2014 OU2 GROUNDWATER INVESTIGATION
VPB 154
BETHPAGE, NY

Prepared for:

Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic
9742 Maryland Ave.
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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 154 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 154. The purpose of the VPB 154 investigation was to determine subsurface conditions and contaminant levels in the southwestern portion of the plume and define the western and southern extent of the 108 Hot Spot (defined as an area >1000ppb of total volatile organic compounds [VOCs] north of Hempstead Turnpike). VPB locations within the general vicinity of VPB 154 are shown in Figure 2. VPB 154 was completed to 950 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) intexborings installed offsite. The Raritan Clay Unit is of continental origin and consists of clay, silty clay, clayey silt, and fine silty sand. This member acts as a confining layer over the Lloyd Sand Unit. The Lloyd Sand Unit is also of continental origin, having been deposited in a large fresh water lacustrine environment. The material consists of fine to coarse-grained sands, gravel, interbedded clay, and silty sand. These deposits form the Lloyd Aquifer.

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

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

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

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

2.0 FIELD PROGRAM

Field investigation activities at VPB 154 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 154) was completed during this field effort between July 15, 2014 and September 3, 2014. The total depth of VPB 154 was 950 ft. The location is shown in Figure 2 and details are summarized in Table 1.

2.1.1 Drilling

VPB 154 was installed by drilling a 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 seven 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 938 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 154 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, *Groundwater Sampling Using Low Stress (Low Flow) Purging and Sampling* Protocol. November.

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

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

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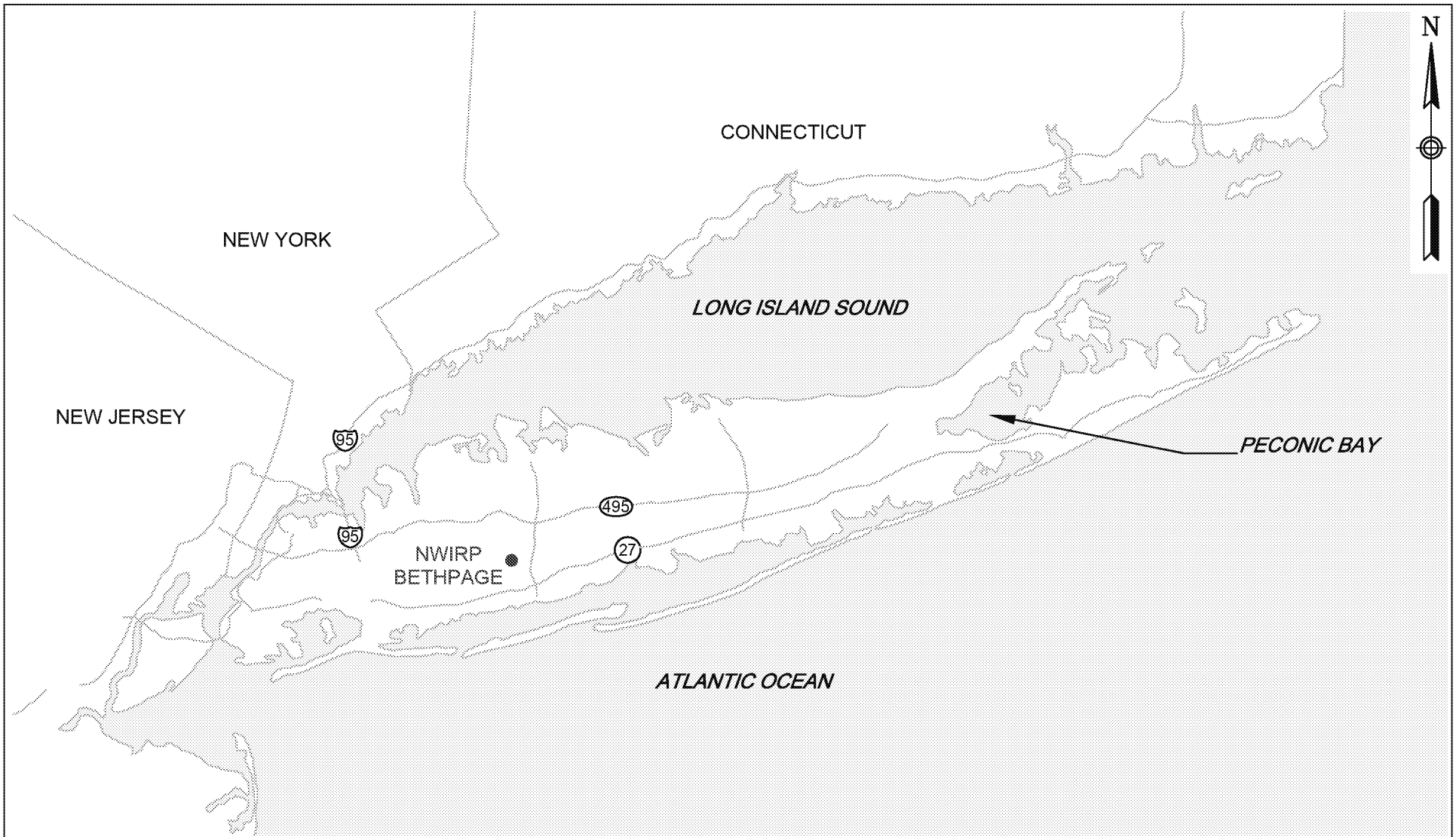
Tables

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 154	7/15/2014	9/3/2014	85.86	950	53	7	947	41/49	422 - 424 ft bgs	9/2/2014	Pending

* includes field duplicates

Figures

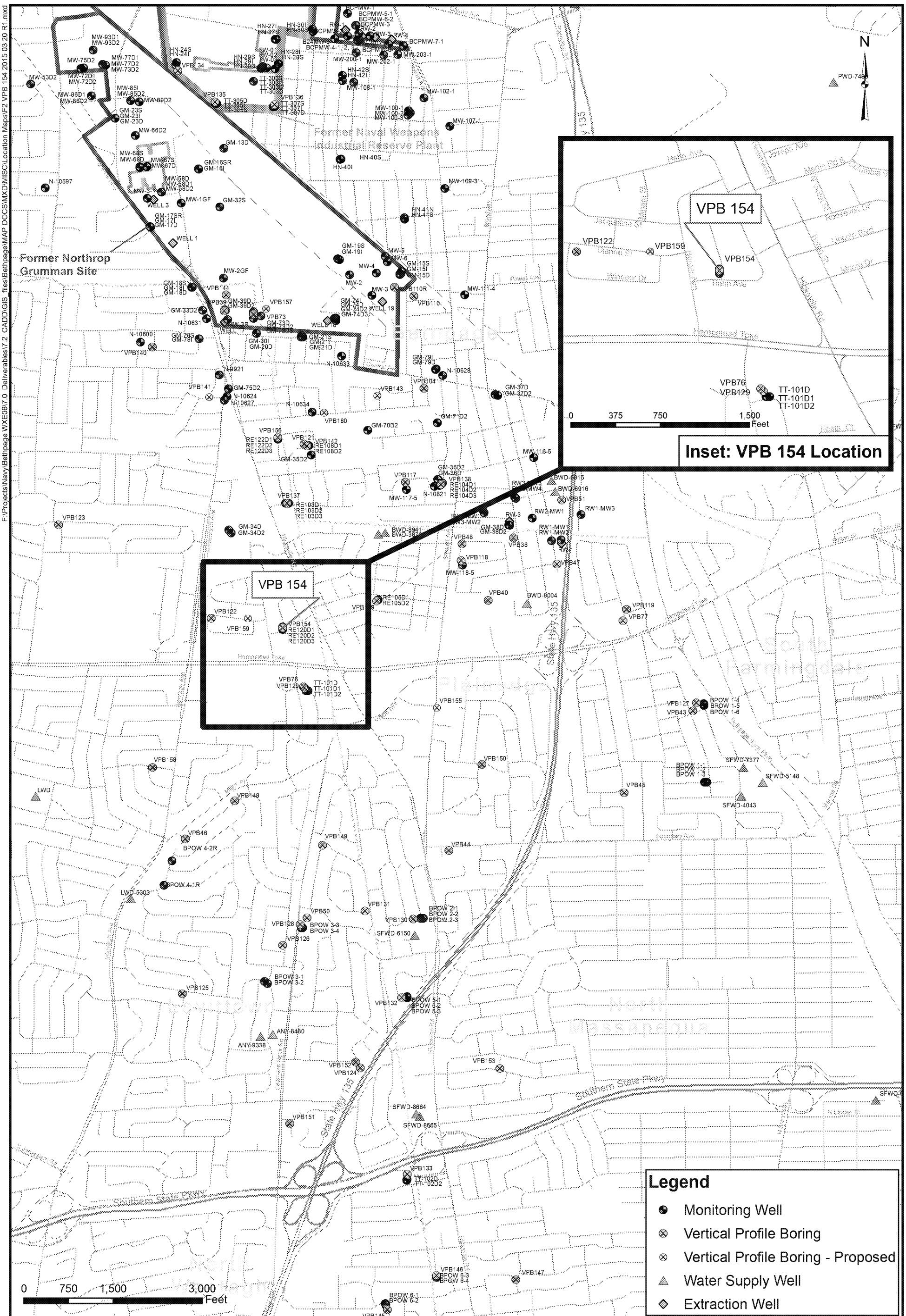


0 15 30
SCALE IN MILES

NAVFAC

GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

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



NAVFAC

VPB 154 LOCATION MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY: PS	DATE: 3/20/2015
APPROVED BY: —	DATE: —
FIGURE NO. 2	REV 0

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Appendix A

VPB 154

Section 1

VPB 154 Boring and Gamma Logs

Resolution Consultants

Boring Log

BORING #: VPB154

Client: Department of the Navy, Naval Facilities Engineering Command, Mid-Atlantic		**Logged By:** V. Varricchio
Location: Shelly Dr. and Hahn Ave., Bethpage, NY	**Northing:** 204605.97 **Easting:** 1125061.14	**Drilling Company:** Delta Well & Pump
Project #: 60266526	**Ground Elevation (ft amsl):** 85.86	**Well Screen Interval (ft):** NA
Start Date: 7/15/2014	**Drilling Method:** Auger (0-50' bgs) Mud Rotary (>50' bgs)	**Water Level (ft):** NA
Finish Date: 9/3/2014		**Total Depth (ft):** 950.0

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

DEPTH (ft)	Gamma Ray	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	30 60 90							
2					Upper Glacial	SW		Grass/Top Soil
4						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
6						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
8								
10						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
12								
14						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
16								
18						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
20								
22						SW		Dark Yellowish brown (10 YR 4/6) well graded fine to coarse SAND with some fine subrounded Gravel
24								
26						SW		Yellowish brown (10 YR 5/6) well graded fine to coarse SAND with little subrounded fine Gravel
28								
30								
32						SW		Yellowish brown (10 YR 5/6) well graded fine to coarse SAND with little subrounded fine Gravel
34								
36						SW		Yellowish brown (10 YR 5/6) poorly graded medium SAND with few fine to coarse subrounded Gravel
38								
40								
42						SP		Brownish yellow (10 YR 6/6) poorly graded medium SAND
44								
46						SP		Brownish yellow (10 YR 6/6) poorly graded medium SAND
48								
50						SP		
52								
54								

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Boring Log

BORING #: VPB154

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
54								
56					Upper Glacial	SP		Brownish yellow (10 YR 6/6) well graded medium to coarse SAND with some Silt and fine subrounded gravel
58								
60			< 0.5	< 0.5		SP-SM		
62								
64						SW		Brownish yellow (10 YR 6/6) well graded fine to coarse SAND with fine to coarse subrounded Gravel
66								
68						SP		Reddish yellow (7.5 YR 6/6) poorly graded medium SAND with trace fine subrounded Gravel
70								
72								
74						SP		Reddish yellow (7.5 YR 6/6) poorly graded medium SAND with trace fine subrounded Gravel
76								
78						SP		Reddish yellow (5 YR 6/8) poorly graded medium SAND with fine subrounded Gravel
80								
82								
84						SW		Reddish yellow (7.5 YR 6/6) well graded fine to coarse SAND with trace lean Clay and subrounded fine gravel
86								
88						SP		Very pale brown (10 YR 7/3) poorly graded medium SAND
90								
92								
94						GW		Very pale brown (10 YR 7/4) well graded subrounded GRAVEL with medium to coarse Sand, trace lean clay
96								
98								
100			< 0.5	< 0.5		GW		Very pale brown (10 YR 7/4) well graded subrounded GRAVEL with medium to coarse Sand, trace lean clay
102					Magothy			
104						SW-GW		Light yellowish brown (10 YR 6/4) Gravelly well graded medium to coarse SAND
106								
108						SW-GW		Light yellowish brown (10 YR 6/4) Gravelly well graded medium to coarse SAND
110								
112								
114						GP		Light yellowish brown (10 YR 6/4) poorly graded subrounded fine GRAVEL with few medium to coarse Sand

