300	110	220
Hexachlorobutadiene	U	220	ug/Kgdrywt	1	330	300	75.	220
4-Chloro-3-Methylphenol	U	220	ug/Kgdrywt	1	330	300	150	220
2-Methylnaphthalene	U	220	ug/Kgdrywt	1	330	300	83.	220
Hexachlorocyclopentadiene	U	220	ug/Kgdrywt	1	330	300	74.	220
2,4,6-Trichlorophenol	U	220	ug/Kgdrywt	1	330	300	140	220
2,4,5-Trichlorophenol	U	550	ug/Kgdrywt	1	820	740	140	550
2-Chloronaphthalene	~~ULL~~ UJ	220	ug/Kgdrywt	1	330	300	78.	220
2-Nitroaniline	U	550	ug/Kgdrywt	1	820	740	68.	550
Dimethyl Phthalate	U	220	ug/Kgdrywt	1	330	300	70.	220
Acenaphthylene	U	220	ug/Kgdrywt	1	330	300	63.	220
2,6-Dinitrotoluene	U	220	ug/Kgdrywt	1	330	300	71.	220
3-Nitroaniline	U	550	ug/Kgdrywt	1	820	740	85.	550
Acenaphthene	U	220	ug/Kgdrywt	1	330	300	58.	220
2,4-Dinitrophenol	U	550	ug/Kgdrywt	1	820	740	340	550
4-Nitrophenol	U	550	ug/Kgdrywt	1	820	740	280	550

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R 12/2/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5188-1
Client ID: 151-SL-071114-20-25
Project: Navy Clean WE15-03-06 NW
SDG: SH5188
Lab File ID: U6542.D

Sample Date: 11-JUL-14
Received Date: 12-JUL-14
Extract Date: 15-JUL-14
Extracted By: JMS
Extraction Method: SW846 3550
Lab Prep Batch: WG146521

Analysis Date: 19-JUL-14
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: SL
% Solids: 86.
Report Date: 22-JUL-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibenzofuran	U	220	ug/Kgdrywt	1	330	300	71.	220
2,4-Dinitrotoluene	U	220	ug/Kgdrywt	1	330	300	76.	220
Diethylphthalate	U	220	ug/Kgdrywt	1	330	300	72.	220
4-Chlorophenyl-Phenylether	U	220	ug/Kgdrywt	1	330	300	70.	220
Fluorene	U	220	ug/Kgdrywt	1	330	300	73.	220
4-Nitroaniline	U	550	ug/Kgdrywt	1	820	740	120	550
4,6-Dinitro-2-Methylphenol	U	550	ug/Kgdrywt	1	820	740	300	550
N-Nitrosodiphenylamine	U	220	ug/Kgdrywt	1	330	300	200	220
4-Bromophenyl-Phenylether	U	220	ug/Kgdrywt	1	330	300	76.	220
Hexachlorobenzene	U	220	ug/Kgdrywt	1	330	300	74.	220
Pentachlorophenol	U	550	ug/Kgdrywt	1	820	740	210	550
Phenanthrene	U	220	ug/Kgdrywt	1	330	300	75.	220
Anthracene	U	220	ug/Kgdrywt	1	330	300	76.	220
Carbazole	U	220	ug/Kgdrywt	1	330	300	100	220
Di-N-Butylphthalate	U	220	ug/Kgdrywt	1	330	300	91.	220
Fluoranthene	U	220	ug/Kgdrywt	1	330	300	96.	220
Pyrene	U	220	ug/Kgdrywt	1	330	300	91.	220
Butylbenzylphthalate	U	220	ug/Kgdrywt	1	330	300	84.	220
3,3'-Dichlorobenzidine	U	220	ug/Kgdrywt	1	330	300	100	220
Benzo(a)anthracene	U	220	ug/Kgdrywt	1	330	300	77.	220
Chrysene	U	220	ug/Kgdrywt	1	330	300	86.	220
Bis(2-Ethylhexyl)Phthalate	U	220	ug/Kgdrywt	1	330	300	88.	220
Di-N-Octylphthalate	U	220	ug/Kgdrywt	1	330	300	190	220
Benzo(b)fluoranthene	U	220	ug/Kgdrywt	1	330	300	120	220
Benzo(k)fluoranthene	U	220	ug/Kgdrywt	1	330	300	75.	220
Benzo(a)pyrene	U	220	ug/Kgdrywt	1	330	300	84.	220
Indeno(1,2,3-cd)pyrene	U	220	ug/Kgdrywt	1	330	300	110	220
Dibenzo(a,h)anthracene	U	220	ug/Kgdrywt	1	330	300	120	220
Benzo(g,h,i)perylene	U	220	ug/Kgdrywt	1	330	300	94.	220
2-Fluorophenol		45.9						
Phenol-d6		50.9						
Nitrobenzene-d5		45.0						
2-Fluorobiphenyl		51.8						
2,4,6-Tribromophenol		50.7						
Terphenyl-d14		66.0						

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RESOLUTION CONSULTANTS

Resolution Consultants
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Chelmsford, MA 01824

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical Services, Scarborough, Maine	
Service Request:	SH5680	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) and Standard Methods 5310B for Total Organic Carbon by High-Temperature Combustion	
Validation Level:	Limited	
RESCON Project Number:	60266526.SA.DV	
Prepared by:	Sheena Blair/RESCON	Completed on: 9/16/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH5680_5310B and 8260B

SUMMARY

The samples listed below were collected by Resolution Consultants (RESCON) from the Regional Groundwater Investigation - NWIRP Bethpage site on July 21, 23, and 24, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-072114-63-65	Groundwater
VPB151-GW-072114-98-100	Groundwater
VPB151-GW-072314-158-160	Groundwater
VPB151-GW-072314-198-200	Groundwater
VPB151-GW-072414-218-220	Groundwater
VPB151-TRIP BLANK-072414	Trip Blank

The samples were analyzed in accordance with:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846,* Method 8260B, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996).

Data validation activities were conducted with reference to these methods, *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (January 2010), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, October 2010) where applicable. 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) results
✓	Laboratory control sample (LCS) results
NA	Field duplicate results
✓	Internal standard results
✓	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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB" prefix from the sample ID, and truncated IDs for GW and Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Sample VPB151-GW-072314-198-200 was extremely silty and had very little standing water. The laboratory decanted the water from one vial prior to analysis. Positive and nondetect results for this sample were qualified as estimated (J and UJ) respectively, due to possible loss of sample integrity during the decanting procedure. Qualified sample results are shown in Table 1.

Holding Times/Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. All QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met; and
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds), %Rs, and/or RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Data qualification to the analytes associated with the specific ICAL, ICV and/or CCV was as follows:

ICAL Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%RSD > 15% and quantitation based on mean RF	J	UJ
r or r^2 < 0.99 and quantitation based on linear regression	J*	UJ*
* No guidance in NFG, thus RESCON professional judgment was used		

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift > 20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1. Nonconformances are summarized in Attachment A in Tables A-1a, A-1b, and A-1c.

RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

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Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL).

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method, equipment rinsate and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria.

Data qualification on the basis of surrogate recovery nonconformances was as follows:

	Action	
Nonconformance	**Detected Compounds**	**Nondetected Compounds**
%R > Upper Limit (UL)	J	No qualification
20% ≤%R < Lower Limit (LL)	J	UJ
%R < 20%	J	R

Nonconformances are summarized in Attachment A in Table A-2. Qualified sample results are shown in Table 1.

MS Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as undetected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the DL were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-072114-63-65	WG	ACETONE	3.8	2.5	UG/L	J	c
VPB151-GW-072114-98-100	WG	ACETONE	5.5	2.5	UG/L	J	c
VPB151-GW-072314-158-160	WG	ACETONE	7.7	2.5	UG/L	J	c
VPB151-GW-072314-198-200	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	2-BUTANONE		2.5	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	ACETONE		2.5	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	BROMOMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CARBON DISULFIDE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	METHYL ACETATE		0.75	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-072314-198-200	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TRICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-072314-198-200	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-072414-218-220	WG	1,1-DICHLOROETHANE	2.9	0.50	UG/L	J	s,c
VPB151-GW-072414-218-220	WG	ACETONE	13	2.5	UG/L	J	s,c
VPB151-GW-072414-218-220	WG	METHYL TERT-BUTYL ETHER	0.55	0.50	UG/L	J	s

Attachment A

Nonconformance Summary Tables

Table A-1a - Initial Calibration

ICAL	Compound	% RSD	Limit
WG147299 GCMS-C	ACETONE	18.3	<15%
Associated samples: All samples except VPB151-TRIP BLANK-072414, VPB151-GW-072414-218-220			

Table A-1b - Initial Calibration Verification

ICV	Compound	% R	Limit
WG147299 GCMS-C	ACETONE	139.9	80-120%
	2-BUTANONE	122.6	80-120%
	2-HEXANONE	122.1	80-120%
Associated samples: All samples except VPB151-TRIP BLANK-072414, VPB151-GW-072414-218-220			

Table A-1c - Initial Calibration Verification

ICV	Compound	% R	Limit
WG147194 GCMS-T 7/25/14	ACETONE	148.1	80-120%
	1,1-DICHLOROETHANE	122.6	80-120%
Associated samples: VPB151-TRIP BLANK-072414, VPB151-GW-072414-218-220			

Table A-2 - Surrogates

Sample ID	Surrogate	% Recovery	Lower Limit	Upper Limit
VPB151-GW-072414-218-220	1,2-DICHLOROETHANE-D4	134	70	120
VPB151-GW-072414-218-220	DIBROMOFLUOROMETHANE	126	85	115

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Resolution Consultants
Contact: Eleanor Vivaudou
Phone #: (845) 425-4980
Fax #: ( )

Address: 100 Red Schoolhouse Rd
City: Chestnut Ridge
State: NY
Zip Code: 10977

Purchase Order #:
Proj. Name / No.: NWIRP Bethpage / 60266526
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): Michael Zobel / Michael Zobel
Copies To:

LAB USE ONLY
WORK ORDER #: 545680
KATAHDIN PROJECT NUMBER:

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☐N VOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-072114-63-65	7-21-14 / 1250	GW	3	✓									
	VPB151-GW-072114-98-100	7-21-14 / 1520	GW	3	✓									
	VPB151-GW-072314-158-160	7-23-14 / 1245	GW	3	✓									
	VPB151-GW-072314-148-200	7-23-14 / 1430	GW	3	✓									
	VPB151-TRIP BLANK-072414	5-2-14 / 1000	W	3	✓									
	VPB151-GW-072414-218-220	7-24-14 / 1510	GW	3	✓									
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	7-24-14 / 1630	[signature] 7-25-14 09:15			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL

KAS-COC1

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-1RA
Client ID: 151-072114-63-65
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8239.D

Sample Date: 21-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	3.8	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform		2.3	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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http://www.katahdinlab.com

12/21/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-1RA
Client ID: 151-072114-63-65
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8239.D

Sample Date: 21-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		92.2	%					
Toluene-d8		88.6	%					
1,2-Dichloroethane-d4		97.4	%					
Dibromofluoromethane		87.4	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-2RA
Client ID: 151-072114-98-100
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8240.D

Sample Date: 21-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	5.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	J	0.58	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane		4.2	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/22/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-2RA
Client ID: 151-072114-98-100
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8240.D

Sample Date: 21-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichlorocthylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		105.	%					
Toluene-d8		99.6	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		102.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-3RA
Client ID: 151-072314-158-160
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8241.D

Sample Date: 23-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.7	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/24/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-3RA
Client ID: 151-072314-158-160
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8241.D

Sample Date: 23-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		104.	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		104.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-4RA
Client ID: 151-072314-198-200
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8242.D

Sample Date: 23-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/24/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-4RA
Client ID: 151-072314-198-200
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: C8242.D

Sample Date: 23-JUL-14
Received Date: 25-JUL-14
Extract Date: 29-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147299

Analysis Date: 29-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		99.6	%					
Toluene-d8		97.6	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		103.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-6
Client ID: 151-072414-218-220
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: T1913.D

Sample Date: 24-JUL-14
Received Date: 25-JUL-14
Extract Date: 28-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147195

Analysis Date: 28-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 08-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	13	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	~~J~~ J	0.55	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	J	2.9	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	UL	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/20/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-6
Client ID: 151-072414-218-220
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: T1913.D

Sample Date: 24-JUL-14
Received Date: 25-JUL-14
Extract Date: 28-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147195

Analysis Date: 28-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 08-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	UL	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		103.	%					
Toluene-d8		91.0	%					
1,2-Dichloroethane-d4	*	134.	%					
Dibromofluoromethane	*	126.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-5
Client ID: VPB151-TB-072414
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: T1904.D

Sample Date: 24-JUL-14
Received Date: 25-JUL-14
Extract Date: 28-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147195

Analysis Date: 28-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 08-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	UL	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5680-5
Client ID: VPB151-TB-072414
Project: Navy Clean WE15-03-06 NW
SDG: SH5680
Lab File ID: T1904.D

Sample Date: 24-JUL-14
Received Date: 25-JUL-14
Extract Date: 28-JUL-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147195

Analysis Date: 28-JUL-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 08-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	UL	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.7	%					
Toluene-d8		104.	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane	*	115.	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH5750	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 10/16/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH5750_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on July 25, 2014 and May 2, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-072514-238-240	Groundwater
VPB151-GW-072514-258-260	Groundwater
VPB151-TRIP BLANK-072514	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
✗	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS) results
NA	Field duplicate results
✓	Internal standard results

✓ 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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times andSample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or

- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

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

ICAL Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%RSD > 15% and quantitation based on mean RF	J	UJ
r or r^2 < 0.99 and quantitation based on linear regression	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required. The QC acceptance criteria were met and/or qualification of the sample results was not required.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

The MS/MSD %Rs and relative percent differences (RPDs) were reviewed for conformance with the QC acceptance criteria.

Nonconformances are summarized in Attachment A in Table A-3.

Data qualification to the analytes associated with the specific MS/MSD nonconformances was as follows:

Nonconformance	Action	
	Detected Compounds	Nondetected Compounds
%R> UL	J	No qualification
20% ≤ %R < LL	J	UJ
%R <20% (see note 1)	J	R*
%RPD > UL (see note 2)	J	No qualification
Note: Actions are applied to the native unspiked sample only (see note 3) *When the native sample concentration is >4X the concentration of the spike added (based on Region I criteria), evaluate the MS, MSD, and native sample with regards to %RSD rather than %R (professional judgment)		

Notes:

1. Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) non-detects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.
2. In the absence of Region 2 guidance, RPD actions are based on professional judgment.
3. If a field duplicate sample was also collected for the native sample chosen for MS/MSD analysis, professional judgment is used to apply MS/MSD actions to the corresponding field duplicate sample as well as the native sample.