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Boring Log

BORING #: VPB154

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
116					Magothy	GP		
118						GW		Light yellowish brown (10 YR 6/4) well graded subrounded GRAVEL with trace medium to coarse Sand
120								
122								
124						GW-SW		Light brown (7.5 YR 6/4) Sandy well graded subrounded GRAVEL with trace lean clay
126								
128						CL		Brown (10 YR 5/3) Sandy lean CLAY with trace fine subrounded gravel
130								
132								
134						GC		Pale brown (10 YR 6/3) Clayey coarse subrounded GRAVEL with few well graded medium coarse sand
136								
138						SP		Pale brown (10 YR 6/3) poorly graded fine SAND
140								
142								
144						SP		Pale brown (10 YR 6/3) poorly graded fine SAND with trace fine subrounded Gravel and lean clay
146								
148								
150			< 0.5	< 0.5		ML		Light yellowish brown (10 YR 6/4) fine to medium Sandy SILT with trace iron nodules
152								
154						ML		Light yellowish brown (10 YR 6/4) fine to medium Sandy SILT with trace iron nodules
156								
158						SP		Light brownish gray (10 YR 6/2) poorly graded medium SAND with trace iron nodules and Clay
160								
162								
164						SP		Light brownish gray (10 YR 6/2) poorly graded medium SAND with trace iron nodules and Clay
166								
168						SP		Pale brown (2.5 Y 8/2) poorly graded medium SAND with trace iron nodules
170								
172						SP		Pale brown (2.5 Y 8/2) poorly graded medium SAND with trace iron nodules
174								
176								

(Continued Next Page)

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Boring Log

BORING #: VPB154

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
178					Magothy			
180						SP-SC		Pale brown (10 YR 6/5) poorly graded medium SAND with little Clay and trace iron nodules *(continued)*
182								
184						SC		Light yellowish brown (10 YR 6/4) poorly graded medium SAND with some Clay and trace iron nodules
186								
188						CL		Very pale brown (10 YR 7/3) Sandy lean CLAY with trace angular Gravel and iron nodules
190								
192						SP		Yellow (10 YR 7/6) poorly graded medium SAND with trace iron nodules
194								
196								
198								
200			31	3.2		SP		Light brownish gray (10 YR 6/2) poorly graded fine SAND with trace Clay and iron nodules
202								
204						SP-SC		Pale brown (10 YR 6/3) poorly graded medium SAND with few Clay and trace iron nodules
206								
208						SP-SC		Grayish brown (10 YR 5/2) poorly graded medium SAND with few Clay
210								
212						SP-SC		Grayish brown (10 YR 5/2) poorly graded medium SAND with few Clay and some iron nodules
214								
216						CL		Dark gray (10 YR 4/1) lean CLAY with some poorly graded medium Sand, trace iron nodules
218								
220						CL		Dark gray (10 YR 4/1) lean CLAY with trace poorly graded medium Sand and iron nodules
222								
224								
226								
228								
230			180	4.8		ML-CL		Grayish brown (10 YR 5/2) Clayey SILT with few fine Sand and trace iron nodules
232								
234						ML-CL		Grayish brown (10 YR 5/2) Clayey SILT with few fine Sand and trace iron nodules
236								
238								
			190	5.1		ML-CL		

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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
240			190	5.1	Magothy	ML-CL		Yellowish brown (10 YR 5/4) Clayey SILT with some medium Sand and trace iron nodules *(continued)*
242								
244						CL-ML		Brownish yellow (10 YR 6/6) Silty CLAY with some medium Sand, trace iron nodules
246								
248						CL-ML		Yellowish brown (10 YR 5/6) Silty CLAY with some medium Sand and iron nodules
250								
252								
254						OL/OH		Black (10 YR 2/1) organic Silty CLAY with lignite
256								
258								
260			< 0.5	< 0.5		OL/OH		Black (10 YR 2/1) organic Silty CLAY with lignite
262								
264						CL-ML		Black (10 YR 2/1) Silty CLAY with medium Sand and lignite, trace iron nodules
266								
268						CL-ML		Dark gray (10 YR 4/1) Silty CLAY with fine to medium Sand and trace lignite and iron nodules
270								
272								
274						ML-CL		Dark brownish gray (1 YR 4/2) Clayey SILT with fine to medium Sand and iron nodules
276								
278								
280			200	7.1		SP		Brown (10 YR 5/3) poorly graded coarse SAND and iron nodules
282								
284						SW-SM		Brown (10 YR 4/3) well graded fine to coarse SAND with few Silt and trace iron nodules
286								
288						SW-SC		Grayish brown (10 YR 5/2) well graded fine to coarse SAND with few Clay and trace gravel and iron nodules
290								
292								
294						SC		Pale brown (10 YR 6/3) Clayey well graded fine to coarse SAND and trace iron nodules
296								
298								
300			200	8.0		SP		Yellowish brown (10 YR 5/4) poorly graded medium SAND with little iron nodules and trace Clay

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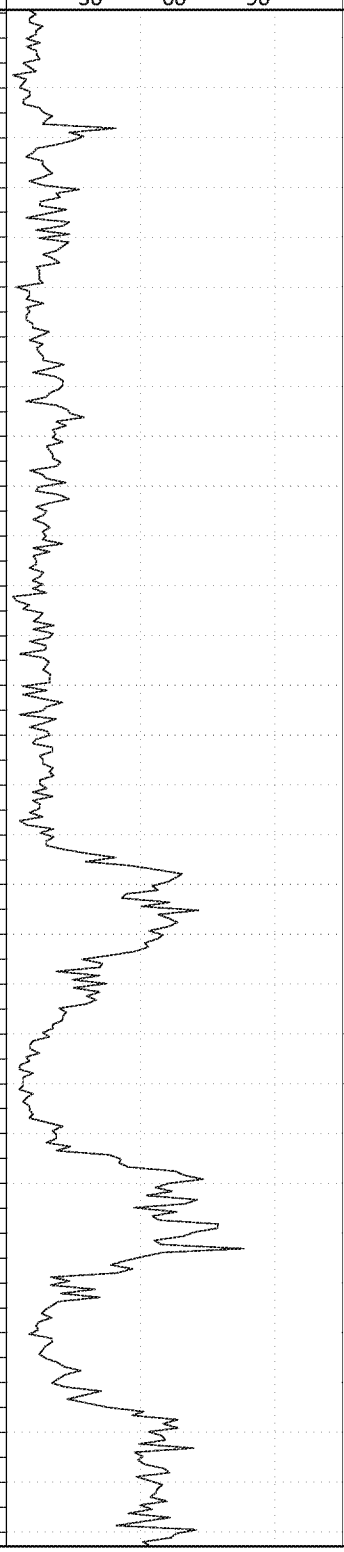
Resolution Consultants

Boring Log

BORING #: VPB154



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
302				Magothy	SP	
304					SP	Yellowish brown (10 YR 5/4) poorly graded medium SAND with little iron nodules and trace Clay
306						
308					SP	Yellowish brown (10 YR 5/4) poorly graded fine SAND with trace iron nodules
310						
312					SW	Yellowish brown (10 YR 5/4) well graded fine to medium SAND with iron nodules and trace Clay
314						
316						
318						
320		180	7.5		CL	Dark grayish brown (10 YR 4/2) lean CLAY with trace fine Sand and iron nodules
322						
324					CL	Dark grayish brown (10 YR 4/2) lean CLAY with little fine Sand
326						
328					CL	Grayish brown (10 YR 5/2) fine Sandy lean CLAY
330						
332						
334					CL-ML	Grayish brown (10 YR 5/2) Silty CLAY with little fine Sand and trace iron nodules
336						
338						
340		26	< 0.5		SP	Grayish brown (10 YR 5/2) poorly graded fine SAND, trace iron nodules
342						
344	0				SP	Yellowish brown (10 YR 5/4) poorly graded fine SAND, trace iron nodules
346						
348					CL	Dark gray (10 YR 4/1) lean CLAY with little medium Sand and iron nodules
350						
352						
354					CL-ML	Very dark gray (10 YR 3/1) Silty CLAY with little fine to medium Sand and iron nodules
356						
358						
360		1.5	< 0.5		CH	Very dark gray (10 YR 3/1) fat CLAY
362						

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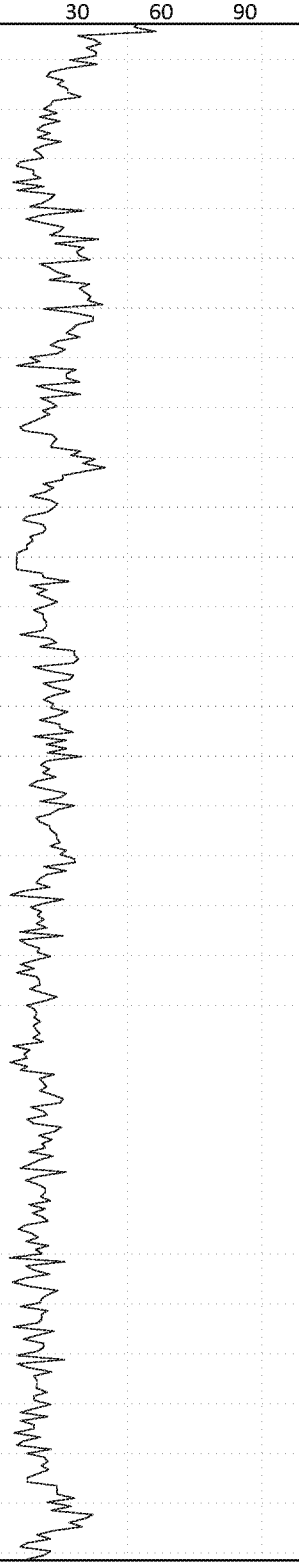

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
364				Magothy	CH	Very dark gray (10 YR 3/1) fat CLAY *(continued)*
366					CH	
368					CH	Very dark gray (10 YR 3/1) fat CLAY
370						
372						
374					CH	Very dark gray (10 YR 3/1) fat CLAY
376						
378						
380		0.34	< 0.5		CH	Black (10 YR 2/1) fat CLAY
382						
384					CH	Very dark gray (10 YR 3/1) fat CLAY, trace Silt
386						
388					ML-CH	Dark gray (10 YR 4/1) Clayey SILT with few poorly graded fine Sand
390						
392						
394					ML-CH	Dark gray (10 YR 4/1) Clayey SILT with little poorly graded fine Sand
396						
398						
400		< 0.5	< 0.5		SM-SC	Dark gray (10 YR 4/1) Silty Clayey poorly graded fine SAND
402						
404					SM-SC	Dark gray (10 YR 4/1) Silty Clayey poorly graded fine SAND
406						
408					SM-SC	Dark gray (10 YR 4/1) Silty Clayey poorly graded fine SAND
410						
412						
414					SP	Grayish brown (10 YR 5/2) poorly graded fine SAND
416						
418						
420		170	4.8		SP	Gray (10 YR 6/1) poorly graded fine SAND
422						
424	0				SP	Gray (10 YR 6/1) poorly graded fine SAND