Qualified sample results are shown in Table 1.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-072514-238-240	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-072514-238-240	WG	ACETONE	13	2.5	UG/L	J	c
VPB151-GW-072514-238-240	WG	STYRENE		0.50	UG/L	UJ	m
VPB151-GW-072514-258-260	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-072514-258-260	WG	ACETONE	7.2	2.5	UG/L	J	c
VPB151-TRIP BLANK-072514	WQ	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-TRIP BLANK-072514	WQ	ACETONE		2.5	UG/L	UJ	c

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration

Calibration Date/Time	Compound	% RSD	Limits
31-July-2014 08:18	ACETONE	23	≤15%
Associated samples: all samples in SDG SH5750			

Table A-2 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG147424-8	1,2-DIBROMO-3-CHLOROPROPANE	79	80-120%
Associated samples: all samples in SDG SH5750			

Table A-3 - Matrix Spikes

Sample ID	Compound	MS % Recovery	MSD % Recovery	Lower Limit	Upper Limit	RPD	RPD Limit
VPB151-GW-072514-238-240	STYRENE	61.6	60.8	65	135	1	30

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

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CHAIN of CUSTODY

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Page 1 of 1

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 425-	( )

Address	City	State	Zip Code
10 Red Schoolhouse Rd.	Chestnut Ridge	NY	10977

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage/60266526	

Bill (if different than above) — Address

Sampler (Print / Sign) Michael Zobel / Michael Zobel — Copies To:

LAB USE ONLY WORK ORDER #: SH5750

KATAHDIN PROJECT NUMBER _____

REMARKS: _____

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO: _____

TEMP°C _____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPBI51-GW-072514-238-240	7-25-14/1020	GW	3	✓										
	VPBI51-GW-072514-258-260	7-25-14/1445	GW	3	✓										
	VPBI51-GW-MS/MSD-072514-238-240	7-25-14/1020	GW	6	✓										
	VPBI51-TripBlank-072514	5-2-14/1000	W	3	✓										
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	7-28-14 / 1300			7/24 / 1500	7-29-14 0900
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

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NALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-1RA
Client ID: 151-072514-238-240
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2004.D

Sample Date: 25-JUL-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	13	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-1RA
Client ID: 151-072514-238-240
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2004.D

Sample Date: 25-JUL-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	~~UMM~~ UJ	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		91.3	%					
Toluene-d8		98.3	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		110.	%					

12/19/14

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NALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-2RA
Client ID: 151-072514-258-260
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2005.D

Sample Date: 25-JUL-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.2	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-2RA
Client ID: 151-072514-258-260
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2005.D

Sample Date: 25-JUL-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		89.6	%					
Toluene-d8		99.4	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		113.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-3RA
Client ID: VPB151-TB-072514
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2003.D

Sample Date: 02-MAY-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5750-3RA
Client ID: VPB151-TB-072514
Project: Navy Clean WE15-03-06 NW
SDG: SH5750
Lab File ID: T2003.D

Sample Date: 02-MAY-14
Received Date: 29-JUL-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		90.7	%					
Toluene-d8		108.	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		114.	%					

12/19/14

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RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH5939	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/18/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH5939_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on July 30, 2014 and July 31, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-073014-278-280	Groundwater
VPB151-GW-073014-303-305	Groundwater
VPB151-GW-073114-318-320	Groundwater
VPB151-GW-073114-338-340	Groundwater
VPB151-GWD-073014	Groundwater
VPB151-TRIP BLANK-073114	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
- ✓ Surrogate spike recoveries
- NA Matrix spike (MS) and/or matrix spike duplicate (MSD) results

✓ Laboratory control sample (LCS) results
✓ Field duplicate results
✓ Internal standard results
✓ 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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;

- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Qualified sample results are shown in Table 1. Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICAL Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%RSD > 15% and quantitation based on mean RF	J	UJ
r or r^2 < 0.99 and quantitation based on linear regression	J*	UJ*
* No guidance in NFG, thus AECOM professional judgment was used		

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required. The QC acceptance criteria were met and/or qualification of the sample results was not required.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Field Duplicate Results

Field duplicate RPDs were reviewed for conformance with the QC criterion of ≤30% for aqueous matrices. This criterion applies if both results were greater than five times the Limit of Quantitation (LOQ). All QC acceptance criteria were met.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-073014-278-280	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-073014-278-280	WG	ACETONE	16	2.5	UG/L	J	c
VPB151-GW-073014-303-305	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-073014-303-305	WG	ACETONE	10	2.5	UG/L	J	c
VPB151-GW-073114-318-320	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-073114-318-320	WG	ACETONE	7.2	2.5	UG/L	J	c
VPB151-GW-073114-338-340	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-073114-338-340	WG	ACETONE	7.2	2.5	UG/L	J	c
VPB151-GWD-073014	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GWD-073014	WG	ACETONE	17	2.5	UG/L	J	c
VPB151-TRIP BLANK-073114	WQ	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-TRIP BLANK-073114	WQ	ACETONE	2.5	2.5	UG/L	UJ	c

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration

Calibration Date/Time	Compound	% RSD	Limits
31-JULY-2014 08:18	ACETONE	23	≤15%
Associated samples: all samples in SDG5939			

Table A-2 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG147424-8	1,2-DIBROMO-3-CHLOROPROPANE	79	80-120%
Associated samples: all samples in SDG5939			

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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

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CHAIN of CUSTODY

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Page 1 of ___

Client: Resolution Consultants
Contact: Eleanor Vivanda
Phone #: (845) 425-4820
Fax #: ( )
Address: 100 Red Schoolhouse Rd
City: Chestnut Ridge
State: NY
Zip Code: 10977
Purchase Order #:
Proj. Name / No.: NWIRP Bethpage / 60266526
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Michael Zobel / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: SH5939
KATAHDIN PROJECT NUMBER: ___
REMARKS: ___
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO: ___
TEMP°C ___ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-073014-278-240	7-30-14 / 1000	GW	3	✓									
	VPB151-GW-073014-303-305	7-30-14 / 1410	GW	3	✓									
	VPB151-GW-073114-318-320	7-31-14 / 1020	GW	3	✓									
	VPB151-GW-073114-338-340	7-31-14 / 1300	GW	3	✓									
	VPB151-GWD-073014	7-30-14 / –	GW	3	✓									
	VPB151-TripBlank-073114	5-2-14 / 1000	W	3	✓									
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	7-30-14 / 1400	[signature]	[signature]	7/31/14 1410	Fed Ex
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
					[signature] 8-1-14 0910

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ORIGINAL

KAS-COC1

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-1
Client ID: 151-073014-278-280
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2006.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	16	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-1
Client ID: 151-073014-278-280
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2006.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		88.7	%					
Toluene-d8		98.2	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		111.	%					

12/19/14

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-2
Client ID: 151-073014-303-305
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2007.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	10	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/18/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-2
Client ID: 151-073014-303-305
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2007.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		86.8	%					
Toluene-d8		91.2	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		109.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-3
Client ID: 151-073114-318-320
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2008.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.2	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-3
Client ID: 151-073114-318-320
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2008.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ U5	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		86.9	%					
Toluene-d8		94.8	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		114.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-4
Client ID: 151-073114-338-340
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2009.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.2	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-4
Client ID: 151-073114-338-340
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2009.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		85.9	%					
Toluene-d8		92.4	%					
1,2-Dichloroethane-d4		114.	%					
Dibromofluoromethane		108.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-5
Client ID: VPB151-GWD-073014
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2010.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	17	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-5
Client ID: VPB151-GWD-073014
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2010.D

Sample Date: 30-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		86.0	%					
Toluene-d8		94.0	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		110.	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-6
Client ID: VPB151-TB-073114
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2002.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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8/12/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH5939-6
Client ID: VPB151-TB-073114
Project: Navy Clean WE15-03-06 NW
SDG: SH5939
Lab File ID: T2002.D

Sample Date: 31-JUL-14
Received Date: 01-AUG-14
Extract Date: 01-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147482

Analysis Date: 01-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		90.4	%					
Toluene-d8		109.	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		114.	%					

JC 12/18/14

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RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6034	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) and Standard Method 5310B for Total Organic Carbon by High-Temperature Combustion	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/10/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6034_5310B and 8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 1 and 4, 2014 and May 2, 2014.

Sample ID	Matrix/Sample Type
VPB151-EB-080114	Equipment blank
VPB151-FB-080114	Field blank
VPB151-GW-080114-368-370	Groundwater
VPB151-GW-080114-378-380	Groundwater
VPB151-GW-080114-398-400	Groundwater
VPB151-GW-080414-418-420	Groundwater
VPB151-GW-080414-438-440	Groundwater
VPB151-TRIPBLANK-080414	Trip Blank

The samples were analyzed in accordance with:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW846,* Method 8260B, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996).
- *Standard Methods for the Examination of Water and Wastewater, Method SM5310B, Total Organic Carbon by High-Temperature Combustion*

Data validation activities were conducted with reference to these methods, *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (January 2010), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, October 2010) where applicable. 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS) results
NA	Field duplicate results
✓	Internal standard results
✓	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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times/Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met, and
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICAL Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%RSD > 15% and quantitation based on mean RF	J	UJ
r or r^2 < 0.99 and quantitation based on linear regression	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL).

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method, equipment rinsate and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-3.

TOC sample results were qualified as follows:

Blank Type	Blank Result	Sample Result	Action for Samples
ICB/CCB (Positive)	≥DL but ≤ LOQ	Nondetect	No action
		≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ	Use Resolution Consultants professional judgment (see below [1])
	>LOQ	≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ but < ICB/CCB Result	Qualify at level of Blank Result with a "U" or Qualify result as unusable
		>ICB/CCB but <10x the ICB/CCB result	Qualify as estimated (J)
		≥10x ICB/CCB	No action is taken based on Resolution Consultants professional judgment
PB / EB/ FB (Positive)	> LOQ	≥DL but ≤ LOQ	Qualify as nondetect (U) at the LOQ
		>LOQ but < 10x Blank Result	Qualify results as unusable
		≥10x Blank Result	No action
	≥DL but ≤LOQ	Nondetect	No action
		≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ	Use Resolution Consultants professional judgment (see below [1])

[1] Establish an action level (AL) at 5x the blank contamination. If sample result is <AL, qualify the reported result with a U.

LOQ - Limit of Quantitation

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria.

Nonconformances are summarized in Attachment A in Table A-4.

Data qualification to the analytes associated with the specific LCS %Rs or RPDs was as follows:

Nonconformances[1]	Action	
	Detected Compounds	Nondetected Compounds
%R or RPD > UL	J	No qualification
%R < LL	J	UJ
%R < 20% (see note 1)	J	R
(LL = lower limit, UL = upper limit)		

Notes:

1. Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject sample results previously negated (U) on the basis of blank contamination.

Qualified sample results are shown in Table 1.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-EB-080114	WQ	TOTAL ORGANIC CARBON		1.0*	MG/L	U	bf
VPB151-EB-080114	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-EB-080114	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-EB-080114	WQ	ACETONE		2.5	UG/L	UJ	c
VPB151-FB-080114	WQ	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	l
VPB151-FB-080114	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-FB-080114	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-FB-080114	WQ	ACETONE		2.5	UG/L	UJ	c
VPB151-FB-080114	WQ	ISOPROPYLBENZENE		0.50	UG/L	UJ	l
VPB151-GW-080114-368-370	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-368-370	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-368-370	WG	ACETONE	17	2.5	UG/L	J	c
VPB151-GW-080114-378-380	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-378-380	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-378-380	WG	ACETONE		2.5	UG/L	UJ	c
VPB151-GW-080114-398-400	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-398-400	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080114-398-400	WG	ACETONE	4.1	2.5	UG/L	J	c
VPB151-GW-080414-418-420	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080414-418-420	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080414-418-420	WG	ACETONE	4.3	2.5	UG/L	J	c
VPB151-GW-080414-438-440	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080414-438-440	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080414-438-440	WG	ACETONE	3.7	2.5	UG/L	J	c
VPB151-TRIPBLANK-080414	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-TRIPBLANK-080414	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-TRIPBLANK-080414	WQ	ACETONE		2.5	UG/L	UJ	c

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration

Calibration Date/Time	Compound	% RSD	Limits
31-JULY-2014 08:06	ACETONE	19	≤15%
Associated samples: all samples in SDG SH6034			

Table A-2 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG147419-8	4-METHYL-2-PENTANONE	73	80-120%
	2-HEXANONE	74	80-120%
Associated samples: all samples in SDG SH6034			

Table A-3 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB151-FB-080114	TOTAL ORGANIC CARBON	0.34	0.5	MG/L	VPB151-EB-080114

Table A-4 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG147661-1	ISOPROPYLBENZENE	72	75	125	VPB151-FB-080114
WG147661-1	1,2-DICHLOROETHENE, TOTAL	80.7	84	121	VPB151-FB-080114

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

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CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 424-4820	( )

Address	City	State	Zip Code
100 Red Schoolhouse Rd	Chestnut Ridge	NY	10977

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage / 60266526	

Bill (if different than above) Address

Sampler (Print / Sign) Michael Zobel / Michael Zobel

Copies To:

LAB USE ONLY WORK ORDER #: 5H6034

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC	VOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-080114-368-370	8-1-14 / 1005	GW	3	✓										
	VPB151-GW-080114-378-380	8-1-14 / 1210	GW	3	✓										
	VPB151-GW-080114-398-400	8-1-14 / 1410	GW	3	✓										
	VPB151-EB-080114	8-1-14 / 1400	W	6	✓	✓									
	VPB151-FB-080114	8-1-14 / 1350	W	6	✓	✓									
	VPB151-GW-080414-418-420	8-4-14 / 1045	GW	3	✓										
	VPB151-GW-080414-438-440	8-4-14 / 1335	GW	3	✓										
	VPB151-TripBlank-080414	8-2-14 / 0000	W	3	✓										
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	8-4-14 1615	8-5-14 0900			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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ORIGINAL

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-1RA
Client ID: 151-080114-368-370
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8370.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	0.38	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	17	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/2/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-1RA
Client ID: 151-080114-368-370
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8370.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.8	%					
Toluene-d8		98.1	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		96.8	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-2RA
Client ID: 151-080114-378-380
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8371.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	0.26	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-2RA
Client ID: 151-080114-378-380
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8371.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.5	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		97.4	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-3RA
Client ID: 151-080114-398-400
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8372.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	4.1	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-3RA
Client ID: 151-080114-398-400
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8372.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		93.9	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		97.7	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-6RA
Client ID: 151-080414-418-420
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8373.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	4.3	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/21/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-6RA
Client ID: 151-080414-418-420
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8373.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		89.0	%					
Toluene-d8		94.8	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		98.4	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-7RA
Client ID: 151-080414-438-440
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8374.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	3.7	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-7RA
Client ID: 151-080414-438-440
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8374.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		91.9	%					
Toluene-d8		98.6	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		95.6	%					

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NALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-8RA
Client ID: VPB151-TB-080414
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8367.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-8RA
Client ID: VPB151-TB-080414
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8367.D

Sample Date: 04-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		96.4	%					
Toluene-d8		103.	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		99.7	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-4RA
Client ID: VPB151-EB-080114
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8368.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-4RA
Client ID: VPB151-EB-080114
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8368.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 06-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147715

Analysis Date: 06-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		92.0	%					
Toluene-d8		97.1	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		94.6	%					

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NALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-5
Client ID: VPB151-FB-080114
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8344.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 05-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147661

Analysis Date: 05-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Tel:(207) 874-2400 Fax:(207) 775-4029

12/21/17

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6034-5
Client ID: VPB151-FB-080114
Project: Navy Clean WE15-03-06 NW
SDG: SH6034
Lab File ID: C8344.D

Sample Date: 01-AUG-14
Received Date: 05-AUG-14
Extract Date: 05-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147661

Analysis Date: 05-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 07-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	UL	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	~~UL~~ UJ	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene	*	150.	%					
Toluene-d8		113.	%					
1,2-Dichloroethane-d4	*	162.	%					
Dibromofluoromethane	*	151.	%					

12/21/14

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: Rick Purdy
AECOM
701 Edgewater Drive
Wakefield,MA 01880

Lab Sample ID: SH6034-4
Report Date: 20-AUG-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6034

Sample Description	Matrix	Date Sampled	Date Received
VPB151-EB-080114	AQ	01-AUG-14	05-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	~~J0.26~~ 1.0 U mg/L	1.0	0.10	.5	SM5310B	WG147793	07-AUG-14 04:16:14	N/A	N/A	

12/21/14

Katahdin Analytical Services 0000176

Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: Rick Purdy
AECOM
701 Edgewater Drive
Wakefield,MA 01880

Lab Sample ID: SH6034-5
Report Date: 20-AUG-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6034

Sample Description	Matrix	Date Sampled	Date Received
VPB151-FB-080114	AQ	01-AUG-14	05-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	J0.34 mg/L	1.0	0.10	.5	SM5310B	WG147793	07-AUG-14 04:30:32	N/A	N/A	

Katahdin Analytical Services 0000477

RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6129	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 10/17/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6129_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 5 - 6, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-080514-463-465	Groundwater
VPB151-GW-080514-478-480	Groundwater
VPB151-GW-080514-498-500	Groundwater
VPB151-TRIP BLANK-080604	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS) results
NA	Field duplicate results

✓ Internal standard results
✓ 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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;

- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1, A-2, and A-3.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICAL Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%RSD > 15% and quantitation based on mean RF	J	UJ
r or r^2 < 0.99 and quantitation based on linear regression	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-4.