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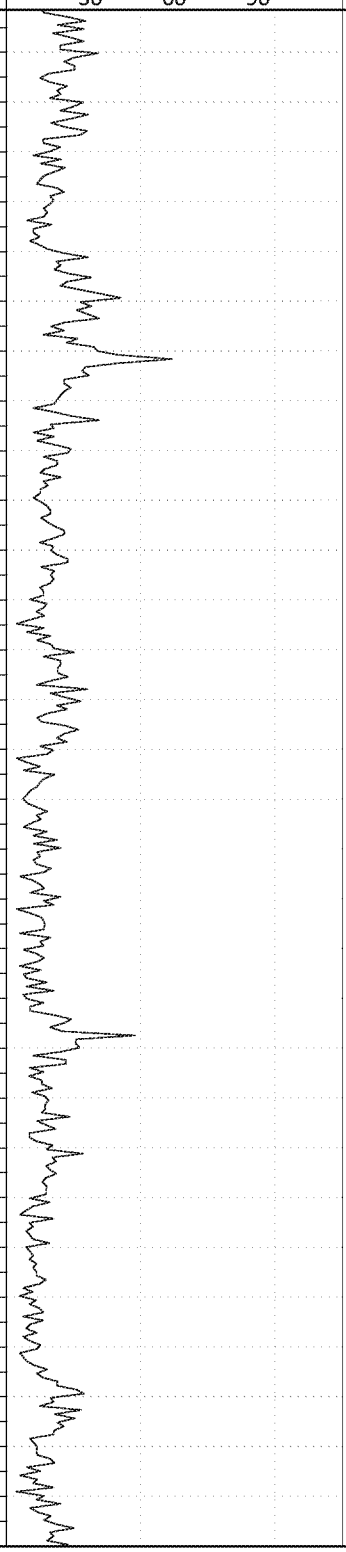
Resolution Consultants

Boring Log

BORING #: VPB154



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
426				Magothy	SP	Gray (10 YR 6/1) poorly graded fine SAND *(continued)*
428					SP-SM	Dark gray (10 YR 4/1) poorly graded fine SAND with few Silt
430						
432						
434					CL	Dark gray (10 YR 4/1) Sandy lean CLAY
436						
438						
440		190	5.0		CL	Dark gray (10 YR 4/1) Sandy lean CLAY
442						
444					CH	Grayish brown (10 YR 5/2) fat CLAY
446						
448					CH	Gray (10 YR 5/1) fat CLAY, trace iron nodules
450						
452						
454					CH	Grayish brown (10 YR 5/2) fat CLAY with little poorly graded fine Sand
456						
458						
460		180	5.4		SP	Light gray (10 YR 7/1) poorly graded medium SAND, trace Clay
462						
464					CL	Grayish brown (10 YR 5/2) lean CLAY with some poorly graded medium Sand, trace iron nodules
466						
468					SW	Light grayish brown (10 YR 6/2) well graded fine to coarse SAND with trace Clay
470						
472						
474					SW	Light grayish brown (10 YR 6/2) well graded fine to coarse SAND with trace Clay
476						
478						
480					SP-SC	Light gray (10 YR 7/2) poorly graded medium SAND with few Clay, trace iron nodules
482						
484		160	6.6		SC	Light brownish gray (10 YR 6/2) Clayey well graded fine to medium SAND, trace iron nodules
486						

(Continued Next Page)

Resolution Consultants

Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
486					Magothy	SC		
488						SC		Light brownish gray (10 YR 6/2) Clayey well graded fine to medium SAND, trace iron nodules
490								
492								
494						SC		Light brownish gray (10 YR 6/2) Clayey well graded fine to medium SAND, trace iron nodules
496								
498								
500						SW-SC		Light brownish gray (10 YR 6/2) well graded fine to medium SAND with little Clay
502								
504			160	< 0.5		SC		Grayish brown (10 YR 5/2) Clayey well graded fine to medium SAND, trace iron nodules
506								
508						CH		Gray (10 YR 5/1) fat CLAY with little poorly graded fine Sand, trace iron nodules
510								
512								
514						SC		Grayish brown (10 YR 5/2) Clayey well graded fine to medium SAND
516								
518								
520			340	3.4		SC		Light brownish gray (10 YR 6/2) Clayey well graded fine to medium SAND
522								
524						SC		Light brownish gray (10 YR 6/2) Clayey well graded fine to medium SAND
526								
528						SWSC		Grayish brown (10 YR 5/2) well graded fine to medium SAND with few Clay
530								
532								
534						GP-SW		Dark grayish brown (10 YR 4/2) fine subangular GRAVEL with medium to coarse Sand
536								
538								
540			970	12		SC		Light brownish gray (10 YR 6/2) Clayey well graded medium to coarse SAND
542								
544						CL		Dark gray (10 YR 4/1) coarse Sandy lean CLAY
546								

(Continued Next Page)

Resolution Consultants

Boring Log

DEPTH (ft)	Gamma Ray (30 60 90)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
548					Magothy	SC		Dark gray (10 YR 4/1) Clayey medium to coarse SAND *(continued)*
550						SC		
552								
554						SP		Light brownish gray (10 YR 6/2) poorly graded medium SAND with trace Silt
556								
558								
560			900	10		SP		Light brownish gray (10 YR 6/2) poorly graded medium SAND
562								
564						SW		Light gray (10 YR 7/2) well graded fine to medium SAND
566								
568						SW-SC		Light gray (10 YR 7/2) well graded fine to coarse SAND with little Clay
570								
572								
574						SW-SC		Light gray (10 YR 7/2) well graded fine to coarse SAND with little Clay
576								
578								
580			1800	8.4		SC		Gray (10 YR 5/1) Clayey well graded fine to medium SAND
582								
584						SP		Grayish brown (10 YR 5/2) poorly graded medium SAND
586								
588						SP		Light gray (10 YR 7/2) poorly graded medium SAND
590								
592								
594						SP		Light gray (10 YR 7/2) poorly graded medium SAND
596								
598								
600			350	0.4		SP		Light gray (10 YR 7/2) poorly graded medium SAND, few Clay
602								
604						SC		Very dark gray (10 YR 3/2) well graded fine to medium Clayey SAND
606								
608						CL		Very dark gray (10 YR 3/1) lean CLAY with few poorly graded fine Sand

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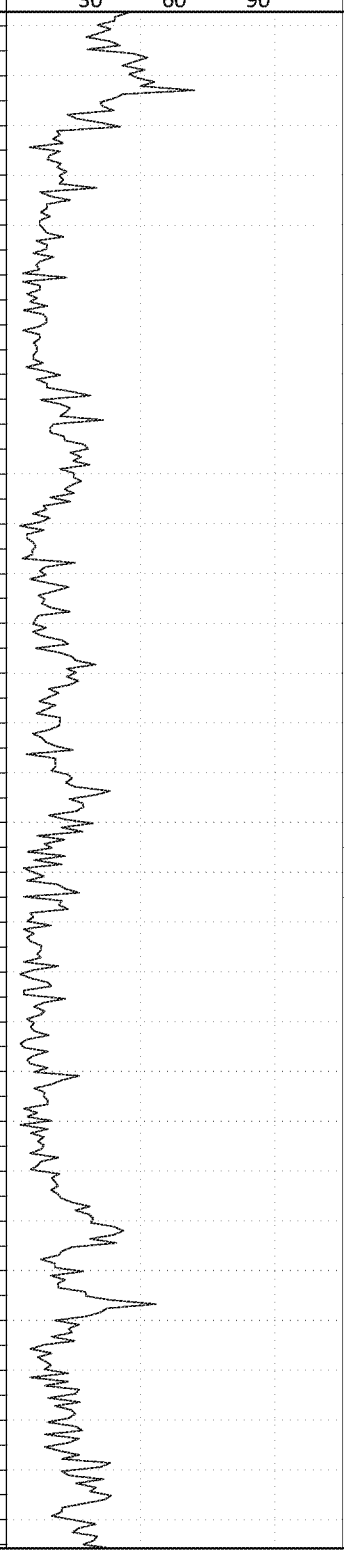

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
610–612				Magothy	CL	Very dark gray (10 YR 3/1) lean CLAY with few poorly graded fine Sand *(continued)*
612–618					CH	Very dark gray (10 YR 3/1) fat CLAY with few poorly graded fine Sand
618–620		810	1.7		SC	Dark gray (10 YR 4/1) well graded fine to coarse SAND, with few Clay
620–626					SC	Dark Gray (10 YR 4/1) well graded fine to coarse SAND, with little Clay
626–632					SW	Dark gray (10 YR 4/1) well graded fine to coarse SAND, few Clay, trace fine gravel
632–638					SW	Gray (10 YR 5/1) well graded fine to coarse SAND, few Clay, trace fine gravel
638–642		1800	5.6		SW	Gray (10 YR 5/1) well graded fine to coarse SAND, few Clay, trace fine gravel
642–646	0				SW/CL	Very pale brown (10 YR 7/3) well graded fine to coarse SAND with interbedded layers of lean Clay (black)
646–652					CL	Dark gray (10 YR 4/1) lean CLAY, few poorly graded fine Sand
652–658					SW	Gray (10 YR 6/1) well graded fine to coarse SAND, trace lean Clay
658–662					SW	Gray (10 YR 6/1) well graded fine to coarse SAND, trace lean Clay
662–666		600	< 0.5		SW	Gray (10 YR 6/1) well graded fine to coarse SAND, trace lean Clay
666–670					SC	Light brownish gray (10 YR 6/2) Clayey well graded fine SAND

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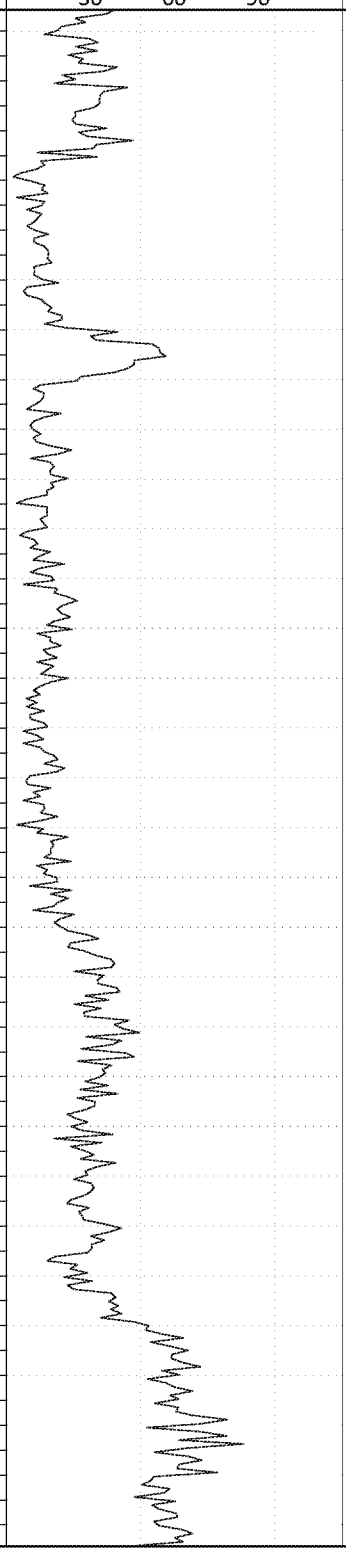

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
672				Magothy	SC	Light brownish gray (10 YR 6/2) Clayey well graded fine SAND *(continued)*
674, 676, 678					SC	Light brownish gray (10 YR 6/2) Clayey well graded fine SAND
680		550	2.8		SC	Light brownish gray (10 YR 6/2) Clayey well graded fine SAND
682, 684, 686, 688					SW	Gray (10 YR 6/1) well graded fine to coarse SAND, few lean Clay
690, 692					SW	Gray (10 YR 6/1) well graded fine to coarse SAND, few lean clay
694, 696, 698					SW	Light gray (10 YR 7/1) well graded fine to coarse SAND, little lean clay, trace fine gravel
700		700	4.6		CL	Light gray (10 YR 7/1) well graded fine to coarse Sandy lean CLAY, trace fine subangular Gravel
702, 704, 706					SC	White (10 YR 8/1) Clayey poorly graded fine SAND, trace fine subangular Gravel
708, 710, 712					SM-SC	White (10 YR 8/1) Silty Clayey poorly graded fine SAND
714, 716, 718					ML-CL	White (10 YR 8/1) lean Clayey SILT, few poorly graded fine sand
720		< 10	< 10		SC	White (10 YR 8/1) poorly graded coarse Clayey SAND, trace subangular fine Gravel
722, 724, 726					SP/CL	White (10 YR 8/1) poorly graded coarse SAND with lean Clay
728, 730, 732					CL	Light brownish gray (10 YR 6/2) lean CLAY with trace well graded fine to coarse Sand