Sample results were qualified as follows:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**
	TIC detected	Detects	If the result is ≤2x blank result, report the sample result U.** If the result is > 2x blank result, no qualification is required.**
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation.

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS/LCSD Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-080514-463-465	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-080514-463-465	WG	2-BUTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-463-465	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-463-465	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-463-465	WG	ACETONE		2.5	UG/L	UJ	c
VPB151-GW-080514-463-465	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB151-GW-080514-478-480	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-080514-478-480	WG	2-BUTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-478-480	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-478-480	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-478-480	WG	ACETONE	5.1	2.5	UG/L	J	c
VPB151-GW-080514-478-480	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	bl
VPB151-GW-080514-478-480	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	2-BUTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	ACETONE		2.5	UG/L	UJ	c
VPB151-GW-080514-498-500	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB151-TRIP BLANK-080604	WQ	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB151-TRIP BLANK-080604	WQ	2-BUTANONE		2.5	UG/L	UJ	c
VPB151-TRIP BLANK-080604	WQ	2-HEXANONE		2.5	UG/L	UJ	c

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-TRIP BLANK-080604	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB151-TRIP BLANK-080604	WQ	ACETONE		2.5	UG/L	UJ	c
VPB151-TRIP BLANK-080604	WQ	METHYL ACETATE		0.75	UG/L	UJ	c

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration

Calibration Date/Time	Compound	% RSD	Limits
31-July-2014 08:06	ACETONE	19	≤15%
Associated samples: all samples in SDG SH6129			

Table A-2 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG147419-8	4-METHYL-2-PENTANONE	73	80-120%
	2-HEXANONE	74	80-120%
Associated samples: all samples in SDG SH6129			

Table A-3 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG147878-4	ACETONE	33	≤20%
	2-BUTANONE	40	≤20%
	4-METHYL-2-PENTANONE	59	≤20%
	2-HEXANONE	58	≤20%
	1,2-DIBROMO-3-CHLOROPROPANE	24	≤20%
	METHYL ACETATE	25	≤20%
Associated samples: all samples in SDG SH6129			

Table A-4 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG147878-2	CARBON DISULFIDE	0.29	0.50	UG/L	VPB151-GW-080514-478-480

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 425-4820	( )

Address	City	State	Zip Code
100 Red Schoolhouse Rd	Chestnut Ridge		

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage / 60266526	

Bill (if different than above)	Address

Sampler (Print / Sign)	Copies To:
Mike Zobel / Mike Zobel	

LAB USE ONLY WORK ORDER #: 546129.

KATAHDIN PROJECT NUMBER _____

REMARKS: _____

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO: _____

TEMP°C _____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-080514-463-465	8-5-14 / 1130	GW	3	✓									
	VPB151-GW-080514-478-480	8-5-14 / 1345	GW	3	✓									
	VPB151-GW-080514-498-500	8-5-14 / 1550	GW	3	✓									
	VPB151-Trip Blank-080614	8-2-14 / 10:00	W	3	✓									
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		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Mike Zobel	8-6-14 / 1630	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-1
Client ID: 151-080514-463-465
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8420.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-1
Client ID: 151-080514-463-465
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8420.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		88.9	%					
Toluene-d8		93.8	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		94.1	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-2
Client ID: 151-080514-478-480
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8421.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.38~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	5.1	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-2
Client ID: 151-080514-478-480
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8421.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		87.8	%					
Toluene-d8		92.9	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		93.6	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-3
Client ID: 151-080514-498-500
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8422.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-3
Client ID: 151-080514-498-500
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8422.D

Sample Date: 05-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		84.6	%					
Toluene-d8		90.0	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		91.9	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-4
Client ID: VPB151-TB-080604
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8419.D

Sample Date: 06-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~U~~ UJ	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~U~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Katahdin
ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6129-4
Client ID: VPB151-TB-080604
Project: Navy Clean WE15-03-06 NW
SDG: SH6129
Lab File ID: C8419.D

Sample Date: 06-AUG-14
Received Date: 07-AUG-14
Extract Date: 08-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG147878

Analysis Date: 08-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 11-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	~~U~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		90.8	%					
Toluene-d8		94.3	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		95.6	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6502	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 10/17/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6502_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 11 - 12, and 14, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-081114-538-540	Groundwater
VPB151-GW-081114-558-560	Groundwater
VPB151-GW-081214-583-585	Groundwater
VPB151-GW-081214-598-600	Groundwater
VPB151-GW-081414-618-620	Groundwater
VPB151-GW-081414-638-640	Groundwater
VPB151-TRIP BLANK-081414	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
- ✓ Surrogate spike recoveries

NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample (LCS) results
NA	Field duplicate results
✓	Internal standard results
✓	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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

The vials of samples VPB151-GW-081114-558-560 and VPB151-GW-081214-583-585 each contained soil at the bottom of the vial which interferes with the sample transfer on the instrument. Therefore, each vial was decanted and analyzed. Positive and nondetect results for these samples were qualified as estimated (J and UJ respectively), due to possible loss of sample integrity during the decanting procedure. Qualified sample results are presented in Table 1.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-3.

Sample results were qualified as follows:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**
	TIC detected	Detects	If the result is ≤2x blank result, report the sample result U.** If the result is > 2x blank result, no qualification is required.**
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation.

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS/LCSD Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. Nonconformances are summarized in Attachment A in Table A-4.

Data qualification to the analytes associated with the specific LCS %Rs was as follows:

Nonconformances[1]	Action	
	Detected Compounds	Nondetected Compounds
%R or RPD > UL	J	No qualification
%R < LL	J	UJ
%R < 20% (see note 1)	J	R
(LL = lower limit, UL = upper limit)		

Notes:

1. Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject sample results previously negated (U) on the basis of blank contamination.

Qualified sample results are shown in Table 1.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081114-538-540	WG	ACETONE	8.2	2.5	UG/L	J	c,l
VPB151-GW-081114-538-540	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt
VPB151-GW-081114-538-540	WG	CHLOROMETHANE		1.0	UG/L	UJ	c
VPB151-GW-081114-558-560	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	2-BUTANONE	1.4	2.5	UG/L	J	mc,c
VPB151-GW-081114-558-560	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	ACETONE	11	2.5	UG/L	J	mc,c,l

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081114-558-560	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	BROMOMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bt
VPB151-GW-081114-558-560	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc,c
VPB151-GW-081114-558-560	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081114-558-560	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TRICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-081114-558-560	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081214-583-585	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	2-BUTANONE	1.4	2.5	UG/L	J	mc,c
VPB151-GW-081214-583-585	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	ACETONE	14	2.5	UG/L	J	mc,c,l
VPB151-GW-081214-583-585	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	BROMOMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bt
VPB151-GW-081214-583-585	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc,c
VPB151-GW-081214-583-585	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081214-583-585	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TRICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-081214-583-585	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-081214-598-600	WG	ACETONE	4.0	2.5	UG/L	J	c,l
VPB151-GW-081214-598-600	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt
VPB151-GW-081214-598-600	WG	CHLOROMETHANE		1.0	UG/L	UJ	c
VPB151-GW-081414-618-620	WG	ACETONE	3.2	2.5	UG/L	J	c,l
VPB151-GW-081414-618-620	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081414-618-620	WG	CHLOROMETHANE		1.0	UG/L	UJ	c
VPB151-GW-081414-638-640	WG	ACETONE	2.6	2.5	UG/L	J	c,l
VPB151-GW-081414-638-640	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt
VPB151-GW-081414-638-640	WG	CHLOROMETHANE		1.0	UG/L	UJ	c
VPB151-TRIP BLANK-081414	WQ	CARBON DISULFIDE	0.32	0.50	UG/L	UJ	c
VPB151-TRIP BLANK-081414	WQ	CHLOROMETHANE		1.0	UG/L	UJ	c

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG148025-7	1,1-DICHLOROETHENE	126	80-120%
	CARBON DISULFIDE	129	80-120%
	ACETONE	151	80-120%
	2-BUTANONE	125	80-120%
	2-HEXANONE	123	80-120%
Associated samples: all samples in SDG SH6502			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148353-4	CHLOROMETHANE	21	≤20%
Associated samples: all samples in SDG SH6502			

Table A-3 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB151-TRIP BLANK-081414	CARBON DISULFIDE	0.32	0.50	UG/L	VPB151-GW-081114-538-540, VPB151-GW-081114-558-560, VPB151-GW-081114-583-585, VPB151-GW-081114-598-600, VPB151-GW-081114-618-620, VPB151-GW-081114-638-640

Table A-4 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG148353-1	ACETONE	153	40	140	VPB151-GW-081114-538-540, VPB151-GW-081114-558-560, VPB151-GW-081114-583-585, VPB151-GW-081114-598-600, VPB151-GW-081114-618-620, VPB151-GW-081114-638-640

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

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600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Resolution Consultants
Contact: Eleanor Vivardov
Phone #: (845) 425-4980
Fax #: ( )
Address: 100 Red Schoolhouse Rd
City: Chestnut Ridge
State: NY
Zip Code: 10977
Purchase Order #:
Proj. Name / No.: NWIRP Bethpage / 60266526
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Michael Zobel / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER: SH6502
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-081114-538-540	8-11-14 / 1120	GW	2	✓									
	VPB151-GW-081114-558-560	8-11-14 / 1350	GW	3	✓									
	VPB151-GW-081214-583-585	8-12-14 / 1205	GW	3	✓									
	VPB151-GW-081214-598-600	8-12-14 / 1430	GW	3	✓									
	VPB151-GW-081414-618-620	8-14-14 / 1035	GW	3	✓									
	VPB151-GW-081414-638-640	8-14-14 / 1415	GW	3	✓									
	VPB151-TripBlank-081414	5-2-14 / 1200	W	3	✓									
		/												
		/												
		/												
		/												
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8-14-14 / 1500	[signature]	[signature]	8/14/14 1700	FedEx
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
				8/15/14 0915	[signature]

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0000009
ORIGINAL

KAS-COC1

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-1
Client ID: 151-081114-538-540
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8563.D

Sample Date: 11-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.42~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	8.2	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-1
Client ID: 151-081114-538-540
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8563.D

Sample Date: 11-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.1	%					
Toluene-d8		97.6	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		101.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-2
Client ID: 151-081114-558-560
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8560.D

Sample Date: 11-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	~~0.52~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	11	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J	1.4	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-2
Client ID: 151-081114-558-560
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8560.D

Sample Date: 11-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		96.5	%					
Toluene-d8		98.8	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		100.	%					

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P.O. Box 540, Scarborough, ME 04070
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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-3
Client ID: 151-081214-583-585
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8561.D

Sample Date: 12-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	~~0.32~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	14	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~J~~ J	1.4	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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8/12/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-3
Client ID: 151-081214-583-585
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8561.D

Sample Date: 12-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.0	%					
Toluene-d8		97.6	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		99.2	%					

U5

12/19/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-4
Client ID: 151-081214-598-600
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8564.D

Sample Date: 12-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.38~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~JL~~ J	4.0	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-4
Client ID: 151-081214-598-600
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8564.D

Sample Date: 12-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		96.3	%					
Toluene-d8		99.3	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		102.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-5
Client ID: 151-081414-618-620
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8565.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.37~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~JL~~ J	3.2	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-5
Client ID: 151-081414-618-620
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8565.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.4	%					
Toluene-d8		97.9	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		103.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-6
Client ID: 151-081414-638-640
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8566.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.25~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~JL~~ J	2.6	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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JJ 1/28/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-6
Client ID: 151-081414-638-640
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8566.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.8	%					
Toluene-d8		98.2	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		100.	%					

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Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-7
Client ID: VPB151-TB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8556.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	0.32	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	UL	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UL	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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1/29/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6502-7
Client ID: VPB151-TB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6502
Lab File ID: C8556.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 16-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148353

Analysis Date: 16-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 18-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.2	%					
Toluene-d8		96.8	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		97.0	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6620	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS), EPA SW-846 Method 9060A for TOC in waters and domestic/ industrial wastes(Carbonaceous Analyzer), and Standard Method 5310 for Total Organic Carbon by High-Temperature Combustion	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/17/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6620_2540G, 5310B, 8260B and 9060A

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 15, 2014.

Sample ID	Matrix/Sample Type
VPB151-EB-081514	Equipment blank
VPB151-GW-081514-658-660	Groundwater
VPB151-GW-081514-678-680	Groundwater
VPB151-GW-D-081514	Groundwater
VPB151-SOIL-081514-663-665	Soil
VPB151-SOIL-D-081514-663-665	Soil
VPB151-TRIP BLANK-081814	Trip Blank

The samples were analyzed in accordance with:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846,* Method 8260B, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996).
- *Standard Methods for the Examination of Water and Wastewater, Method SM310B, Total Organic Carbon by High-Temperature Combustion*
- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846,* Method 9060A, *Total Organic Carbon* (USEPA, 1996).

Data validation activities were conducted with reference to these methods, *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (January 2010), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, October 2010) where applicable. 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
✓	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS) results
✗	Field duplicate results
✓	Internal standard results
✓	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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification standard (ICV) percent recoveries (%Rs) acceptance criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL).

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method, equipment rinsate and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required

Nonconformances are summarized in Attachment A in Table A-3.

Sample results were qualified as follows:

For TOC samples:

Blank Type	Blank Result	Sample Result	Action for Samples
ICB/CCB (Positive)	≥DL but ≤ LOQ	Nondetect	No action
		≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ	Use professional judgment (see below [1])
	>LOQ	≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ but < ICB/CCB Result	Qualify at level of Blank Result with a "U" or Qualify result as unusable
		>ICB/CCB but <10x the ICB/CCB result	Qualify as estimated (J)
		≥10x ICB/CCB	No action is taken based on professional judgment
PB / EB/ FB (Positive)	> LOQ	≥DL but ≤ LOQ	Qualify as nondetect (U) at the LOQ
		>LOQ but < 10x Blank Result	Qualify results as unusable
		≥10x Blank Result	No action
	≥DL but ≤LOQ	Nondetect	No action
		≥DL but ≤LOQ	Qualify as nondetect (U) at the LOQ
		> LOQ	Use professional judgment (see below [1])

[1] Establish an action level (AL) at 5x the blank contamination. If sample result is <AL, qualify the reported result with a U.

For VOC samples:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**

Blank type	Blank result	Sample result	Action for samples
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation.

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

The MS/MSD %Rs and relative percent differences (RPDs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

LCS

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. The %R for 1,1,2-trichloro-1,2,2-trifluoroethane exceeded the QC acceptance limitsfor batch WG148554.All associated samples were nondetect for this compound and the results were accepted without qualification.

Field Duplicate Results

Field duplicate RPDs were reviewed for conformance with the QC criterion of ≤50% for soil matrices. This criterion applies if both results were greater than five times the Limit of Quantitation (LOQ).

Nonconformances are summarized in Attachment A in Table A-4.