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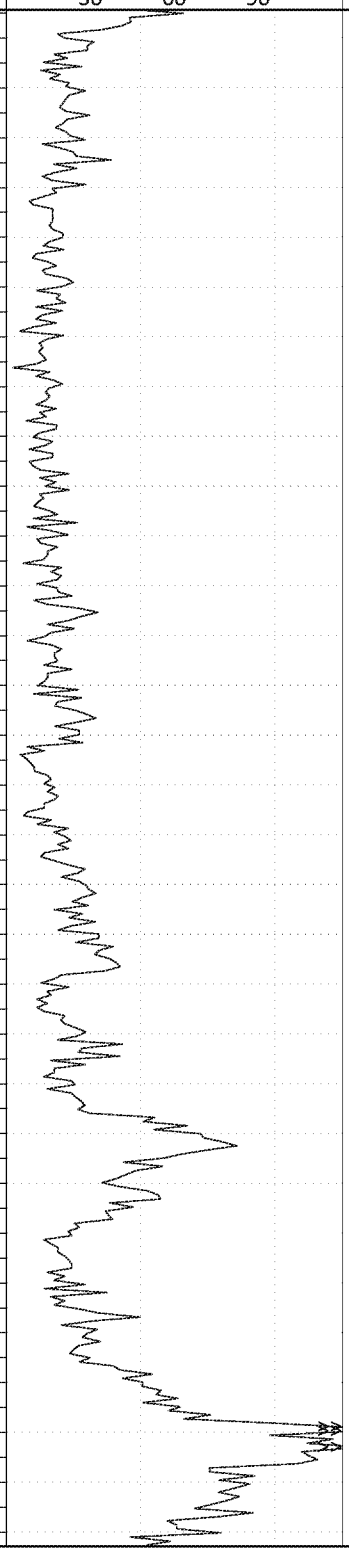

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
734–738				Magothy	CL, CL		Grayish brown (10 YR 5/2) lean CLAY with few well graded fine to coarse Sand *(continued)*
740–742		1.4	< 1.0		CH		Light gray (10 YR 7/1) fat CLAY with few well graded fine to medium Sand
744–746					CH		Light gray (10 YR 7/1) fat CLAY with few well graded fine to medium Sand
748–752					CH		White (10 YR 8/1) fat CLAY with little fine to medium Sand
754–758					CL		White (10 YR 8/1) well graded fine to medium Sandy lean CLAY
760–762					CL		White (10 YR 8/1) poorly graded fine Sandy lean CLAY
764–766		< 0.5	< 0.5		CL		White (10 YR 8/1) lean CLAY with little well graded fine to medium Sand
768–772					CL		White (10 YR 8/1) well graded fine to medium Sandy CLAY
774–778					CL		White (10 YR 8/1) well graded fine to medium Sandy CLAY
780–782		< 1.0	< 1.0		CL		White (10 YR 8/1) lean CLAY with trace poorly graded fine Sand
784–786					CL		White (10 YR 8/1) lean CLAY with trace poorly graded fine Sand
788–792					CL		White (10 YR 8/1) lean CLAY
794					CL		Very dark gray (10 YR 3/1) lean CLAY

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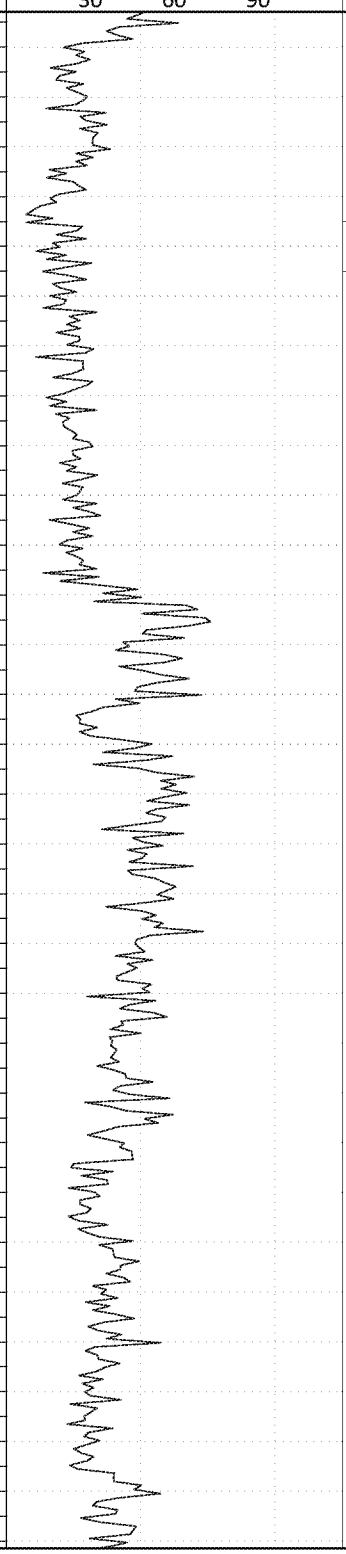

DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
796–798				Magothy	CL	Very dark gray (10 YR 3/1) lean CLAY *(continued)*
798–800		< 0.5	< 0.5		CL	Gray (10 YR 6/1) lean CLAY with little poorly graded fine Sand
800–804	0				SP	Light gray (10 YR 7/1) poorly graded fine SAND with trace Silt
804–808					ML	Light gray (10 YR 7/1) SILT with trace poorly graded fine Sand
808–814					ML-CL	Gray (10 YR 6/1) Clayey SILT with few poorly graded fine Sand
814–820		< 0.5	< 0.5		ML	Dark gray (10 YR 4/1) SILT with few poorly graded fine Sand and lean clay
820–824					CL	Dark gray (10 YR 4/1) lean CLAY with few poorly graded fine Sand and silt
824–828					CL	Dark gray (10 YR 4/1) lean CLAY
828–834					ML-CL	Dark gray (10 YR 4/1) SILT and lean Clay
834–840		0.33	< 0.5		ML	Gray (10 YR 5/1) SILT with trace poorly graded fine Sand
840–844					ML-CL	Gray (10 YR 6/1) SILT and lean Clay, trace poorly graded fine sand
844–850					ML-CL	Gray (10 YR 6/1) SILT and lean Clay, trace poorly graded fine sand
850–856					ML-CL	Gray (10 YR 6/1) SILT and lean Clay with little fine to medium well graded sand

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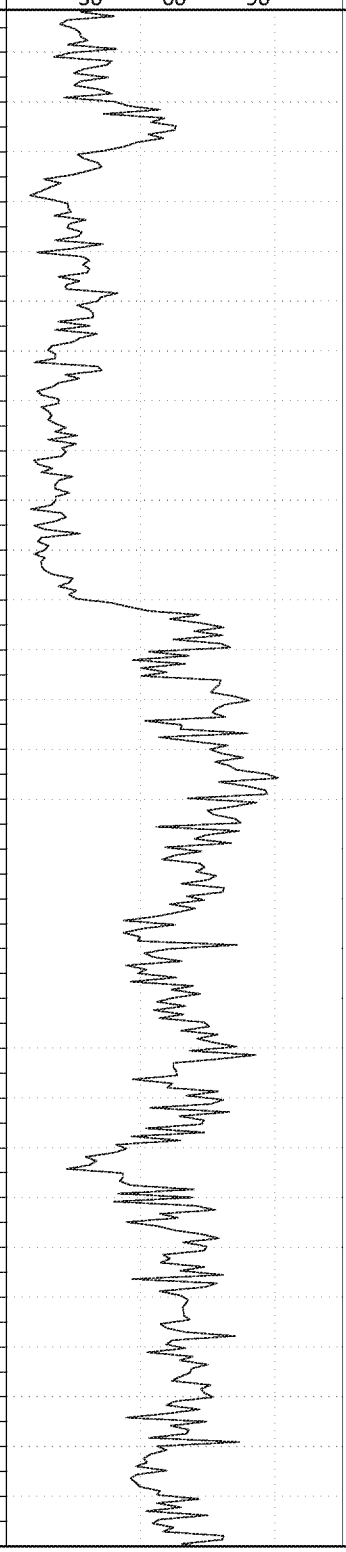
Resolution Consultants

Boring Log



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	MATERIAL DESCRIPTION
858				Magothy	ML-CL	
860		< 0.5	< 0.5		ML	Gray (10 YR 6/1) SILT with little poorly graded fine Sand and lean clay, trace lignite
862						
864					ML	Gray (10 YR 6/1) SILT with little poorly graded fine Sand and lean clay, trace lignite
866						
868					SM	Gray (10 YR 6/1) Silty well graded fine to coarse SAND with trace fine angular Gravel
870						
872						
874					SM	Gray (10 YR 6/1) Silty well graded fine to coarse SAND with trace fine angular Gravel
876						
878						
880					SW	Very dark gray (10 YR 3/1) well graded medium to coarse SAND with few Silt and lean clay, trace lignite
882						
884					CL	Gray (10 YR 5/1) lean CLAY, trace lignite
886						
888						
890					CL	Gray (10 YR 5/1) lean CLAY, trace lignite
892						
894					CL	Gray (10 YR 5/1) lean CLAY, trace lignite
896						
898						
900					CL	Gray (10 YR 5/1) lean CLAY, trace lignite
902						
904					CL	Gray (10 YR 5/1) lean CLAY, trace lignite
906						
908						
910		< 25	< 25		CL	Gray (10 YR 5/1) lean CLAY, trace lignite
912						
914					CL	Dark gray (10 YR 4/1) lean CLAY with few lignite
916						
918						

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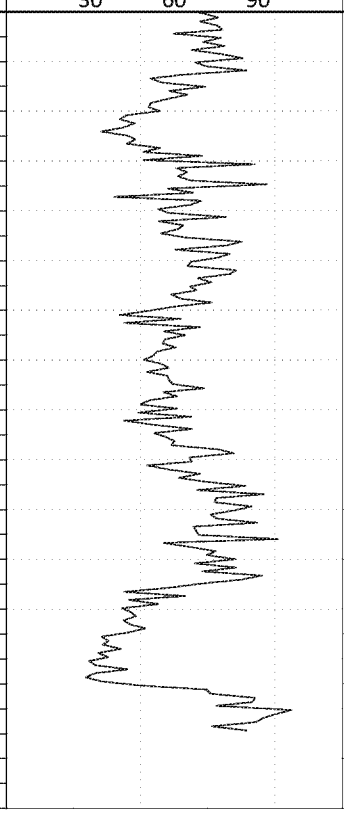
Resolution Consultants

Boring Log



DEPTH (ft)	PID (ppm)	TCE (ug/L)	PCE (ug/L)	Formation	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION
918							
920		< 25	< 25	Magothy	CL		Dark gray (10 YR 4/1) lean CLAY with few lignite
922							
924					CL		Mottled red (10 YR 4/6) and gray (10 YR 5/1) lean CLAY
926							
928					CL		Mottled red (10 YR 4/6) and gray (10 YR 5/1) lean CLAY
930							
932					CL		Mottled red (10 YR 4/6) and gray (10 YR 5/1) lean CLAY
934							
936							
938							
940	0			Raritan Clay	CH		Mottled red (10 R 4/6) and brown (10 YR 4/3) fat CLAY with lamination
942							
944	0				CH		Mottled red (10 R 4/6), brown (10 YR 4/3) and gray (10 YR 5/1) fat CLAY with lamination
946							
948							
950	0				CH		Mottled red (10 R 4/6) and light gray (10 YR 7/1) fat CLAY with lamination