Data qualification to the analytes associated with the specific field duplicate RPDs was as follows:

Sample Results	RPD	Action	
		Detected	Nondetected
Sample and duplicate are nondetect results	Not calculable (NC)	No qualification	No qualification
Sample and duplicate results ≥5x LOQ	>50	J	Not Applicable
Sample and duplicate results <5x LOQ	>60	J	Not Applicable
If sample or duplicate result is >5x LOQ and the other is not detected	NC	J	UJ
If sample or duplicate result is <5x LOQ and the other is not detected	NC	No qualification	No qualification

Actions: professional judgment was used to qualify results

Qualified sample results are shown in Table 1.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-EB-081514	WQ	TOTAL ORGANIC CARBON		1.0*	MG/L	U	bl
VPB151-EB-081514	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-081514-658-660	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-081514-658-660	WG	ACETONE	5.4	2.5	UG/L	J	c
VPB151-GW-081514-658-660	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-081514-678-680	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-D-081514	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-D-081514	WG	ACETONE	7.0	2.5	UG/L	J	c
VPB151-GW-D-081514	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-SOIL-081514-663-665	SO	TOTAL ORGANIC CARBON	1200	380	UG/G	J	fd
VPB151-SOIL-D-081514-663-665	SO	TOTAL ORGANIC CARBON	2700	370	UG/G	J	fd
VPB151-TRIP BLANK-081814	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG148025-7	1,1-DICHLOROETHENE	126	80-120%
	CARBON DISULFIDE	129	80-120%
	ACETONE	151	80-120%
	2-BUTANONE	125	80-120%
	2-HEXANONE	123	80-120%
Associated samples: all samples in SDG SH6620			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148554-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	31	≤20%
Associated samples: all samples in SDG SH6620			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	QL	Units	Associated Samples
WG148878-1	TOTAL ORGANIC CARBON	0.25	0.50	MG/L	VPB151-EB-081514
WG148554-2	CARBON DISULFIDE	0.39	0.50	UG/L	VPB151-GW-081514-658-660 VPB151-GW-D-081514

Table A-4 - Field Duplicates

Sample ID	Duplicate ID	Compound	Sample Result	Qual	Duplicate Result	Qual	LOD	Units	RPD
VPB151-SOIL-081514-663-665	VPB151-SOIL-D-081514-663-665	TOC	1200		2700		380	UG/G	77

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudo	(845) 425-4480	( )

Address	City	State	Zip Code
100 Red Schoolhouse Rd	Chestnut Ridge	NY	10977

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage / 60266526	

Bill (if different than above)	Address

Sampler (Print / Sign)	Copies To:
Michael Zobel / ~~Jessica Ehlen~~ JE	

LAB USE ONLY WORK ORDER #: SHL620

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC (Filt. ☐Y ☐N)	TOC (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-081514-658-660	8-15-14 / 1020	GW	3	✓									
	VPB151-GW-MS/MSD-081514-658-660	8-15-14 / 1020	GW	6	✓									
	VPB151-GW-081514-675-680	8-15-14 / 1340	GW	3	✓									
	VPB151-GWD-081514	8-15-14 / ✓	GW	3	✓									
	VPB151-EB-081514	8-15-14 / 1400	W	6	✓	✓								
	VPB151-Soil-081514-663-665	8-15-14 / 1050	Soil	1		✓								
	VPB151-Soil-MS/MSD-081514-663-665	8-15-14 / 1050	Soil	1		✓								
	VPB151-Soil-D-081514-663-665	8-15-14 / [illegible]	Soil	1		✓								
	VPB151-Trip Blank-081814	8-18-14 / 1400	W	3	✓									
		/												
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	8/18/14 15:30	[signature]	[signature]	8/19/14 16:30	FedEx
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		8/19 1145			

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-1
Client ID: 151-081514-658-660
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8634.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.31~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	5.4	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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9/20/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-1
Client ID: 151-081514-658-660
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8634.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.6	%					
Toluene-d8		95.6	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		103.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-2
Client ID: 151-081514-678-680
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8635.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/29/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-2
Client ID: 151-081514-678-680
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8635.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.8	%					
Toluene-d8		96.2	%					
1,2-Dichloroethane-d4		120.	%					
Dibromofluoromethane		105.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-3
Client ID: VPB151-GW-D-081514
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8636.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.40~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.0	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/22/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-3
Client ID: VPB151-GW-D-081514
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8636.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.2	%					
Toluene-d8		96.9	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		101.	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-4
Client ID: VPB151-EB-081514
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8633.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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R12/21/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-4
Client ID: VPB151-EB-081514
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8633.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.9	%					
Toluene-d8		95.6	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		103.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-7
Client ID: VPB151-TB-081814
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8632.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6620-7
Client ID: VPB151-TB-081814
Project: Navy Clean WE15-03-06 NW
SDG: SH6620
Lab File ID: C8632.D

Sample Date: 15-AUG-14
Received Date: 19-AUG-14
Extract Date: 20-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148554

Analysis Date: 20-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 21-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		92.7	%					
Toluene-d8		94.0	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		102.	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: Rick Purdy
AECOM
701 Edgewater Drive
Wakefield,MA 01880

Lab Sample ID: SH6620-4
Report Date: 04-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6620

Sample Description	Matrix	Date Sampled	Date Received
VPB151-EB-081514	AQ	15-AUG-14	19-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	~~10.17~~ 1.0 U mg/L	1.0	0.10	.5	SM5310B	WG148878	22-AUG-14 22:21:50	N/A	N/A	

12/21/14

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: Rick Purdy
AECOM
701 Edgewater Drive
Wakefield,MA 01880

Lab Sample ID: SH6620-5
Report Date: 04-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6620

Sample Description	Matrix	Date Sampled	Date Received
151S-081514-663-665	SL	15-AUG-14	19-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
TOC In Soil	1200 J ug/gdrywt	500	110	380	SW846 9060A Mod.	WG148851	22-AUG-14 10:47:40	N/A	N/A	
Total Solids	79. %	1		N/A	SM2540G	WG148631	21-AUG-14 10:56:38	SM2540G	20-AUG-14	

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: Rick Purdy
AECOM
701 Edgewater Drive
Wakefield,MA 01880

Lab Sample ID: SH6620-6
Report Date: 04-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6620

Sample Description	Matrix	Date Sampled	Date Received
151SD081514-663-665	SL	15-AUG-14	19-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
TOC In Soil	2700 J ug/gdrywt	490	100	370	SW846 9060A Mod.	WG148851	22-AUG-14 11:47:33	N/A	N/A	
Total Solids	81. %	1		N/A	SM2540G	WG148631	21-AUG-14 10:57:32	SM2540G	20-AUG-14	

9/2/14

Katahdin Analytical Services 0000143

RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6778	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 10/21/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6778_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 19 - 21, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-081914-708-710	Groundwater
VPB151-GW-081914-718-720	Groundwater
VPB151-GW-081914-738-740	Groundwater
VPB151-GW-082014-758-760	Groundwater
VPB151-GW-082014-778-780	Groundwater
VPB151-GW-082114-798-800	Groundwater
VPB151-GW-082114-818-820	Groundwater
VPB151-TRIP BLANK-082114	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
✗	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✗	Laboratory control sample results
NA	Field duplicate results
✓	Internal standard results
✓	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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness

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 requests.

Selected samples were mostly soil and had very little standing water.

- For each of the samples VPB151-GW-081914-738-740 and VPB151-GW-082014-778-780, the laboratory decanted the liquid from two individual vials into one vial as a composite.
- For sample VPB151-GW-082114-798-800 the laboratory decanted the water from three individual vials into one vial as a composite.
- Due to vials containing soil, sample VPB151-GW-082114-818-820 was decanted before being analyzed.

Positive and nondetect results for these sample were qualified as estimated (J and UJ, respectively), due to possible loss of sample integrity during the decanting procedure. Qualified sample results are shown in Table 1.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) non-detects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-3.

Sample results were qualified as follows:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**
	TIC detected	Detects	If the result is ≤2x blank result, report the sample result U.** If the result is > 2x blank result, no qualification is required.**
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation.

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria.

Nonconformances are summarized in Attachment A in Table A-4.

Data qualification on the basis of surrogate recovery nonconformances was as follows:

	Action	
Nonconformance	**Detected Compounds**	**Nondetected Compounds**
%R > Upper Limit (UL)	J	No qualification
20% ≤%R < Lower Limit (LL)	J	UJ
%R < 20%	J	R

Qualified sample results are shown in Table 1.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria.

Nonconformances are summarized in Attachment A in Table A-5.

Data qualification to the analytes associated with the specific LCS %Rs or RPDs was as follows:

Nonconformances[1]	**Action**	
	Detected Compounds	**Nondetected Compounds**
%R or RPD > UL	J	No qualification
%R < LL	J	UJ
%R < 20% (see note 1)	J	R
(LL = lower limit, UL = upper limit)		
Notes: 1. Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject sample results previously negated (U) on the basis of blank contamination.		

Qualified sample results are shown in Table 1.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as undetected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081914-708-710	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-081914-708-710	WG	ACETONE	7.7	2.5	UG/L	J	c
VPB151-GW-081914-708-710	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-081914-708-710	WG	CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-081914-708-710	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-081914-718-720	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-081914-718-720	WG	ACETONE	7.6	2.5	UG/L	J	c,s,l
VPB151-GW-081914-718-720	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB151-GW-081914-718-720	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-081914-718-720	WG	CHLOROMETHANE		1.0	UG/L	UJ	c
VPB151-GW-081914-738-740	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc,c
VPB151-GW-081914-738-740	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc,c
VPB151-GW-081914-738-740	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081914-738-740	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	2-BUTANONE	3.5	2.5	UG/L	J	mc,c,s
VPB151-GW-081914-738-740	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	ACETONE	31	2.5	UG/L	J	mc,c,s,l
VPB151-GW-081914-738-740	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	BROMOMETHANE		1.0	UG/L	UJ	mc,c
VPB151-GW-081914-738-740	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bl
VPB151-GW-081914-738-740	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-081914-738-740	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB151-GW-081914-738-740	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	TRICHLOROETHENE	1.6	0.50	UG/L	J	mc,s
VPB151-GW-081914-738-740	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-081914-738-740	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-082014-758-760	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-082014-758-760	WG	ACETONE	5.3	2.5	UG/L	J	c,s,l
VPB151-GW-082014-758-760	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB151-GW-082014-758-760	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-082014-758-760	WG	CHLOROMETHANE		1.0	UG/L	UJ	c

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082014-778-780	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082014-778-780	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc,c
VPB151-GW-082014-778-780	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	2-BUTANONE	2.1	2.5	UG/L	J	mc,c,s
VPB151-GW-082014-778-780	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	ACETONE	14	2.5	UG/L	J	mc,c,s,l
VPB151-GW-082014-778-780	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	BROMOFORM		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082014-778-780	WG	BROMOMETHANE		1.0	UG/L	UJ	mc,c
VPB151-GW-082014-778-780	WG	CARBON DISULFIDE		1.6**	UG/L	UJ	mc,c,bl
VPB151-GW-082014-778-780	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082014-778-780	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082014-778-780	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	TRICHLOROETHENE	0.98	0.50	UG/L	J	mc,s
VPB151-GW-082014-778-780	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-082014-778-780	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082114-798-800	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc,c
VPB151-GW-082114-798-800	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082114-798-800	WG	2-BUTANONE	1.6	2.5	UG/L	J	mc,c
VPB151-GW-082114-798-800	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	ACETONE	15	2.5	UG/L	J	mc,c,l
VPB151-GW-082114-798-800	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	BROMOMETHANE		1.0	UG/L	UJ	mc,c
VPB151-GW-082114-798-800	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bl
VPB151-GW-082114-798-800	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082114-798-800	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082114-798-800	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	TRICHLOROETHENE	0.77	0.50	UG/L	J	mc
VPB151-GW-082114-798-800	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-082114-798-800	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082114-818-820	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082114-818-820	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	2-BUTANONE		2.5	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	ACETONE	4.5	2.5	UG/L	J	mc,c
VPB151-GW-082114-818-820	WG	BENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	BROMOMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bl
VPB151-GW-082114-818-820	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082114-818-820	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082114-818-820	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB151-GW-082114-818-820	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	STYRENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TRICHLOROETHENE		0.50	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB151-GW-082114-818-820	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB151-TRIP BLANK-082114	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-TRIP BLANK-082114	WQ	BROMOMETHANE		1.0	UG/L	UJ	c
VPB151-TRIP BLANK-082114	WQ	CHLOROMETHANE		1.0	UG/L	UJ	c

*LOQ value
**sample result

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG148025-7	1,1-DICHLOROETHENE	126	80-120%
	CARBON DISULFIDE	129	80-120%
	ACETONE	151	80-120%
	2-BUTANONE	125	80-120%
	2-HEXANONE	123	80-120%
Associated samples: all samples in SDG SH6778			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148777-4	BROMOMETHANE	-21	≤20%
	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	41	≤20%
	1,2-DIBROMO-3-CHLOROPROPANE	-23	≤20%
	METHYLCYCLOHEXANE	26	≤20%
Associated samples: VPB151-GW-081914-738-740,VPB151-GW-082014-778-780,VPB151-GW-082114-798-800			
WG148892-4	CHLOROMETHANE	-22	≤20%
	BROMOMETHANE	-23	≤20%
	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	21	≤20%
Associated samples: VPB151-GW-081914-718-720,VPB151-GW-082014-758-760,VPB151-TRIP BLANK-082114			
WG148960-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	37	≤20%
	CYCLOHEXANE	27	≤20%
Associated sample: VPB151-GW-081914-708-710			
WG149109-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	38	≤20%
	CYCLOHEXANE	25	≤20%
Associated samples: VPB151-GW-082114-818-820			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG148892-2	CARBON DISULFIDE	0.25	0.50	UG/L	VPB151-GW-081914-718-720 VPB151-GW-082014-758-760
WG149109-2	CARBON DISULFIDE	0.31	0.50	UG/L	VPB151-GW-082114-818-820
WG148777-2	CARBON DISULFIDE	0.32	0.50	UG/L	VPB151-GW-081914-738-740 VPB151-GW-082014-778-780 VPB151-GW-082114-798-800
WG148960-2	CARBON DISULFIDE	0.36	0.50	UG/L	VPB151-GW-081914-708-710

Table A-4 - Surrogates

Sample ID	Surrogate	% Recovery	Lower Limit	Upper Limit
VPB151-GW-081914-718-720	1,2-DICHLOROETHANE-D4	122	70	120
VPB151-GW-081914-738-740	1,2-DICHLOROETHANE-D4	122	70	120
VPB151-GW-082014-758-760	1,2-DICHLOROETHANE-D4	125	70	120
VPB151-GW-082014-778-780	1,2-DICHLOROETHANE-D4	121	70	120

Table A-5 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG148960-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	136	73	126	VPB151-GW-081914-708-710
WG149109-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	134	73	126	VPB151-GW-082114-818-820
WG148777-1	ACETONE	141	40	140	VPB151-GW-081914-738-740 VPB151-GW-082014-778-780 VPB151-GW-082114-798-800
WG148892-1	ACETONE	150	40	140	VPB151-GW-081914-718-720 VPB151-GW-082014-758-760 VPB151-TRIP BLANK-082114
WG148777-1	METHYL CYCLOHEXANE	128	73	125	VPB151-GW-081914-738-740 VPB151-GW-082014-778-780 VPB151-GW-082114-798-800
WG148777-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	146	73	126	VPB151-GW-081914-738-740 VPB151-GW-082014-778-780 VPB151-GW-082114-798-800
WG148892-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	134	73	126	VPB151-GW-081914-718-720 VPB151-GW-082014-758-760 VPB151-TRIP BLANK-082114

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

Katahdin ANALYTICAL SERVICES

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Scarborough, ME 04074
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Fax: (207) 775-4029

CHAIN of CUSTODY

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Page 1 of ___

Client: Resolution Consultants | Contact: Eleanor Vivaldo | Phone #: (845) 425-4980 | Fax #: ( )

Address: 100 Red Schoolhouse Road | City: Chestnut Ridge | State: NY | Zip Code: 10977

Purchase Order # | Proj. Name / No.: NWIRP Bethpage / 60266826 | Katahdin Quote #

Bill (If different than above) | Address

Sampler (Print / Sign): Jessica Ehlen / Jessica Ehlen | Copies To:

LAB USE ONLY | WORK ORDER #: SH6778

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOCs	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-081914-708-710	8/19/14/1020	GW	3	X										
	VPB151-GW-081914-718-720	8/19/14/1300	GW	3	X										
	VPB151-GW-081914-738-740	8/19/14/1550	GW	2	X										
	VPB151-GW-082014-758-760	8/20/14/1120	GW	2	X										
	VPB151-GW-082014-778-780	8/20/14/1440	GW	2	X										
	VPB151-GW-082114-798-800	8/21/14/1115	GW	3	X										
	~~VPB151-TripBlank-082114~~	~~8/21/14/1200~~	~~W~~		~~X~~ VOC										
	VPB151-TripBlank-082114	8/18/14/1430	W	3	X										
	VPB151-GW-082114-818-820	8/21/14/1405	GW	3	X										
		/													
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		/													
		/													

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Jessica Ehlen	8/21 1530			8/21 1630	FedEx
Relinquished By: (Signature)	Date / Time	Received By: (Signature) 8-22-14 0900	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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ORIGINAL

KAS-COC1

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-1RA2
Client ID: 151-081914-708-710
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8748.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 26-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148960

Analysis Date: 26-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.68~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.7	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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9/29/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-1RA2
Client ID: 151-081914-708-710
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8748.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 26-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148960

Analysis Date: 26-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		83.0	%					
Toluene-d8		87.9	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		97.5	%					

12/19/14

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-2RA
Client ID: 151-081914-718-720
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8729.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.28~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~J~~ J	7.6	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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9/29/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-2RA
Client ID: 151-081914-718-720
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8729.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		93.5	%					
Toluene-d8		97.4	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		107.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-3
Client ID: 151-081914-738-740
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8703.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	~~0.40~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	UL	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J J	31	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J J	3.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	J	1.6	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/14/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-3
Client ID: 151-081914-738-740
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8703.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	UL	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		96.7	%					
Toluene-d8		98.5	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		108.	%					

VJ

9/12/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-4RA
Client ID: 151-082014-758-760
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8730.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.38~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	5.3	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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9/26/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-4RA
Client ID: 151-082014-758-760
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8730.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		91.9	%					
Toluene-d8		96.2	%					
1,2-Dichloroethane-d4	*	125.	%					
Dibromofluoromethane		108.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-5
Client ID: 151-082014-778-780
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8705.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier		Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U		1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U		1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U		1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U		1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U		1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U		0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide			1.6	ug/L	1	1	1.0	0.25	0.50
Freon-113	UL		0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U		2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	L	J	14	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U		0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U		0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U		0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U		0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U		0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J	J	2.1	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U		0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U		0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U		0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	J	J	0.98	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U		0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U		0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U		0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U		2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U		0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U		0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U		0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U		0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U		2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U		0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U		0.50	ug/L	1	1	1.0	0.21	0.50

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12/16/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-5
Client ID: 151-082014-778-780
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8705.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	UL	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylcnc	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		96.8	%					
Toluene-d8		98.7	%					
1,2-Dichloroethane-d4	*	121.	%					
Dibromofluoromethane		107.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-6
Client ID: 151-082114-798-800
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8706.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	0.33	ug/L	1	1	1.0	0.25	0.50
Freon-113	UL	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	L	15	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J	1.6	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	J	0.77	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-6
Client ID: 151-082114-798-800
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8706.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 23-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 23-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	UL	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		97.4	%					
Toluene-d8		99.0	%					
1,2-Dichloroethane-d4	*	120.	%					
Dibromofluoromethane		105.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-8RA
Client ID: 151-082114-818-820
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8786.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~	~~0.37~~ UJ	ug/L	1	1	1.0	0.25	0.50
Freon-113	UL	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J J	4.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-8RA
Client ID: 151-082114-818-820
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8786.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		80.0	%					
Toluene-d8		85.9	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		96.1	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-7
Client ID: VPB151-TB-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8718.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	~~U~~ UJ	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	~~UL~~ U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6778-7
Client ID: VPB151-TB-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6778
Lab File ID: C8718.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 25-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148892

Analysis Date: 25-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 29-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		91.9	%					
Toluene-d8		96.4	%					
1,2-Dichloroethane-d4		119.	%					
Dibromofluoromethane		103.	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6881	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/7/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6881_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 22 and 25, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-082214-838-840	Groundwater
VPB151-GW-082214-858-860	Groundwater
VPB151-GW-082514-878-880	Groundwater
VPB151-TRIP BLANK-082514	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS) results
NA	Field duplicate results

✓ Internal standard results
✓ 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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/ 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 requests.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;

- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

Nonconformances are summarized in Attachment A in Tables A-1 and A-2.

Data qualification to the analytes associated with the specific ICAL and/or CCV was as follows:

ICV Recovery Nonconformances:

Nonconformance	Actions	
	Detected Compounds	Nondetected Compounds
%R > 120%	J	No qualification
20% < %R < 80%	J	UJ
%R <20% (see note)	J	R*

Notes: Based on NFG 2008 VOC guidance, professional judgment is used to reject (R) nondetects in all associated samples for any analyte with < 20% recovery. Also, professional judgment is used to estimate (UJ) rather the reject (R) sample results previously negated (U) on the basis of blank contamination.

CCV Linearity Nonconformances:

Nonconformance	Actions	
	Detected Results	Nondetected Results
%D > 20%	J	UJ
%Drift >20%	J*	UJ*
* No guidance in NFG, thus professional judgment was used		

Qualified sample results are shown in Table 1.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-3.

Sample results were qualified as follows:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**
	TIC detected	Detects	If the result is ≤2x blank result, report the sample result U.** If the result is > 2x blank result, no qualification is required.**
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation. Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. The %R for 1,1,2-trichloro-1,2,2-trifluoroethane exceeded the QC acceptance limit for batches WG148960 and WG149109. All associated samples were nondetect for this compound and the results were accepted without qualification.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082214-838-840	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-082214-838-840	WG	ACETONE	6.0	2.5	UG/L	J	c
VPB151-GW-082214-838-840	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-082214-838-840	WG	CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-082214-838-840	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-082214-858-860	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-082214-858-860	WG	ACETONE	8.4	2.5	UG/L	J	c
VPB151-GW-082214-858-860	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-082214-858-860	WG	CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-082214-858-860	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-082514-878-880	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-GW-082514-878-880	WG	ACETONE	7.9	2.5	UG/L	J	c
VPB151-GW-082514-878-880	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB151-GW-082514-878-880	WG	CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-GW-082514-878-880	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-TRIP BLANK-082514	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB151-TRIP BLANK-082514	WQ	CYCLOHEXANE		0.50	UG/L	UJ	c
VPB151-TRIP BLANK-082514	WQ	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG148025-7	1,1-DICHLOROETHENE	126	80-120%
	CARBON DISULFIDE	129	80-120%
	ACETONE	151	80-120%
	2-BUTANONE	125	80-120%
	2-HEXANONE	123	80-120%
Associated samples: all samples in SDG SH6881			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148960-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	37	≤20%
	CYCLOHEXANE	27	≤20%
	METHYLCYCLOHEXANE	31	≤20%
Associated sample: VPB151-TRIP BLANK-082514			
WG149109-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	38	≤20%
	CYCLOHEXANE	25	≤20%
	METHYLCYCLOHEXANE	28	≤20%
Associated samples: VPB151-GW-082214-838-840, VPB151-GW-082214-858-860,VPB151-GW-082514-878-880			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG149109-2	CARBON DISULFIDE	0.31	0.50	UG/L	VPB151-GW-082214-838-840 VPB151-GW-082214-858-860 VPB151-GW-082514-878-880

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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

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Page 1 of ___

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 425-4980	( )

Address 100 Red Schoolhouse Rd City Chestnut Ridge State NY Zip Code 10977

Purchase Order # Proj. Name / No. NWIRP Bethpage / 60266826 Katahdin Quote #

Bill (if different than above) Address

Sampler (Print / Sign) Jessica Ehlen / Michael Zabel Copies To:

LAB USE ONLY WORK ORDER #: 546881

KATAHDIN PROJECT NUMBER ___

REMARKS: ___

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO: ___

TEMP°C ___ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOCs (Filt. ☐Y ☒N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-082214-BS8-840	8/22/14 1005	GW	3	X									
	VPB151-GW-082214-BS8-860	8/22/14 1245	GW	3	X									
	VPB151-GW-082514-BS8-860	8-25-14 1110	GW	3	X									
	VPB151-Trip Blank-082514	8-18-14 1430	W	3	X									
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8-25-14 / 1530	[signature]	[signature]	8/25/14 / 1630	FedEx
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-1RA
Client ID: 151-082214-838-840
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8787.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.32~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	6.0	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-1RA
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Project: Navy Clean WE15-03-06 NW
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Analysis Date: 28-AUG-14
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Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		81.1	%					
Toluene-d8		86.0	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		99.7	%					

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ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-2RA
Client ID: 151-082214-858-860
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8788.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.46~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	8.4	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-2RA
Client ID: 151-082214-858-860
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8788.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		80.9	%					
Toluene-d8	*	84.7	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		98.0	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-3RA
Client ID: 151-082514-878-880
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8789.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.56~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	J	7.9	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-3RA
Client ID: 151-082514-878-880
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8789.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 28-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149109

Analysis Date: 28-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 04-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		81.0	%					
Toluene-d8		86.4	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		96.2	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-4
Client ID: VPB151-TB-082514
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8747.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 26-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148960

Analysis Date: 26-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	J	0.78	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/19/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6881-4
Client ID: VPB151-TB-082514
Project: Navy Clean WE15-03-06 NW
SDG: SH6881
Lab File ID: C8747.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 26-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148960

Analysis Date: 26-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	~~U~~ UJ	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		85.6	%					
Toluene-d8		88.7	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		98.5	%					

12/19/14

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RESOLUTION CONSULTANTS

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250 Apollo Drive
Chelmsford, MA 01824

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH7084	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/10/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH7084_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 26, 27, and 28, 2014.

Sample ID	Matrix/Sample Type
VPB151-GW-082614-923-925	Groundwater
VPB151-GW-082714-938-940	Groundwater
VPB151-GW-082714-958-960	Groundwater
VPB151-TRIP BLANK-082814	Trip Blank

Data validation activities were conducted with reference to *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically SW-846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (USEPA, 1996), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), and Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, 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 review elements (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/equipment blanks/trip blanks
✓	Surrogate spike recoveries
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Laboratory control sample (LCS) results
NA	Field duplicate results

✓ Internal standard results
✓ 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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Selected data points were estimated and/or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

RESULTS

Data Completeness (COC)/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 requests.

Selected samples were mostly soil and had very little standing water.

- For sample VPB151-GW-082614-923-925 the laboratory decanted the liquid into one vial prior to analysis. Due to limited sample volume, it was analyzed at a 1:10 dilution.
- For sample VPB151-GW-082714-938-940 the laboratory decanted the liquid into one vial prior to analysis. Due to limited sample volume, it was analyzed at a 1:10 dilution.
- For sample VPB151-GW-082714-958-960 the laboratory decanted the liquid into one vial prior to analysis. Due to limited sample volume, it was analyzed at a 1:40 dilution.

Positive and nondetect results for these sample were qualified as estimated (J and UJ, respectively), due to possible loss of sample integrity during the decanting procedure. Qualified sample results are shown in Table 1.

Due to limitations in the reporting system, the laboratory omitted the "VPB-" prefix and the "GW" from the sample ID, and truncated the ID for the Trip Blank in the report. The submitted EDD file reflects the full sample ID.

Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

The %R for acetone exceeded the QC acceptance limit in ICV WG149371-7. All associated sample results were nondetect for this compound and the results were accepted without qualification.

Laboratory Blanks/Equipment Blanks/Trip Blanks

Laboratory method blanks, equipment rinsate and trip blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). An equipment blank was not submitted with the samples in this data set.

Data validation qualifications for individual samples are based on the maximum contaminant concentration detected in all associated blanks.

Method and trip blank results were reviewed for conformance with the QC acceptance criteria. Detected results in blanks are not discussed in this data validation report if the associated results were nondetect or if qualification of sample results was not required.

Nonconformances are summarized in Attachment A in Table A-1.

Sample results were qualified as follows:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and ≤ 2x LOQ	Report the sample result with a U**
		≥ 2x the LOQ	No qualifications
	> LOQ	< LOQ	Report sample LOQ value with a U
		≥ LOQ and < blank contamination	Report the sample result with a U or reject the sample result as unusable R
		≥ 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.**
* Qualifications based on instrument blank results affect only the sample analyzed immediately after the			

Blank type	Blank result	Sample result	Action for samples
sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 g/L.			
**Based on professional judgment.			

LOQ - Limit of Quantitation.

Qualified sample results are shown in Table 1.

Surrogate Spike Recoveries

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

MS/MSD Results

MS/MSD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. The %R for acetone exceeded the QC acceptance limit for batch WG149371. All associated samples were nondetect for this compound and the results were accepted without qualification.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

ATTACHMENTS

Attachment A: Nonconformance Summary Tables

Attachment B: Qualifier Codes and Explanations

Attachment C: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082614-923-925	WG	1,1,1-TRICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,1,2,2-TETRACHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,1,2-TRICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,1-DICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,1-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2,4-TRICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DIBROMO-3-CHLOROPROPANE		7.5	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DIBROMOETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DICHLOROETHENE, TOTAL		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,2-DICHLOROPROPANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,3-DICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	1,4-DICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	2-BUTANONE		25	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	2-HEXANONE		25	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	4-METHYL-2-PENTANONE		25	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	ACETONE		25	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	BENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	BROMODICHLOROMETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	BROMOFORM		5.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082614-923-925	WG	BROMOMETHANE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CARBON DISULFIDE		10*	UG/L	UJ	mc,bl
VPB151-GW-082614-923-925	WG	CARBON TETRACHLORIDE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CHLOROETHANE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CHLOROFORM		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CHLOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CIS-1,2-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CIS-1,3-DICHLOROPROPENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	CYCLOHEXANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	DIBROMOCHLOROMETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	DICHLORODIFLUOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	ETHYLBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	ISOPROPYLBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	M- AND P-XYLENE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	METHYL ACETATE		7.5	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	METHYL CYCLOHEXANE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	METHYL TERT-BUTYL ETHER		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	METHYLENE CHLORIDE		25	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	O-XYLENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	STYRENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	TETRACHLOROETHENE		5.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082614-923-925	WG	TOLUENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	TRANS-1,2-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	TRANS-1,3-DICHLOROPROPENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	TRICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	TRICHLOROFLUOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	VINYL CHLORIDE		10	UG/L	UJ	mc
VPB151-GW-082614-923-925	WG	XYLENES, TOTAL		15	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1,1-TRICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1,2,2-TETRACHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1,2-TRICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1-DICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,1-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2,4-TRICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DIBROMO-3-CHLOROPROPANE		7.5	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DIBROMOETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DICHLOROETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DICHLOROETHENE, TOTAL		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,2-DICHLOROPROPANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,3-DICHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	1,4-DICHLOROBENZENE		5.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082714-938-940	WG	2-BUTANONE		25	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	2-HEXANONE		25	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	4-METHYL-2-PENTANONE		25	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	ACETONE		25	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	BENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	BROMODICHLOROMETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	BROMOFORM		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	BROMOMETHANE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CARBON DISULFIDE		10*	UG/L	UJ	mc,bl
VPB151-GW-082714-938-940	WG	CARBON TETRACHLORIDE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CHLOROBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CHLOROETHANE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CHLOROFORM		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CHLOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CIS-1,2-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CIS-1,3-DICHLOROPROPENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	CYCLOHEXANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	DIBROMOCHLOROMETHANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	DICHLORODIFLUOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	ETHYLBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	ISOPROPYLBENZENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	M- AND P-XYLENE		10	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082714-938-940	WG	METHYL ACETATE		7.5	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	METHYL CYCLOHEXANE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	METHYL TERT-BUTYL ETHER		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	METHYLENE CHLORIDE		25	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	O-XYLENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	STYRENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TETRACHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TOLUENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TRANS-1,2-DICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TRANS-1,3-DICHLOROPROPENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TRICHLOROETHENE		5.0	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	TRICHLOROFLUOROMETHANE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	VINYL CHLORIDE		10	UG/L	UJ	mc
VPB151-GW-082714-938-940	WG	XYLENES, TOTAL		15	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1,1-TRICHLOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1,2,2-TETRACHLOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1,2-TRICHLOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1-DICHLOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,1-DICHLOROETHENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2,4-TRICHLOROBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2-DIBROMO-3-CHLOROPROPANE		30	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082714-958-960	WG	1,2-DIBROMOETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2-DICHLOROBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2-DICHLOROETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2-DICHLOROETHENE, TOTAL		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,2-DICHLOROPROPANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,3-DICHLOROBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	1,4-DICHLOROBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	2-BUTANONE		100	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	2-HEXANONE		100	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	4-METHYL-2-PENTANONE		100	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	ACETONE		100	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	BENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	BROMODICHLOROMETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	BROMOFORM		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	BROMOMETHANE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CARBON DISULFIDE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CARBON TETRACHLORIDE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CHLOROBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CHLOROETHANE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CHLOROFORM		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CHLOROMETHANE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CIS-1,2-DICHLOROETHENE		20	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB151-GW-082714-958-960	WG	CIS-1,3-DICHLOROPROPENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	CYCLOHEXANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	DIBROMOCHLOROMETHANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	DICHLORODIFLUOROMETHANE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	ETHYLBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	ISOPROPYLBENZENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	M- AND P-XYLENE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	METHYL ACETATE		30	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	METHYL CYCLOHEXANE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	METHYL TERT-BUTYL ETHER		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	METHYLENE CHLORIDE		100	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	O-XYLENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	STYRENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TETRACHLOROETHENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TOLUENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TRANS-1,2-DICHLOROETHENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TRANS-1,3-DICHLOROPROPENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TRICHLOROETHENE		20	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	TRICHLOROFLUOROMETHANE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	VINYL CHLORIDE		40	UG/L	UJ	mc
VPB151-GW-082714-958-960	WG	XYLENES, TOTAL		60	UG/L	UJ	mc
VPB151-TRIP BLANK-082814	WQ	CARBON DISULFIDE		1.0*	UG/L	UJ	bl