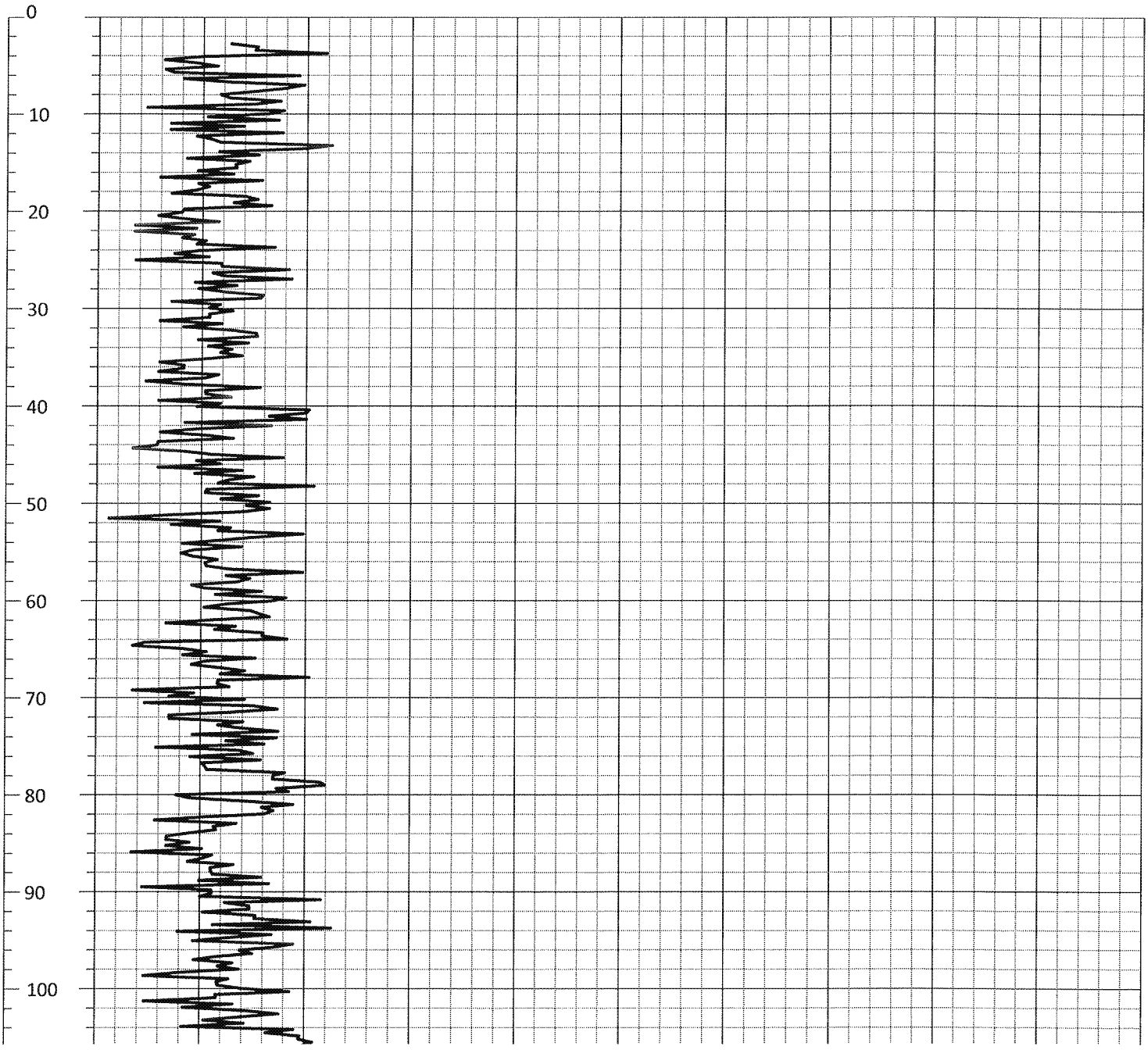
End of boring at 950.0 ft. bgs.

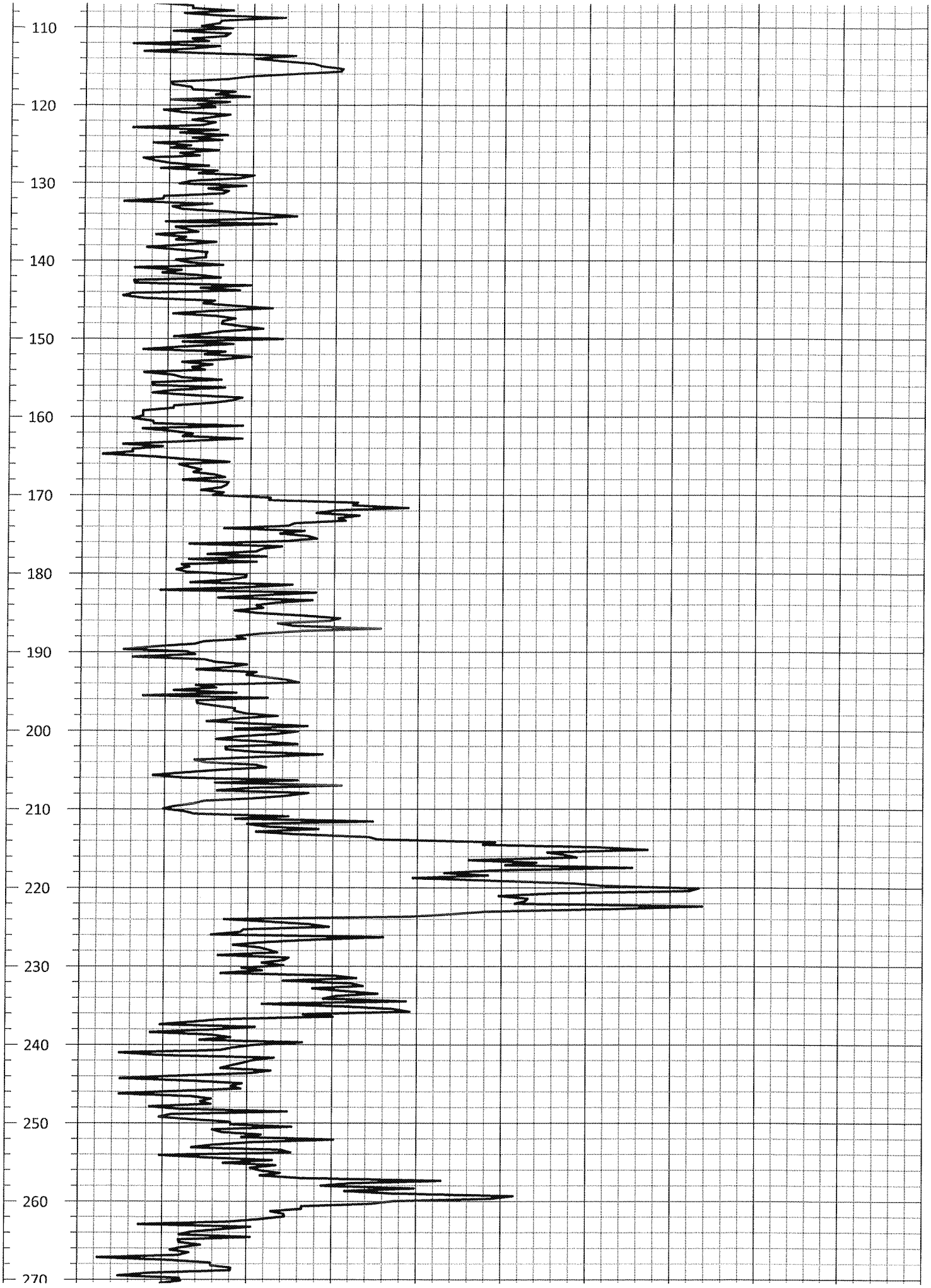
DOWN

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

Well: VP-154		Depth Driller:
		Depth Logger:
Date: 09/04/2014	Time:	Logged by: CMO
File Name: 739		Witness: VIN

Depth (ft.)	GAMMA (cps)	
0.0		100.0

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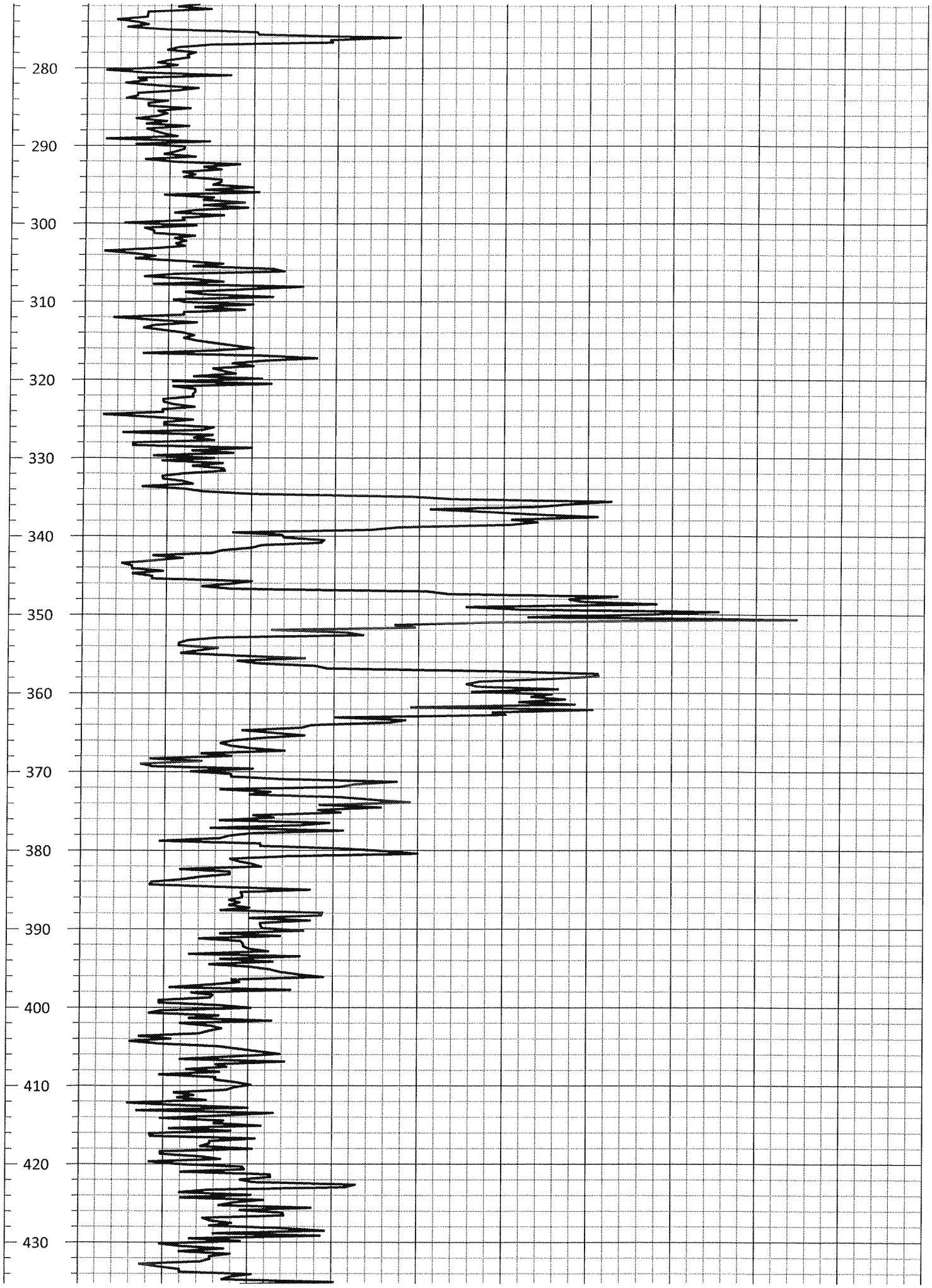
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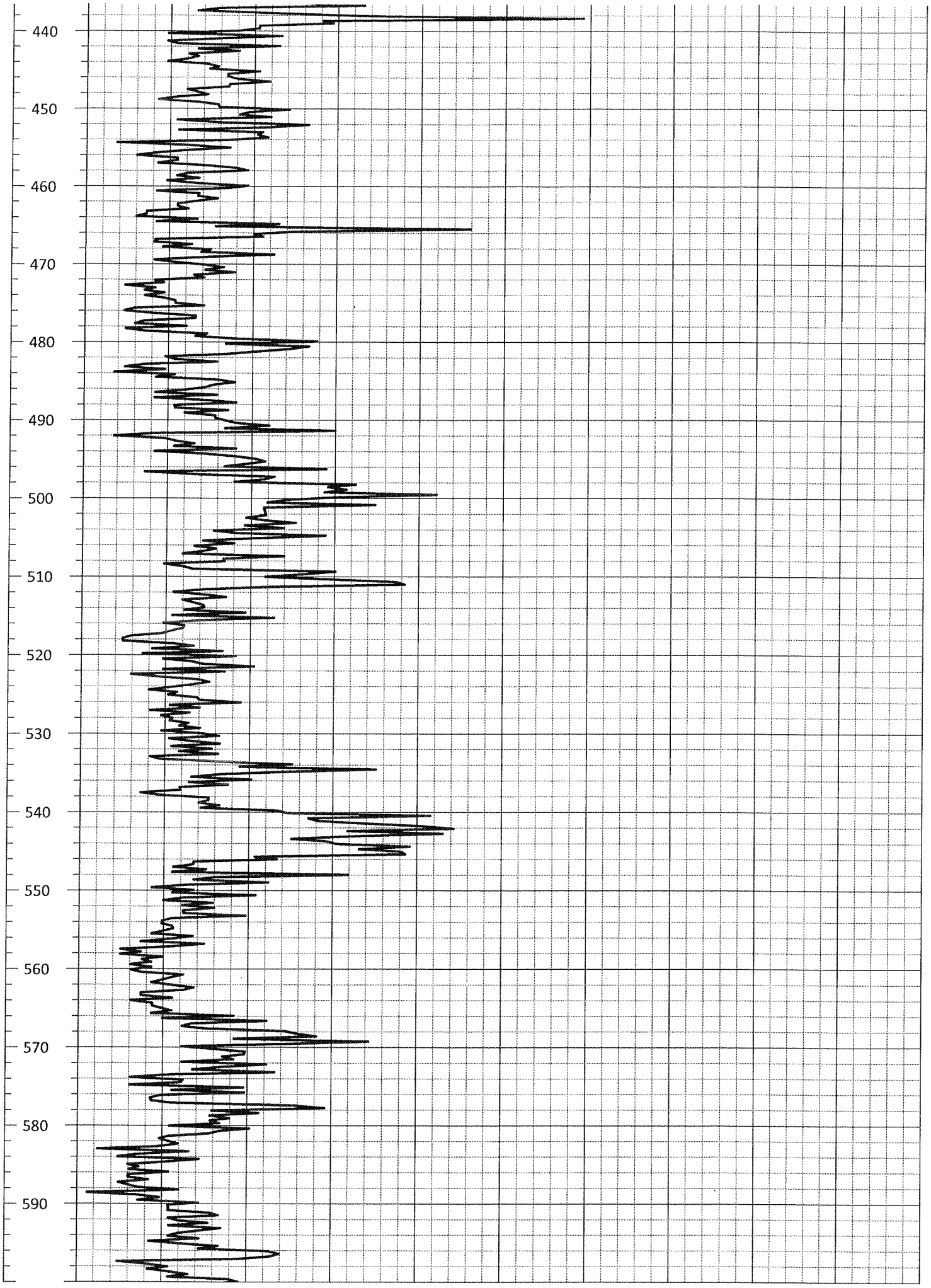
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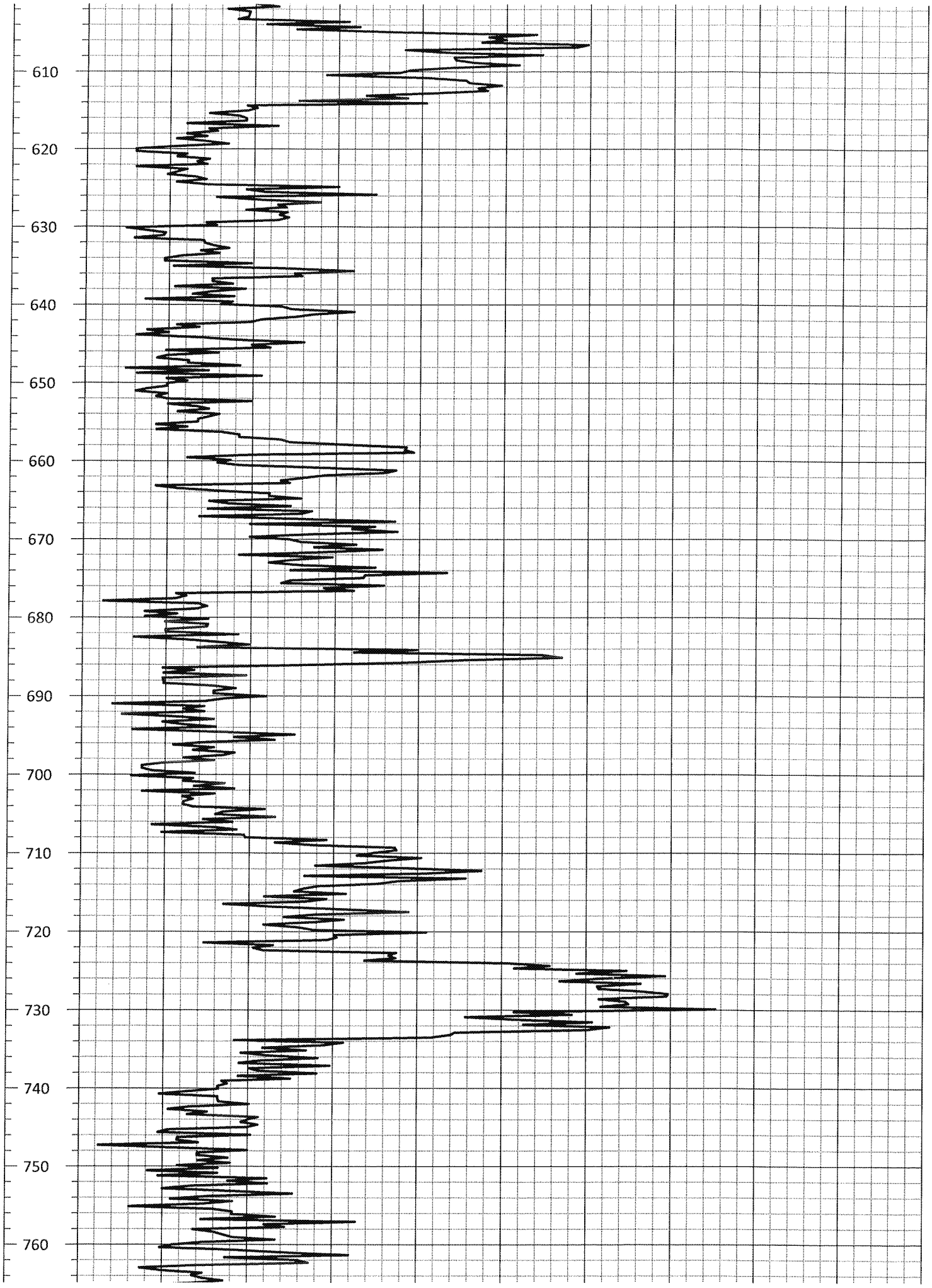
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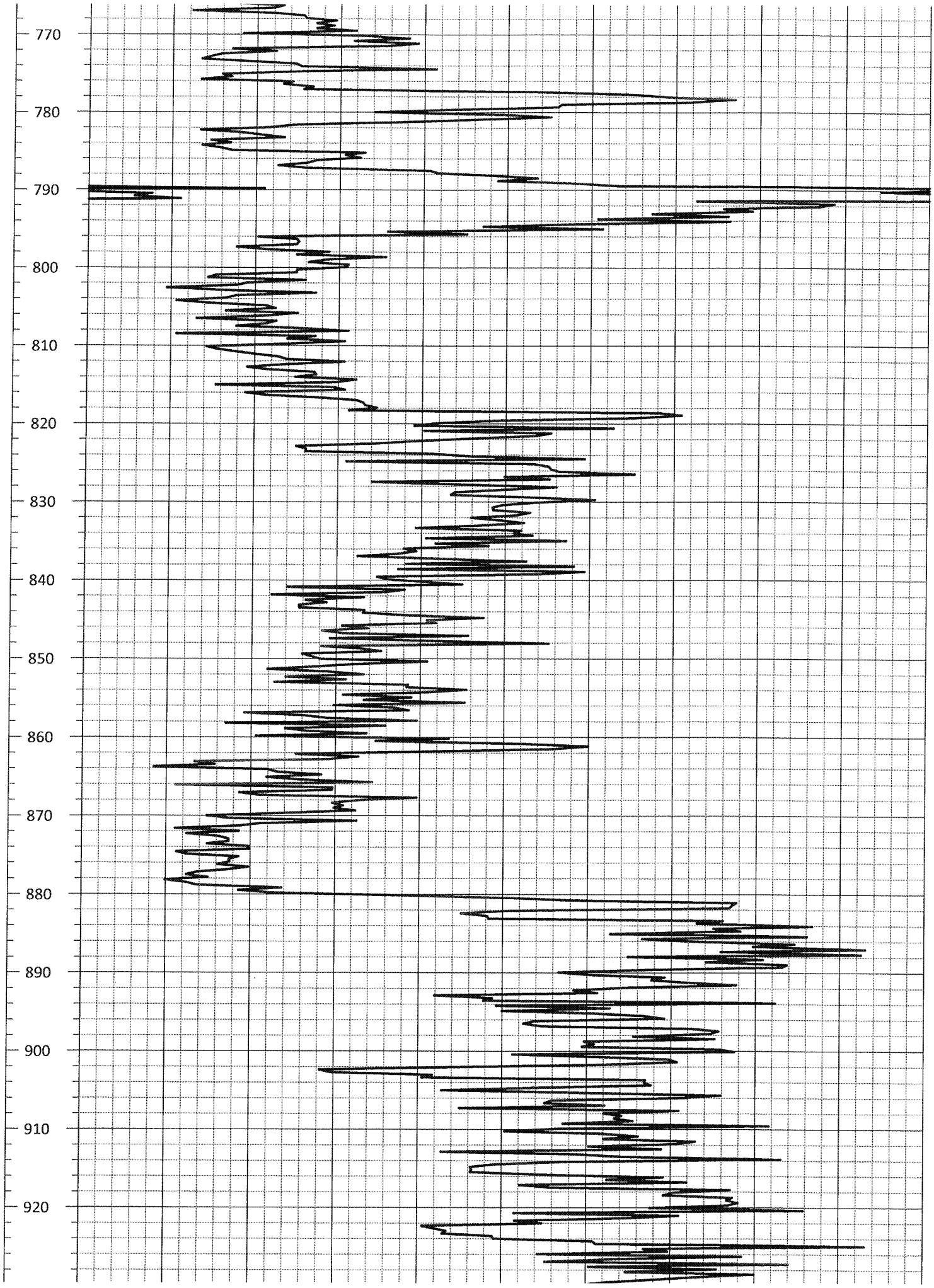
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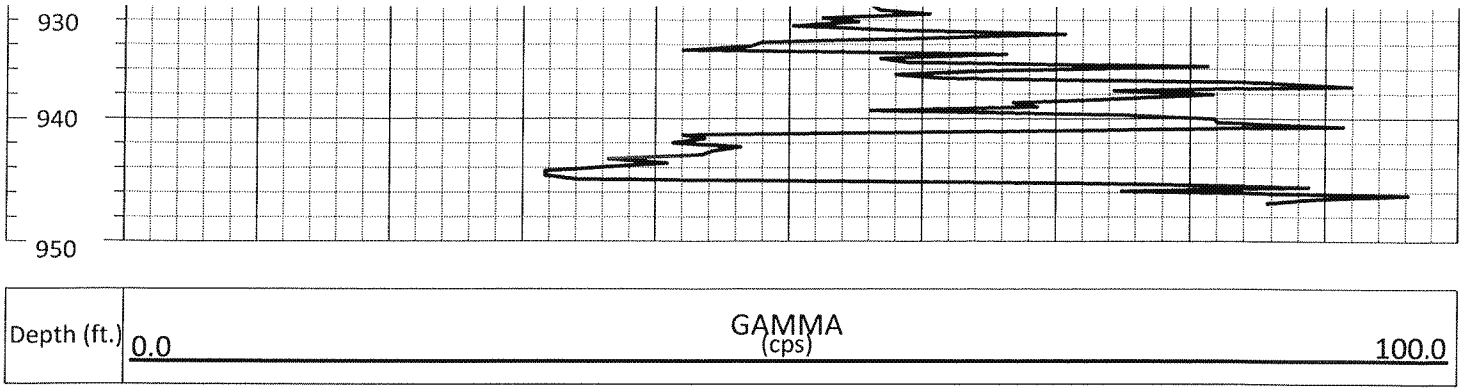
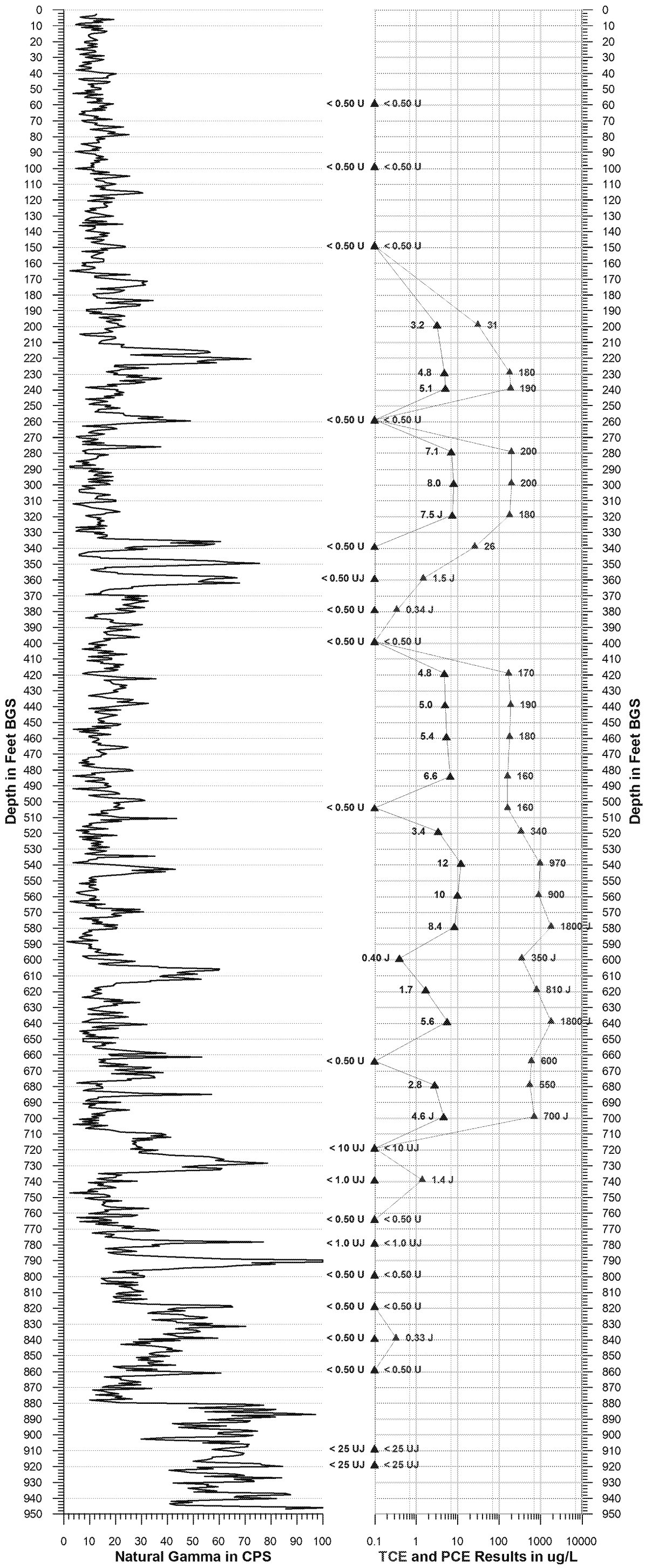
910
920