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG149371-9	CARBON DISULFIDE	0.40	0.50	UG/L	VPB151-GW-082614-923-925 VPB151-GW-082714-938-940 VPB151-TRIP BLANK-082814

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Attachment C

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
co	Analyte carryover
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
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
mc	Method compliance nonconformance

Katahdin ANALYTICAL SERVICES
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Scarborough, ME 04074
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Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Contact	Phone #	Fax #
Resolution Consultants	Eleanor Vivaudou	(845) 425-4880	( )

Address	City	State	Zip Code
100 Red School house Rd	Chestnut Ridge	NY	10977

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NWIRP Bethpage / 602665.26	

Bill (if different than above) Address

Sampler (Print / Sign) Michael Zobel / Michael Zobel

Copies To:

LAB USE ONLY WORK ORDER #: SH7084

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	VPB151-GW-082614-923-925	8-26-14 / 1330	GW	3	-									
	VPB151-GW-082714-938-940	8-27-14 / 1040	GW	3	-									
	VPB151-GW-082714-958-960	8-27-14 / 1350	GW	3	-									
	VPB151-TripBlank-082814	8-18-14 / 1430	W	3	-									
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Michael Zobel	8-28-14 / 1600	8-29-14 0930			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL 0000X009

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH
nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-1DL
Client ID: 151-082614-923-925
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8820.D

Sample Date: 26-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	10	ug/L	10	2	20.	2.4	10.
Chloromethane	U	10	ug/L	10	2	20.	3.6	10.
Vinyl Chloride	U	10	ug/L	10	2	20.	2.5	10.
Bromomethane	U	10	ug/L	10	2	20.	4.9	10.
Chloroethane	U	10	ug/L	10	2	20.	5.5	10.
Trichlorofluoromethane	U	10	ug/L	10	2	20.	2.4	10.
1,1-Dichloroethene	U	5.0	ug/L	10	1	10.	3.5	5.0
Carbon Disulfide	J UJ	~~2.9~~ 10	ug/L	10	1	10.	2.5	5.0
Freon-113	U UJ	5.0	ug/L	10	1	10.	3.1	5.0
Methylene Chloride	U	25	ug/L	10	5	50.	11.	25.
Acetone	UL	25	ug/L	10	5	50.	22.	25.
trans-1,2-Dichloroethene	U	5.0	ug/L	10	1	10.	2.5	5.0
Methyl tert-butyl Ether	U	5.0	ug/L	10	1	10.	3.6	5.0
1,1-Dichloroethane	U	5.0	ug/L	10	1	10.	2.1	5.0
cis-1,2-Dichloroethene	U	5.0	ug/L	10	1	10.	2.1	5.0
Chloroform	U	5.0	ug/L	10	1	10.	3.2	5.0
1,1,1-Trichloroethane	U	5.0	ug/L	10	1	10.	2.0	5.0
2-Butanone	U	25	ug/L	10	5	50.	13.	25.
Cyclohexane	U	5.0	ug/L	10	1	10.	3.1	5.0
Carbon Tetrachloride	U	5.0	ug/L	10	1	10.	2.2	5.0
Benzene	U	5.0	ug/L	10	1	10.	2.6	5.0
1,2-Dichloroethane	U	5.0	ug/L	10	1	10.	2.0	5.0
Trichloroethene	U	5.0	ug/L	10	1	10.	2.8	5.0
1,2-Dichloropropane	U	5.0	ug/L	10	1	10.	2.5	5.0
Bromodichloromethane	U	5.0	ug/L	10	1	10.	3.3	5.0
cis-1,3-Dichloropropene	U	5.0	ug/L	10	1	10.	1.9	5.0
Toluene	U	5.0	ug/L	10	1	10.	2.7	5.0
4-Methyl-2-Pentanone	U	25	ug/L	10	5	50.	13.	25.
trans-1,3-Dichloropropene	U	5.0	ug/L	10	1	10.	2.0	5.0
1,1,2-Trichloroethane	U	5.0	ug/L	10	1	10.	3.3	5.0
Tetrachloroethene	U	5.0	ug/L	10	1	10.	4.0	5.0
Dibromochloromethane	U	5.0	ug/L	10	1	10.	3.0	5.0
2-Hexanone	U	25	ug/L	10	5	50.	17.	25.
Chlorobenzene	U	5.0	ug/L	10	1	10.	2.2	5.0
Ethylbenzene	U	5.0	ug/L	10	1	10.	2.1	5.0

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2/19/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-1DL
Client ID: 151-082614-923-925
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8820.D

Sample Date: 26-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	15	ug/L	10	3	30.	2.5	15.
Styrene	U	5.0	ug/L	10	1	10.	2.3	5.0
Bromoform	U	5.0	ug/L	10	1	10.	2.3	5.0
Isopropylbenzene	U	5.0	ug/L	10	1	10.	2.3	5.0
1,1,2,2-Tetrachloroethane	U	5.0	ug/L	10	1	10.	3.8	5.0
1,3-Dichlorobenzene	U	5.0	ug/L	10	1	10.	2.6	5.0
1,4-Dichlorobenzene	U	5.0	ug/L	10	1	10.	2.4	5.0
1,2-Dichlorobenzene	U	5.0	ug/L	10	1	10.	1.5	5.0
1,2,4-Trichlorobenzene	U	5.0	ug/L	10	1	10.	3.7	5.0
Methyl Acetate	U	7.5	ug/L	10	1	10.	5.3	7.5
Methylcyclohexane	U	5.0	ug/L	10	1	10.	3.0	5.0
o-Xylene	U	5.0	ug/L	10	1	10.	2.5	5.0
M+P-Xylenes	U	10	ug/L	10	2	20.	5.9	10.
1,2-Dichloroethylene (Total)	U	10	ug/L	10	2	20.	2.1	10.
1,2-Dibromoethane	U	5.0	ug/L	10	1	10.	2.2	5.0
1,2-Dibromo-3-Chloropropane	U	7.5	ug/L	10	1	10.	5.0	7.5
P-Bromofluorobenzene		86.8	%					
Toluene-d8		90.5	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		100.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-2DL
Client ID: 151-082714-938-940
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8821.D

Sample Date: 27-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	10	ug/L	10	2	20.	2.4	10.
Chloromethane	U	10	ug/L	10	2	20.	3.6	10.
Vinyl Chloride	U	10	ug/L	10	2	20.	2.5	10.
Bromomethane	U	10	ug/L	10	2	20.	4.9	10.
Chloroethane	U	10	ug/L	10	2	20.	5.5	10.
Trichlorofluoromethane	U	10	ug/L	10	2	20.	2.4	10.
1,1-Dichloroethene	U	5.0	ug/L	10	1	10.	3.5	5.0
Carbon Disulfide	J	~~2.8~~ 10.0	ug/L	10	1	10.	2.5	5.0
Freon-113	U	5.0	ug/L	10	1	10.	3.1	5.0
Methylene Chloride	U	25	ug/L	10	5	50.	11.	25.
Acetone	UL	25	ug/L	10	5	50.	22.	25.
trans-1,2-Dichloroethene	U	5.0	ug/L	10	1	10.	2.5	5.0
Methyl tert-butyl Ether	U	5.0	ug/L	10	1	10.	3.6	5.0
1,1-Dichloroethane	U	5.0	ug/L	10	1	10.	2.1	5.0
cis-1,2-Dichloroethene	U	5.0	ug/L	10	1	10.	2.1	5.0
Chloroform	U	5.0	ug/L	10	1	10.	3.2	5.0
1,1,1-Trichloroethane	U	5.0	ug/L	10	1	10.	2.0	5.0
2-Butanone	U	25	ug/L	10	5	50.	13.	25.
Cyclohexane	U	5.0	ug/L	10	1	10.	3.1	5.0
Carbon Tetrachloride	U	5.0	ug/L	10	1	10.	2.2	5.0
Benzene	U	5.0	ug/L	10	1	10.	2.6	5.0
1,2-Dichloroethane	U	5.0	ug/L	10	1	10.	2.0	5.0
Trichloroethene	U	5.0	ug/L	10	1	10.	2.8	5.0
1,2-Dichloropropane	U	5.0	ug/L	10	1	10.	2.5	5.0
Bromodichloromethane	U	5.0	ug/L	10	1	10.	3.3	5.0
cis-1,3-Dichloropropene	U	5.0	ug/L	10	1	10.	1.9	5.0
Toluene	U	5.0	ug/L	10	1	10.	2.7	5.0
4-Methyl-2-Pentanone	U	25	ug/L	10	5	50.	13.	25.
trans-1,3-Dichloropropene	U	5.0	ug/L	10	1	10.	2.0	5.0
1,1,2-Trichloroethane	U	5.0	ug/L	10	1	10.	3.3	5.0
Tetrachloroethene	U	5.0	ug/L	10	1	10.	4.0	5.0
Dibromochloromethane	U	5.0	ug/L	10	1	10.	3.0	5.0
2-Hexanone	U	25	ug/L	10	5	50.	17.	25.
Chlorobenzene	U	5.0	ug/L	10	1	10.	2.2	5.0
Ethylbenzene	U	5.0	ug/L	10	1	10.	2.1	5.0

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9/2x/15

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-2DL
Client ID: 151-082714-938-940
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8821.D

Sample Date: 27-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	15	ug/L	10	3	30.	2.5	15.
Styrene	U	5.0	ug/L	10	1	10.	2.3	5.0
Bromoform	U	5.0	ug/L	10	1	10.	2.3	5.0
Isopropylbenzene	U	5.0	ug/L	10	1	10.	2.3	5.0
1,1,2,2-Tetrachloroethane	U	5.0	ug/L	10	1	10.	3.8	5.0
1,3-Dichlorobenzene	U	5.0	ug/L	10	1	10.	2.6	5.0
1,4-Dichlorobenzene	U	5.0	ug/L	10	1	10.	2.4	5.0
1,2-Dichlorobenzene	U	5.0	ug/L	10	1	10.	1.5	5.0
1,2,4-Trichlorobenzene	U	5.0	ug/L	10	1	10.	3.7	5.0
Methyl Acetate	U	7.5	ug/L	10	1	10.	5.3	7.5
Methylcyclohexane	U	5.0	ug/L	10	1	10.	3.0	5.0
o-Xylene	U	5.0	ug/L	10	1	10.	2.5	5.0
M+P-Xylenes	U	10	ug/L	10	2	20.	5.9	10.
1,2-Dichloroethylene (Total)	U	10	ug/L	10	2	20.	2.1	10.
1,2-Dibromoethane	U	5.0	ug/L	10	1	10.	2.2	5.0
1,2-Dibromo-3-Chloropropane	U	7.5	ug/L	10	1	10.	5.0	7.5
P-Bromofluorobenzene		89.0	%					
Toluene-d8		91.5	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		101.	%					

9/28/15

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-3DL
Client ID: 151-082714-958-960
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8822.D

Sample Date: 27-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U UJ	40	ug/L	40	2	80.	9.6	40.
Chloromethane	U	40	ug/L	40	2	80.	14.	40.
Vinyl Chloride	U	40	ug/L	40	2	80.	10.	40.
Bromomethane	U	40	ug/L	40	2	80.	20.	40.
Chloroethane	U	40	ug/L	40	2	80.	22.	40.
Trichlorofluoromethane	U	40	ug/L	40	2	80.	9.6	40.
1,1-Dichloroethene	U	20	ug/L	40	1	40.	14.	20.
Carbon Disulfide	U	20	ug/L	40	1	40.	10.	20.
Freon-113	U	20	ug/L	40	1	40.	12.	20.
Methylene Chloride	U	100	ug/L	40	5	200	45.	100
Acetone	UL	100	ug/L	40	5	200	88.	100
trans-1,2-Dichloroethene	U	20	ug/L	40	1	40.	10.	20.
Methyl tert-butyl Ether	U	20	ug/L	40	1	40.	14.	20.
1,1-Dichloroethane	U	20	ug/L	40	1	40.	8.4	20.
cis-1,2-Dichloroethene	U	20	ug/L	40	1	40.	8.4	20.
Chloroform	U	20	ug/L	40	1	40.	13.	20.
1,1,1-Trichloroethane	U	20	ug/L	40	1	40.	8.0	20.
2-Butanone	U	100	ug/L	40	5	200	52.	100
Cyclohexane	U	20	ug/L	40	1	40.	12.	20.
Carbon Tetrachloride	U	20	ug/L	40	1	40.	8.8	20.
Benzene	U	20	ug/L	40	1	40.	10.	20.
1,2-Dichloroethane	U	20	ug/L	40	1	40.	8.0	20.
Trichloroethene	U	20	ug/L	40	1	40.	11.	20.
1,2-Dichloropropane	U	20	ug/L	40	1	40.	10.	20.
Bromodichloromethane	U	20	ug/L	40	1	40.	13.	20.
cis-1,3-Dichloropropene	U	20	ug/L	40	1	40.	7.6	20.
Toluene	U	20	ug/L	40	1	40.	11.	20.
4-Methyl-2-Pentanone	U	100	ug/L	40	5	200	53.	100
trans-1,3-Dichloropropene	U	20	ug/L	40	1	40.	8.0	20.
1,1,2-Trichloroethane	U	20	ug/L	40	1	40.	13.	20.
Tetrachloroethene	U	20	ug/L	40	1	40.	16.	20.
Dibromochloromethane	U	20	ug/L	40	1	40.	12.	20.
2-Hexanone	U	100	ug/L	40	5	200	68.	100
Chlorobenzene	U	20	ug/L	40	1	40.	8.8	20.
Ethylbenzene	U	20	ug/L	40	1	40.	8.4	20.