930
940
950
Depth (ft.)
0.0
GAMMA
(cps)
100.0

Section 2

VPB 154 Gamma and PCE/TCE Plot

Vertical Profile Boring VPB-154
Downward Run - September 4, 2014
Validated Analytical Data



Section 3

VPB 154 Groundwater Sample Log Sheets

Hydropunch Sample

Client: Navy (ResCon)
Project No: 60266526
Site Location: VPB1-124 Shilley Dr.
Weather Conds:

Date: August 2014
VPB: 124
Collector(s): VV

Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
8/7/14	1040	20.8	9.52	388.6	4.59	93.7	586	58	60	lt. brown
8/7/14	1200	25.5	7.33	167.3	2.18	67.8	618.8	98	100	lt. brown
8/7/14	1450	26.9	4.01	238.7	2.93	388.4	993.5	148	150	lt. brown
8/8/14	1035	Not	enough	recovery	for YSI	or turbidimeter		198	200	lt. brown
8/8/14	1425	28.3	3.01	233.1	2.23	352.6	739.8	228	230	lt. brown
8/11/14	1415	16.2	6.9	119.7	2.42	36.8	663.6	238	240	lt. brown
8/11/14	945	Not	enough	recovery	for YSI		>1,100	258	260	Black
8/12/14	1145	23	3.84	369.3	2.7	318.8	666.3	278	280	lt. brown
8/12/14	1345	22.6	5.72	86.8	2.65	119.5	390	298	300	yellowish brown
8/12/14	1540	22.8	4.07	76.4	2.54	202	658	318	320	lt. brown
8/14/14	1000	21.7	3.84	108.5	2.32	327.2	961.5	338	340	cloudy
8/14/14	1325	21.7	5.35	166.5	0.39	98.8	>1,100	358	360	Dark brown
8/14/14	1445	22.2	5.72	75.4	2.96	86.6	650.9	378	380	cloudy
8/15/14	1000	20.8	3.71	201.2	2.45	324.5	538	398	400	cloudy
8/15/14	1145	21.4	3.22	302.5	3.44	351.2	710.3	418	420	cloudy
8/15/14	1420	22.3	3.84	298.4	2.08	353	913.6	438	440	cloudy
8/18/14	1050	22.4	4.72	102	1.78	219.9	>1,100	458	460	cloudy
8/18/14	1430	22.3	3.58	102	1.43	309.1	448	483	485	Slightly cloudy
8/19/14	1155	22.3	4.29	92.1	1.40	248.3	>1,100	503	505	cloudy
8/19/14	1400	21.6	5.51	106	1.26	75.1	1045	518	520	cloudy
8/20/14	950	21.5	3.97	121.8	1.58	292.8	1083	538	540	cloudy
8/20/14	1200	22.5	5.3	137.4	4.93	47.3	965.1	558	560	cloudy

Hydropunch Sample

Client: Navy (ResCon)
Project No: 60266526
Site Location: Shelly Dr
Weather Conds:

Date: August 2014
VPB: 134
Collector(s): Varricchio

Sample Date	Time	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Starting depth(ft)	Ending depth(ft)	Color
8/20/14	1415	23	3.76	107.4	1.54	306	262.4	578	580	~~[illegible]~~ slightly cloudy
8/21/14	1000	21.2	4.37	95.2	1.46	281	187.8	598	600	slightly cloudy
8/21/14	12:10	22.9	4.72	85.4	1.49	249	442.6	618	620	Cloudy
8/21/14	1415	20.8	5.24	94.7	1.19	214.4	203.9	638	640	slightly cloudy
8/22/14	11:20	23.3	6.22	177.3	0.48	-17.2	747.6	663	665	cloudy-brown
8/22/14	13:25	22.7	5.97	87.0	2.59	64.8	450.7	678	680	cloudy
8/25/14	10:10	19.1	6.82	183.6	1.25	138.7	>1,100	698	700	cloudy
8/25/14	1240	21	6.6	680	1.21	100.9	>1,100	718	720	brown
8/25/14	1315	19.7	7.27	211.9	1.63	55.5	>1,100	738	740	brown
8/27/14	1256	21.9	8.78	81.5	1.58	70.8	>1,100	763	765	very light brown
8/27/14	1455	Not enough recovery for YSI + turbidity						778	780	brown
8/28/14	1045	21.5	8.46	58.9	1.14	137.7	128.2	798	800	clear
8/28/14	1340	21.4	7.93	48.9	1.54	70.5	111.2	818	820	clear
8/29/14	1100	20.7	2.86	801	1.74	365.4	719.7	838	840	cloudy
8/29/14	1300	Not enough recovery for YSI + turbidity						858	860	brown
9/2/14	1520	Not enough recovery for YSI + turbidity						908	910	brown
9/3/14	1005	Not enough recovery for YSI + turbidity						918	920	dark brown

Section 4

VPB 154 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:	SH6262
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: 11/20/2014
Reviewed by:	Lori Herberich/RESCON — File Name: SH6262_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 7, 2014 and May 2, 2014.

Sample ID	Matrix/Sample Type
VPB154-GW-080714-148-150	Groundwater
VPB154-GWD-080714	Field Duplicate of VPB154-GW-080714-148-150
VPB154-GW-080714-58-60	Groundwater
VPB154-GW-080714-98-100	Groundwater
VPB154-TB-080714	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 standardresults
✓ 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 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 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/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.

<u>Laboratory Blanks/Equipment Blanks/Trip Blanks</u>

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.**
* 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. 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
VPB154-GW-080714-148-150	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-GW-080714-58-60	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-GW-080714-98-100	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-GWD-080714	WG	CARBON DISULFIDE		1.0*	UG/L	U	bt
VPB154-GWD-080714	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-TB-080714	WQ	TRICHLOROFLUOROMETHANE		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 SH6262			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148068-4	TRICHLOROFLUOROMETHANE	21	≤20%
Associated sample: VPB154-TB-080714			
WG148235-4	METHYL ACETATE	-25	≤20%
Associated samples: VPB154-GW-080714-58-60, VPB154-GW-080714-98-100, VPB154-GW-080714-148-150, VPB154-GWD-080714			

Table A-3 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-TB-080714	CARBON DISULFIDE	0.42	0.50	UG/L	All SDG SH6262 samples

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
bt	Trip 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

Page ____ of ____

Client: Resolution Consultants
Contact: E. Vivoudou
Phone #: (845) 425-4180
Fax #: ( )
Address: 100 Red Schoolhouse Rd.
City: Chestnut Ridge
State: NY
Zip Code: 10977
Purchase Order #:
Proj. Name / No.: NWCRP Dethpage / 66266526
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Vincent Varricchio / Vint Vale
Copies To:

LAB USE ONLY
WORK ORDER #: SH6262
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 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
	VPB154-GW-080714-58-60	8/7/14 / 1000	GW	3	3									
	VPB154-GW-080714-98-100	8/7/14 / 1200	GW	3	3									
	VPB154-GW-080714-148-150	8/7/14 / 1450	GW	3	3									
	VPB154-GWD-080714	8/7/14 /	GW	3	3									
	Trip Blank	8/7/14 / 1000	W	3	3									
		/												
		/												
		/												
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		/												
		/												
		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Vint Vale	8/7/14 1630	Fed Ex			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		[signature] 8/9/14 0950			

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

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-1RA
Client ID: 154-080714-58-60
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8511.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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		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	J	0.30	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

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-1RA
Client ID: 154-080714-58-60
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8511.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	~~UJ~~ 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	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		93.7	%					
Toluene-d8		95.9	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		95.8	%					

12/22/14

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-2RA
Client ID: 154-080714-98-100
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8512.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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		8.3	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-2RA
Client ID: 154-080714-98-100
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8512.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.9	%					
Toluene-d8		96.9	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		97.5	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-3RA
Client ID: 154-080714-148-150
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8513.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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		12	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	J	0.33	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-3RA
Client ID: 154-080714-148-150
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8513.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.7	%					
Toluene-d8		96.9	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		97.8	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-4RA
Client ID: VPB154-GWD-080714
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8514.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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~~ U	~~0.28~~ 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		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	J	2.9	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-4RA
Client ID: VPB154-GWD-080714
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8514.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		95.7	%					
Toluene-d8		97.5	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		100.	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-5
Client ID: VPB154-TB-080714
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8459.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 12-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148068

Analysis Date: 12-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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~~ UJ	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	0.42	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6262-5
Client ID: VPB154-TB-080714
Project: Navy Clean WE15-03-06 NW
SDG: SH6262
Lab File ID: C8459.D

Sample Date: 07-AUG-14
Received Date: 09-AUG-14
Extract Date: 12-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148068

Analysis Date: 12-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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		88.0	%					
Toluene-d8		90.8	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		97.1	%					

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RESOLUTION CONSULTANTS

Resolution Consultants
250 Apollo Drive
Chelmsford, MA 01824

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6302	
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: 11/20/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6302_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 8 and 11, 2014 and May 2, 2014.