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12/9/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-3DL
Client ID: 151-082714-958-960
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8822.D

Sample Date: 27-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	60	ug/L	40	3	120	10.	60.
Styrene	U	20	ug/L	40	1	40.	9.2	20.
Bromoform	U	20	ug/L	40	1	40.	9.2	20.
Isopropylbenzene	U	20	ug/L	40	1	40.	9.2	20.
1,1,2,2-Tetrachloroethane	U	20	ug/L	40	1	40.	15.	20.
1,3-Dichlorobenzene	U	20	ug/L	40	1	40.	10.	20.
1,4-Dichlorobenzene	U	20	ug/L	40	1	40.	9.6	20.
1,2-Dichlorobenzene	U	20	ug/L	40	1	40.	6.0	20.
1,2,4-Trichlorobenzene	U	20	ug/L	40	1	40.	15.	20.
Methyl Acetate	U	30	ug/L	40	1	40.	21.	30.
Methylcyclohexane	U	20	ug/L	40	1	40.	12.	20.
o-Xylene	U	20	ug/L	40	1	40.	10.	20.
M+P-Xylenes	U	40	ug/L	40	2	80.	24.	40.
1,2-Dichloroethylene (Total)	U	40	ug/L	40	2	80.	8.4	40.
1,2-Dibromoethane	U	20	ug/L	40	1	40.	8.8	20.
1,2-Dibromo-3-Chloropropane	U	30	ug/L	40	1	40.	20.	30.
P-Bromofluorobenzene		89.5	%					
Toluene-d8		93.1	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		102.	%					

12/14/14

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Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-4
Client ID: VPB151-TB-082814
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
Lab File ID: C8819.D

Sample Date: 28-AUG-14
Received Date: 29-AUG-14
Extract Date: 02-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149371

Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	J	0.64	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.32~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	J	1.5	ug/L	1	5	5.0	1.1	2.5
Acetone	UL	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	U	0.50	ug/L	1	1	1.0	0.31	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50

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12/1/14

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7084-4
Client ID: VPB151-TB-082814
Project: Navy Clean WE15-03-06 NW
SDG: SH7084
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Analysis Date: 02-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Methyl Acetate	U	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	U	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
M+P-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
1,2-Dichloroethylene (Total)	U	1.0	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromo-3-Chloropropane	U	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		87.8	%					
Toluene-d8		89.8	%					
1,2-Dichloroethane-d4		105.	%					
Dibromofluoromethane		95.3	%					

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RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Test America, South Burlington, Vermont	
Service Request:	200-23999	
Analyses/Method:	EPA Method TO-15, VOCs Collected in Canisters - GC/MS	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 11/12/2014
Reviewed by:	Lori Herberich/RESCON	File Name: 200-23999_TO-15

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on September 2, 2014.

Sample ID	Matrix/Sample Type
VPB151-AIR-090214	Ambient air

Data validation activities were conducted with reference to *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)* (USEPA, Method TO-15) and the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008). 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 review element (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
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. The symbol (✗) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. There were no data points qualified or rejected on the basis of this data review.

RESULTS

Data Completeness (COC)/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 requests.

Holding Times/Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. The QC acceptance criteria were met.

GC/MS Performance Checks

The data were reviewed to ensure that the 4-bromofluorobenzene (BFB) tuning was performed at the correct frequency and that the method acceptance criteria were met. The QC acceptance criteria were met.

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 (%RSD), correlation coefficient (r)/coefficient of determination (r^2), and/or response factor method acceptance criteria were met;
- the initial calibration verification (ICV) percent recovery (%R) criteria were met;
- the continuing calibration verification standard (CCV) method percent difference or percent drift (%Ds) and RF acceptance criteria were met; and/or
- the retention time method acceptance criteria were met.

The QC acceptance criteria were met.

Laboratory Blanks

Laboratory method blanks were evaluated as to whether there were contaminants detected above the detection limit (DL). Blank results were reviewed for conformance with the QC acceptance criteria. Data validation qualifications for individual samples are based on the maximum

contaminant concentration detected in all associated blanks. The QC acceptance criteria were met, qualification of the sample results was not required.

MD Results

MD analyses were not performed on samples reported in this SDG. There were no validation actions taken on this basis.

LCS Results

The LCS %Rs were reviewed for conformance with the QC acceptance criteria. The %R for bromoform exceeded the QC acceptance criteria. The associated sample was nondetect for this compound and the results were accepted without qualification.

Field Duplicate Results

There were no field duplicate samples submitted with this data set. No validation actions were taken on this basis.

Internal Standard Results

The internal standard (IS) recoveries were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

Sample Results/Reporting Issues

Compounds that were not detected in the sample are reported as not detected (U) at the Limit of Detection (LOD).

Compounds detected at concentrations less than the LOQ but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

Any sample that was analyzed at a dilution due to high concentrations of target or non-target compounds or matrix interferences was checked to ensure that the results and/or sample specific LODs and LOQs were adjusted accordingly by the laboratory.

QUALIFICATION ACTIONS

No sample results were qualified as a result of this data review.

ATTACHMENTS

Attachment A: Qualifier Codes and Explanations

Attachment A

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 limit of quantitation 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.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Eleanor Vivirito	Samples Collected By: Michael Zobel	1 of 1 COCs
Company: Resolution Consultants	Phone: 845-425-4420		
Address: 10 Red Schoolhouse Rd	Email: eleanor.vivirito@resolution.com		
City/State/Zip: Chestnut Ridge, NY 10977			
Phone: 845-425-4420	Site Contact: Mike Zobel		
FAX:	TA Contact:		
Project Name: NWIRP Bethpage	**Analysis Turnaround Time**		
Site: VPB151	Standard (Specify) X		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VPB151-AIR-090214	9-2-14	0755	1545	-28	-8	5343	6656	X											

	Temperature (Fahrenheit)		
	Interior	Ambient	
Start		90°F	
Stop		85°F	

	Pressure (Inches of Hg)		
	Interior	Ambient	
Start			
Stop			

200-23999 Chain of Custody

Special Instructions/QC Requirements & Comments:

Samples Shipped by: Michael Zobel	Date/Time: 9-3-14 1630	Samples Received by:
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time: 9/4/14 1040	Received by: TABUR

Lab Use Only Shipper Name: Opened by: Condition:

09/15/2014

000005

Client: Katahdin Analytical Services

Job Number: 200-23999-1
Sdg Number: 200-23999

Client Sample ID: **VPB151-AIR-090214**

Lab Sample ID: 200-23999-1
Client Matrix: Air

Date Sampled: 09/02/2014 1545
Date Received: 09/04/2014 1040

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-76989	Instrument ID:	CHW.i
Prep Method:	Summa Canister	Prep Batch:	N/A	Lab File ID:	9362_020.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	09/10/2014 0209			Final Weight/Volume:	200 mL
Prep Date:	09/10/2014 0209			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	DL	LOQ
1,1,1-Trichloroethane	0.080	U	0.20	0.20
1,1,2,2-Tetrachloroethane	0.030	U	0.20	0.20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.030	U	0.20	0.20
1,1,2-Trichloroethane	0.030	U	0.20	0.20
1,1-Dichloroethane	0.080	U	0.20	0.20
1,1-Dichloroethene	0.080	U	0.20	0.20
1,2,4-Trichlorobenzene	0.080	U	0.50	0.50
1,2-Dibromoethane (EDB)	0.080	U	0.20	0.20
1,2-Dichlorobenzene	0.030	U	0.20	0.20
1,2-Dichloroethane	0.030	U	0.20	0.20
1,2-Dichloropropane	0.080	U	0.20	0.20
Acetone	2.5	U	5.0	5.0
1,3-Dichlorobenzene	0.030	U	0.20	0.20
1,4-Dichlorobenzene	0.030	U	0.20	0.20
2-Butanone (MEK)	1.6		0.50	0.50
2-Hexanone	0.20	U	0.50	0.50
4-Methyl-2-pentanone	0.080	U	0.50	0.50
Benzene	0.26		0.20	0.20
Bromoform	0.030	U Q	0.20	0.20
Bromomethane	0.080	U	0.20	0.20
Carbon disulfide	0.20	U	0.50	0.50
Carbon tetrachloride	0.080	U	0.20	0.20
Chlorobenzene	0.030	U	0.20	0.20
Dibromochloromethane	0.030	U	0.20	0.20
Chloroethane	0.080	U	0.50	0.50
Chloroform	0.080	U	0.20	0.20
Chloromethane	0.54		0.50	0.50
cis-1,2-Dichloroethene	0.080	U	0.20	0.20
cis-1,3-Dichloropropene	0.080	U	0.20	0.20
Cyclohexane	0.72		0.20	0.20
Bromodichloromethane	0.030	U	0.20	0.20
Dichlorodifluoromethane	0.60		0.50	0.50
Ethylbenzene	0.030	U	0.20	0.20
Isopropylbenzene	0.030	U	0.20	0.20
Methyl tert-butyl ether	0.080	U	0.20	0.20
Methylene Chloride	0.20	U	0.50	0.50
m,p-Xylene	0.080	U	0.50	0.50
Xylene, o-	0.030	U	0.20	0.20
Styrene	0.030	U	0.20	0.20
Tetrachloroethene	1.5		0.20	0.20
Toluene	4.0		0.20	0.20
trans-1,2-Dichloroethene	0.080	U	0.20	0.20
trans-1,3-Dichloropropene	0.080	U	0.20	0.20
Trichloroethene	0.080	U	0.20	0.20
Trichlorofluoromethane	0.25		0.20	0.20
Vinyl chloride	0.080	U	0.20	0.20

Client: Katahdin Analytical Services

Job Number: 200-23999-1
Sdg Number: 200-23999

Client Sample ID: **VPB151-AIR-090214**

Lab Sample ID: 200-23999-1
Client Matrix: Air

Date Sampled: 09/02/2014 1545
Date Received: 09/04/2014 1040

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-76989	Instrument ID:	CHW.i
Prep Method:	Summa Canister	Prep Batch:	N/A	Lab File ID:	9362_020.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	09/10/2014 0209			Final Weight/Volume:	200 mL
Prep Date:	09/10/2014 0209			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	DL	LOQ
Xylene (total)	0.080	U	0.20	0.20

Analyte	Result (ug/m3)	Qualifier	DL	LOQ
1,1,1-Trichloroethane	0.44	U	1.1	1.1
1,1,2,2-Tetrachloroethane	0.21	U	1.4	1.4
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.5	1.5
1,1,2-Trichloroethane	0.16	U	1.1	1.1
1,1-Dichloroethane	0.32	U	0.81	0.81
1,1-Dichloroethene	0.32	U	0.79	0.79
1,2,4-Trichlorobenzene	0.59	U	3.7	3.7
1,2-Dibromoethane (EDB)	0.61	U	1.5	1.5
1,2-Dichlorobenzene	0.18	U	1.2	1.2
1,2-Dichloroethane	0.12	U	0.81	0.81
1,2-Dichloropropane	0.37	U	0.92	0.92
Acetone	5.9	U	12	12
1,3-Dichlorobenzene	0.18	U	1.2	1.2
1,4-Dichlorobenzene	0.18	U	1.2	1.2
2-Butanone (MEK)	4.8		1.5	1.5
2-Hexanone	0.82	U	2.0	2.0
4-Methyl-2-pentanone	0.33	U	2.0	2.0
Benzene	0.82		0.64	0.64
Bromoform	0.31	U Q	2.1	2.1
Bromomethane	0.31	U	0.78	0.78
Carbon disulfide	0.62	U	1.6	1.6
Carbon tetrachloride	0.50	U	1.3	1.3
Chlorobenzene	0.14	U	0.92	0.92
Dibromochloromethane	0.26	U	1.7	1.7
Chloroethane	0.21	U	1.3	1.3
Chloroform	0.39	U	0.98	0.98
Chloromethane	1.1		1.0	1.0
cis-1,2-Dichloroethene	0.32	U	0.79	0.79
cis-1,3-Dichloropropene	0.36	U	0.91	0.91
Cyclohexane	2.5		0.69	0.69
Bromodichloromethane	0.20	U	1.3	1.3
Dichlorodifluoromethane	3.0		2.5	2.5
Ethylbenzene	0.13	U	0.87	0.87
Isopropylbenzene	0.15	U	0.98	0.98
Methyl tert-butyl ether	0.29	U	0.72	0.72
Methylene Chloride	0.69	U	1.7	1.7
m,p-Xylene	0.35	U	2.2	2.2
Xylene, o-	0.13	U	0.87	0.87
Styrene	0.13	U	0.85	0.85
Tetrachloroethene	10		1.4	1.4
Toluene	15		0.75	0.75
trans-1,2-Dichloroethene	0.32	U	0.79	0.79
trans-1,3-Dichloropropene	0.36	U	0.91	0.91

Client: Katahdin Analytical Services

Job Number: 200-23999-1
Sdg Number: 200-23999

Client Sample ID: **VPB151-AIR-090214**

Lab Sample ID: 200-23999-1
Client Matrix: Air

Date Sampled: 09/02/2014 1545
Date Received: 09/04/2014 1040

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-76989	Instrument ID:	CHW.i
Prep Method:	Summa Canister	Prep Batch:	N/A	Lab File ID:	9362_020.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	09/10/2014 0209			Final Weight/Volume:	200 mL
Prep Date:	09/10/2014 0209			Injection Volume:	200 mL

Analyte	Result (ug/m3)	Qualifier	DL	LOQ
Trichloroethene	0.43	U	1.1	1.1
Trichlorofluoromethane	1.4		1.1	1.1
Vinyl chloride	0.20	U	0.51	0.51
Xylene (total)	0.35	U	0.87	0.87

Section 5

VPB 151 Analytical Data Table

Vertical Profile Boring 151 Analytical Data Table
Naval Weapons Industrial Reserve Plant
Bethpage - Bethpage, New York

Resolution Consultants

Location		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	7/21/2014	7/21/2014	7/23/2014	7/23/2014
Sample ID		VPB151-GW-072114-63-65	VPB151-GW-072114-98-100	VPB151-GW-072314-158-160	VPB151-GW-072314-198-200
Sample Interval		63 - 65 ft	98 - 100 ft	158 - 160 ft	198 - 200 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 U	**4.2**	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
ACETONE	50	**3.8 J**	**5.5 J**	**7.7 J**	< 2.5 UJ
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
CHLOROFORM	7	**2.3**	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	**0.58 J**	< 0.50 U	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 UJ

Location		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	7/24/2014	7/25/2014	7/25/2014	7/30/2014
Sample ID		VPB151-GW-072414-218-220	VPB151-GW-072514-238-240	VPB151-GW-072514-258-260	VPB151-GW-073014-278-280
Sample Interval		218 - 220 ft	238 - 240 ft	258 - 260 ft	278 - 280 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 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	**2.9 J**	< 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 UJ***	***< 0.75 UJ***	***< 0.75 UJ***
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	< 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 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	**13 J**	**13 J**	**7.2 J**	**16 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 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 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	< 1.0 U	< 1.0 U
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	**0.55 J**	< 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 UJ	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 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		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	7/30/2014	7/30/2014	7/31/2014	7/31/2014
Sample ID		VPB151-GWD-073014	VPB151-GW-073014-303-305	VPB151-GW-073114-318-320	VPB151-GW-073114-338-340
Sample Interval		278 - 280 ft	303 - 305 ft	318 - 320 ft	338 - 340 ft
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	< 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 UJ***	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 UJ***
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	< 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 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	**17 J**	**10 J**	**7.2 J**	**7.2 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 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 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	< 1.0 U	< 1.0 U
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	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 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		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/1/2014	8/1/2014	8/1/2014	8/4/2014
Sample ID		VPB151-GW-080114-368-370	VPB151-GW-080114-378-380	VPB151-GW-080114-398-400	VPB151-GW-080414-418-420
Sample Interval		368 - 370 ft	378 - 380 ft	398 - 380 ft	418 - 420 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 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 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	< 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 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 UJ	< 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	**17 J**	< 2.5 UJ	**4.1 J**	**4.3 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	**0.38 J**	**0.26 J**	< 0.50 U	< 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 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 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	< 1.0 U	< 1.0 U
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	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 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		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/4/2014	8/5/2014	8/5/2014	8/5/2014
Sample ID		VPB151-GW-080414-438-440	VPB151-GW-080514-463-465	VPB151-GW-080514-478-480	VPB151-GW-080514-498-500
Sample Interval		438 - 440 ft	463 - 465 ft	478 - 480 ft	498 - 500 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 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 UJ***	***< 0.75 UJ***	***< 0.75 UJ***
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	< 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 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 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 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
ACETONE	50	**3.7 J**	< 2.5 UJ	**5.1 J**	< 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 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 1.0 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 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 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	< 1.0 U	< 1.0 U
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 UJ	< 0.75 UJ	< 0.75 UJ
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	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 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		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/11/2014	8/11/2014	8/12/2014	8/12/2014
Sample ID		VPB151-GW-081114-538-540	VPB151-GW-081114-558-560	VPB151-GW-081214-583-585	VPB151-GW-081214-598-600
Sample Interval		538 - 540 ft	558 - 560 ft	583 - 585 ft	598 - 600 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
2-BUTANONE	50	< 2.5 U	**1.4 J**	**1.4 J**	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 U
ACETONE	50	**8.2 J**	**11 J**	**14 J**	**4.0 J**
BENZENE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
BROMOMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
CHLOROETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
CHLOROFORM	7	< 0.50 U	< 0.50 UJ	< 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 UJ	< 0.50 UJ	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
ETHYLBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 UJ	< 0.75 UJ	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
STYRENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
VINYL CHLORIDE	2	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 UJ	< 1.5 UJ	< 1.5 U

Location		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/14/2014	8/14/2014	8/15/2014	8/15/2014
Sample ID		VPB151-GW-081414-618-620	VPB151-GW-081414-638-640	VPB151-GW-081514-658-660	VPB151-GW-D-081514
Sample Interval		618 - 620 ft	638 - 640 ft	658 - 660 ft	658 - 660 ft
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	< 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 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 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	< 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 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	**3.2 J**	**2.6 J**	**5.4 J**	**7.0 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 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 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 U	< 1.0 U	< 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 U	< 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 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	< 1.0 U	< 1.0 U
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	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 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		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/15/2014	8/19/2014	8/19/2014	8/19/2014
Sample ID		VPB151-GW-081514-678-680	VPB151-GW-081914-708-710	VPB151-GW-081914-718-720	VPB151-GW-081914-738-740
Sample Interval		678 - 680 ft	708 - 710 ft	718 - 720 ft	738 - 740 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	**3.5 J**
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
ACETONE	50	< 2.5 U	**7.7 J**	**7.6 J**	**31 J**
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 0.50 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 UJ
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	**1.6 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 UJ

Location		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/20/2014	8/20/2014	8/21/2014	8/21/2014
Sample ID		VPB151-GW-082014-758-760	VPB151-GW-082014-778-780	VPB151-GW-082114-798-800	VPB151-GW-082114-818-820
Sample Interval		758 - 760 ft	778 - 780 ft	798 - 800 ft	818 - 820 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 UJ***	***< 0.75 UJ***	***< 0.75 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
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 UJ	< 0.50 UJ	< 0.50 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
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 UJ	< 0.50 UJ	< 0.50 UJ
2-BUTANONE	50	< 2.5 U	**2.1 J**	**1.6 J**	< 2.5 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
ACETONE	50	**5.3 J**	**14 J**	**15 J**	**4.5 J**
BENZENE	1	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
BROMOFORM	50	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 1.0 UJ	< 1.6 UJ	< 1.0 UJ	< 1.0 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CHLOROETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CHLOROFORM	7	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
ETHYLBENZENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
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 UJ	< 0.75 UJ	< 0.75 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
O-XYLENE	NL	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
STYRENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
TOLUENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 UJ***	***< 0.50 UJ***	***< 0.50 UJ***
TRICHLOROETHENE	5	< 0.50 U	**0.98 J**	**0.77 J**	< 0.50 UJ
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 UJ	< 1.5 UJ	< 1.5 UJ

Location		VPB151	VPB151	VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/22/2014	8/22/2014	8/25/2014	8/26/2014
Sample ID		VPB151-GW-082214-838-840	VPB151-GW-082214-858-860	VPB151-GW-082514-878-880	VPB151-GW-082614-923-925
Sample Interval		838 - 840 ft	858 - 860 ft	878 - 880 ft	923 - 925 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 5.0 UJ
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 7.5 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 25 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 25 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 25 UJ
ACETONE	50	**6.0 J**	**8.4 J**	**7.9 J**	< 25 UJ
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 5.0 UJ***
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 10 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 5.0 UJ***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 5.0 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 10 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 7.5 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 5.0 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	***< 25 UJ***
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 5.0 UJ***
TRICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 5.0 UJ
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	***< 10 UJ***
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	***< 15 UJ***

Location		VPB151	VPB151
Sample Date	NYSDEC Groundwater Guidance or Standard Value (Note 1)	8/27/2014	8/27/2014
Sample ID		VPB151-GW-082714-938-940	VPB151-GW-082714-958-960
Sample Interval		938 - 940 ft	958 - 960 ft
Sample type code		N	N
VOC 8260C (ug/L)			
1,1,1-TRICHLOROETHANE	5	< 5.0 UJ	***< 20 UJ***
1,1,2,2-TETRACHLOROETHANE	5	< 5.0 UJ	***< 20 UJ***
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 5.0 UJ	***< 20 UJ***
1,1,2-TRICHLOROETHANE	1	***< 5.0 UJ***	***< 20 UJ***
1,1-DICHLOROETHANE	5	< 5.0 UJ	***< 20 UJ***
1,1-DICHLOROETHENE	5	< 5.0 UJ	***< 20 UJ***
1,2,4-TRICHLOROBENZENE	5	< 5.0 UJ	***< 20 UJ***
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 7.5 UJ***	***< 30 UJ***
1,2-DIBROMOETHANE	NL	< 5.0 UJ	< 20 UJ
1,2-DICHLOROBENZENE	3	***< 5.0 UJ***	***< 20 UJ***
1,2-DICHLOROETHANE	5	< 5.0 UJ	***< 20 UJ***
1,2-DICHLOROETHENE, TOTAL	5	***< 10 UJ***	***< 40 UJ***
1,2-DICHLOROPROPANE	1	***< 5.0 UJ***	***< 20 UJ***
1,3-DICHLOROBENZENE	3	***< 5.0 UJ***	***< 20 UJ***
1,4-DICHLOROBENZENE	3	***< 5.0 UJ***	***< 20 UJ***
2-BUTANONE	50	< 25 UJ	***< 100 UJ***
2-HEXANONE	50	< 25 UJ	***< 100 UJ***
4-METHYL-2-PENTANONE	NL	< 25 UJ	***< 100 UJ***
ACETONE	50	< 25 UJ	***< 100 UJ***
BENZENE	1	***< 5.0 UJ***	***< 20 UJ***
BROMODICHLOROMETHANE	50	< 5.0 UJ	< 20 UJ
BROMOFORM	50	< 5.0 UJ	< 20 UJ
BROMOMETHANE	5	***< 10 UJ***	***< 40 UJ***
CARBON DISULFIDE	60	< 10 UJ	< 20 UJ
CARBON TETRACHLORIDE	5	< 5.0 UJ	***< 20 UJ***
CHLOROBENZENE	5	< 5.0 UJ	***< 20 UJ***
CHLOROETHANE	5	***< 10 UJ***	***< 40 UJ***
CHLOROFORM	7	< 5.0 UJ	***< 20 UJ***
CHLOROMETHANE	5	***< 10 UJ***	***< 40 UJ***
CIS-1,2-DICHLOROETHENE	5	< 5.0 UJ	***< 20 UJ***
CIS-1,3-DICHLOROPROPENE	0.4	***< 5.0 UJ***	***< 20 UJ***
CYCLOHEXANE	NL	< 5.0 UJ	< 20 UJ
DIBROMOCHLOROMETHANE	5	< 5.0 UJ	***< 20 UJ***
DICHLORODIFLUOROMETHANE	5	***< 10 UJ***	***< 40 UJ***
ETHYLBENZENE	5	< 5.0 UJ	***< 20 UJ***
ISOPROPYLBENZENE	5	< 5.0 UJ	***< 20 UJ***
M- AND P-XYLENE	NL	< 10 UJ	< 40 UJ
METHYL ACETATE	NL	< 7.5 UJ	< 30 UJ
METHYL CYCLOHEXANE	NL	< 5.0 UJ	< 20 UJ
METHYL TERT-BUTYL ETHER	10	< 5.0 UJ	***< 20 UJ***
METHYLENE CHLORIDE	5	***< 25 UJ***	***< 100 UJ***
O-XYLENE	NL	< 5.0 UJ	< 20 UJ
STYRENE	5	< 5.0 UJ	***< 20 UJ***
TETRACHLOROETHENE	5	< 5.0 UJ	***< 20 UJ***
TOLUENE	5	< 5.0 UJ	***< 20 UJ***
TRANS-1,2-DICHLOROETHENE	5	< 5.0 UJ	***< 20 UJ***
TRANS-1,3-DICHLOROPROPENE	0.4	***< 5.0 UJ***	***< 20 UJ***
TRICHLOROETHENE	5	< 5.0 UJ	***< 20 UJ***
TRICHLOROFLUOROMETHANE	5	***< 10 UJ***	***< 40 UJ***
VINYL CHLORIDE	2	***< 10 UJ***	***< 40 UJ***
XYLENES, TOTAL	5	***< 15 UJ***	***< 60 UJ***

Notes:

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

Bold = Detected; ***Bold and Italics*** =Detection limit exceeds NYS Groundwater Standards or guidance value

Yellow highlighted values exceed Groundwater Standards or guidance value

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

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

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

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

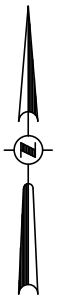
Section 6

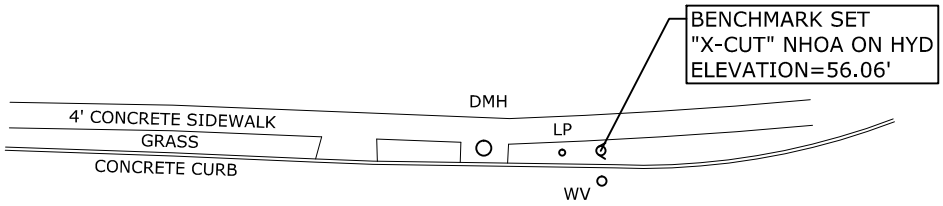
Survey

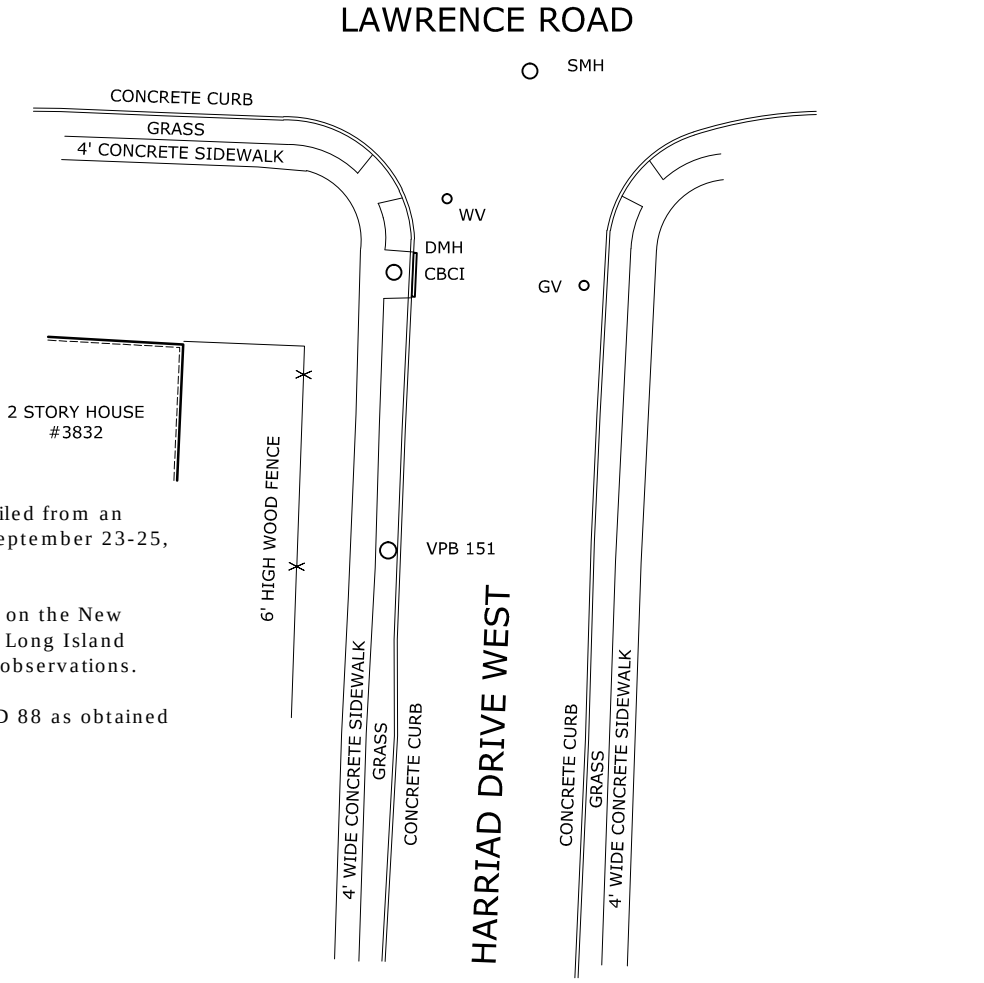
NONE :XREFS

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

Description	Northing	Easting	Latitude	Longitude	Ground	Rim	PVC
VPB 151	196279.29	1125182.04	N40-42-15.46	W73-29-30.12	52.72	NA	NA





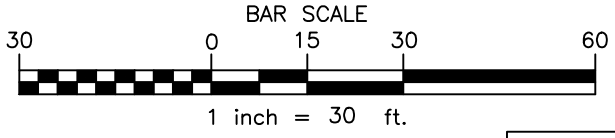


Map Notes

1. Information shown hereon was compiled from an actual field survey conducted from September 23-25, 2014.
2. North orientation is Grid North based on the New York State Plane Coordinate System, Long Island Zone, NAD 83 as obtained from GPS observations.
3. Vertical datum shown hereon is NAVD 88 as obtained from GPS observations.

Legend

═══	CBCI	Catch Basin Curb Inlet
○	DMH	Drainage Manhole
○	GV	Gas Valve
◁	HYD	Hydrant
○	LP	Light Post
○	SMH	Sanitary Manhole
○	VPB	Vertical Profile Boring
○	WV	Water Valve



DWG NO. 14-503

Date	RECORD OF WORK	Appr.

VERTICAL PROFILE BORING 151 SURVEY LOCATION
3832 HARRIAD DRIVE WEST

TOWN OF SEAFORD | NASSAU COUNTY, NEW YORK

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Drafter: LMK	Checker: JFC
Appr. by: JFC	Proj. No. 14.4121
SCALE: 1"=30'	DATE: SEPT. 24, 2014

CAD DWG. FILE NAME: K:\Projects\14121\Survey\Drawings and Maps\VPB 151.dwg