Sample ID	Matrix/Sample Type
VPB154-GW-080814-198-200	Groundwater
VPB154-GW-080814-228-230	Groundwater
VPB154-GW-081114-238-240	Groundwater
VPB154-TRIP BLANK-081114	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 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
- 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. 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. 2-Hexanone had high %R for both MS and MSD; however, the associated sample was nondetect for this compound and the results were accepted without qualification.

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
VPB154-GW-080814-198-200	WG	2-BUTANONE	20	2.5	UG/L	J	c
VPB154-GW-080814-198-200	WG	ACETONE	72	2.5	UG/L	J	c
VPB154-GW-080814-198-200	WG	CARBON DISULFIDE	0.26	0.50	UG/L	J	c
VPB154-GW-080814-198-200	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-GW-080814-228-230	WG	1,1-DICHLOROETHENE	1.2	0.50	UG/L	J	c
VPB154-GW-080814-228-230	WG	2-BUTANONE	2.7	2.5	UG/L	J	c
VPB154-GW-080814-228-230	WG	ACETONE	9.8	2.5	UG/L	J	c
VPB154-GW-080814-228-230	WG	CARBON DISULFIDE	0.25	0.50	UG/L	J	c
VPB154-GW-080814-228-230	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-GW-081114-238-240	WG	1,1-DICHLOROETHENE	1.5	0.50	UG/L	J	c
VPB154-GW-081114-238-240	WG	2-BUTANONE	3.4	2.5	UG/L	J	c
VPB154-GW-081114-238-240	WG	ACETONE	16	2.5	UG/L	J	c
VPB154-GW-081114-238-240	WG	CARBON DISULFIDE	0.30	0.50	UG/L	J	c
VPB154-GW-081114-238-240	WG	METHYL ACETATE		0.75	UG/L	UJ	c
VPB154-TRIP BLANK-081114	WQ	METHYL ACETATE		0.75	UG/L	UJ	c

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 SH6302			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% R	Limits
WG148235-4	METHYL ACETATE	-25	≤20%
Associated samples: all samples in SDG SH6302			

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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Contact: E. Vivaudou
Phone #: (845) 425-4180
Fax #: ( )

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

Purchase Order #:
Proj. Name / No.: NUCRP Bethpage / 66266526
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): Vincent Vorsicchio / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: ~~SH6296~~
KATAHDIN PROJECT NUMBER: SH6302

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
	Trip Blank	5/2/14 / 1000	W	3	3									
	VPB154-GW-080814-198200	8/8/14 / 1035	GW	3	3									
	VPB154-GW-080814-228-230	8/8/14 / 1425	GW	3	3									
	VPB154-GW-MS/MSD-080814-228-230	8/8/14 / 1425	GW	6	6									
	VPB154-GW-081114-238-240	8/11/14 / 1415	GW	3	3									
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COMMENTS

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[signature]	8/11/14 1600	Fed EX			[signature] 8-12-14 0915
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: SH6302-1RA
Client ID: VPB154-TB-081114
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8509.D

Sample Date: 11-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	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: SH6302-1RA
Client ID: VPB154-TB-081114
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8509.D

Sample Date: 11-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		92.5	%					
Toluene-d8		95.4	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		94.0	%					

12/29/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6302-2RA
Client ID: 154-080814-198-200
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8515.D

Sample Date: 08-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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~~ J	0.26	ug/L	1	1	1.0	0.25	0.50
Freon-113		1.7	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	72	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	J	0.89	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	20	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		31	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		3.2	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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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6503	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) 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: 12/9/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6503_5310B and 8260B

SUMMARY

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

Sample ID	Matrix/Sample Type
VPB154-FB-081414	Field blank
VPB154-GW-081214-258-260	Groundwater
VPB154-GW-081214-278-280	Groundwater
VPB154-GW-081214-298-300	Groundwater
VPB154-GW-081214-318-320	Groundwater
VPB154-GW-081414-338-340	Groundwater
VPB154-GW-081414-358-360	Groundwater
VPB154-GW-081414-378-380	Groundwater
VPB154-TRIP BLANK-081414	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 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)/laboratory control sample duplicate (LCSD) 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.

The 3 vials of sample VPB-154-GW-081414-358-360 each contained mostly soil and not very much liquid. Therefore, each vial was decanted and composited into one vial, then analyzed. Positive and non-detect results for these sample were qualified as estimated (J and UJ) respectively, due to possible loss of sample integrity during the decanting procedure

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, field, 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 Tables A-1 and A-2.

Sample results were qualified as follows:

For TOC:

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and ≤ 4x LOQ	Report the sample result with a U**
		≥ 4x LOQ	No qualifications
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the sample result with a U
		≥ 2x LOQ and ≥ blank contamination	If the result is ≤2x blank result, report the sample result U.** If the result is > 2x blank result, no qualification is required.**
* 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			

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

For common lab contaminants (methylene chloride, acetone, 2-butanone):

Blank type	Blank result	Sample result	Action for samples
Method, Storage, Field, Trip, or Instrument*	Detects	Not detected	No qualification
	≤ 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and ≤ 4x LOQ	Report the sample result with a U**
		≥ 4x LOQ	No qualifications
	> 2x LOQ	< 2x LOQ	Report sample LOQ value with a U
		≥ 2x LOQ and < blank contamination	Report the sample result with a U
		≥ 2x LOQ and ≥ blank contamination	If the result is ≤2x blank result, report the sample result U.**

Blank type	Blank result	Sample result	Action for samples
			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			

For all other compounds:

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 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 Tables A-4 and A-5.

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

	Action	
Criteria	**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/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-6.

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
VPB154-FB-081414	WQ	TOTAL ORGANIC CARBON		1.0*	MG/L	U	bl
VPB154-FB-081414	WQ	1,1-DICHLOROETHANE		1.0*	UG/L	U	bf
VPB154-FB-081414	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-FB-081414	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-FB-081414	WQ	ACETONE		5.0*	UG/L	UJ	c,bf
VPB154-FB-081414	WQ	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bf
VPB154-FB-081414	WQ	CHLOROFORM		1.0*	UG/L	U	bf
VPB154-GW-081214-258-260	WG	2-BUTANONE	7.0	2.5	UG/L	J	c
VPB154-GW-081214-258-260	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-258-260	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-258-260	WG	ACETONE	48	2.5	UG/L	J	l,c
VPB154-GW-081214-258-260	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bf
VPB154-GW-081214-278-280	WG	1,1-DICHLOROETHANE		1.0*	UG/L	U	bf
VPB154-GW-081214-278-280	WG	1,1-DICHLOROETHENE	2.2	0.50	UG/L	J	c
VPB154-GW-081214-278-280	WG	2-BUTANONE	3.7	2.5	UG/L	J	c
VPB154-GW-081214-278-280	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-278-280	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-278-280	WG	ACETONE		15**	UG/L	UJ	c,bf
VPB154-GW-081214-278-280	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bf
VPB154-GW-081214-278-280	WG	CHLOROFORM		1.0*	UG/L	U	bf
VPB154-GW-081214-298-300	WG	1,1-DICHLOROETHANE		1.2**	UG/L	U	bf
VPB154-GW-081214-298-300	WG	1,1-DICHLOROETHENE	3.3	0.50	UG/L	J	c

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-081214-298-300	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-298-300	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-298-300	WG	ACETONE		5.0*	UG/L	UJ	c,bf
VPB154-GW-081214-298-300	WG	CHLOROFORM		1.0*	UG/L	U	bf
VPB154-GW-081214-318-320	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	16	0.50	UG/L	J	s
VPB154-GW-081214-318-320	WG	1,1-DICHLOROETHANE		1.0*	UG/L	U	bf
VPB154-GW-081214-318-320	WG	1,1-DICHLOROETHENE	2.2	0.50	UG/L	J	s,c
VPB154-GW-081214-318-320	WG	1,2-DICHLOROETHENE, TOTAL	2.8	1.0	UG/L	J	s
VPB154-GW-081214-318-320	WG	2-BUTANONE	1.9	2.5	UG/L	J	s,c
VPB154-GW-081214-318-320	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-318-320	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-GW-081214-318-320	WG	ACETONE		5.0*	UG/L	UJ	s,c,bf
VPB154-GW-081214-318-320	WG	CHLOROFORM		1.0*	UG/L	U	bf
VPB154-GW-081214-318-320	WG	CIS-1,2-DICHLOROETHENE	2.8	0.50	UG/L	J	s
VPB154-GW-081214-318-320	WG	DICHLORODIFLUOROMETHANE	0.79	1.0	UG/L	J	s
VPB154-GW-081214-318-320	WG	TETRACHLOROETHENE	7.5	0.50	UG/L	J	s
VPB154-GW-081414-338-340	WG	1,1-DICHLOROETHANE		1.0*	UG/L	U	bf
VPB154-GW-081414-338-340	WG	1,1-DICHLOROETHENE	1.5	0.50	UG/L	J	c
VPB154-GW-081414-338-340	WG	2-BUTANONE	1.5	2.5	UG/L	J	c
VPB154-GW-081414-338-340	WG	ACETONE		5.0*	UG/L	UJ	c,bf
VPB154-GW-081414-338-340	WG	CHLOROFORM		1.0*	UG/L	U	bf
VPB154-GW-081414-358-360	WG	1,1,1-TRICHLOROETHANE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-081414-358-360	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,1,2-TRICHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,1-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,1-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	2-BUTANONE	3.8	2.5	UG/L	J	mc,c
VPB154-GW-081414-358-360	WG	2-HEXANONE		2.5	UG/L	UJ	mc,c
VPB154-GW-081414-358-360	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc,c
VPB154-GW-081414-358-360	WG	ACETONE		17**	UG/L	UJ	mc,c,bf
VPB154-GW-081414-358-360	WG	BENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	BROMOMETHANE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-081414-358-360	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bf
VPB154-GW-081414-358-360	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CHLOROFORM		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CIS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	STYRENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	TETRACHLOROETHENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	TOLUENE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-081414-358-360	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	TRICHLOROETHENE	1.5	0.50	UG/L	J	mc
VPB154-GW-081414-358-360	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB154-GW-081414-358-360	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB154-GW-081414-378-380	WG	ACETONE		5.0*	UG/L	UJ	c,bf
VPB154-GW-081414-378-380	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bl
VPB154-TRIP BLANK-081414	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-081414	WQ	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-081414	WQ	ACETONE		5.0*	UG/L	UJ	c,bf
VPB154-TRIP BLANK-081414	WQ	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bf

*LOQ
**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 SH6503			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG148353-4	4-METHYL-2-PENTANONE	23	≤20%
	2-HEXANONE	27	≤20%
Associated samples: VPB154-GW-081214-258-260, VPB154-GW-081214-278-280, VPB154-GW-081214-298-300, VPB154-GW-081214-318-320, VPB154-GW-081414-358-360, VPB154-FB-081414, VPB154-TRIP BLANK-081414			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG148878-1	TOTAL ORGANIC CARBON	0.25	0.50	MG/L	VPB154-FB-081414
WG148424-2	CARBON DISULFIDE	0.47	0.50	UG/L	VPB154-GW-081414-378-380

Table A-4 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-FB-081414	1,1-DICHLOROETHANE	0.38	0.50	UG/L	VPB154-GW-081214-278-280, VPB154-GW-081214-298-300, VPB154-GW-081214-318-320, VPB154-GW-081414-338-340
VPB154-FB-081414	ACETONE	8.2	2.5	UG/L	VPB154-GW-081214-278-280, VPB154-GW-081214-298-300, VPB154-GW-081214-318-320, VPB154-GW-081414-338-340, VPB154-GW-081414-358-360, VPB154-GW-081414-378-380, VPB154-TRIP BLANK-081414
VPB154-FB-081414	CARBON DISULFIDE	0.37	0.50	UG/L	VPB154-GW-081214-258-260, VPB154-GW-081214-278-280, VPB154-GW-081414-358-360, VPB154-TRIP BLANK-081414
VPB154-FB-081414	CHLOROFORM	1.0	0.50	UG/L	VPB154-GW-081214-278-280, VPB154-GW-081214-298-300, VPB154-GW-081214-318-320, VPB154-GW-081414-338-340

Table A-5 - Surrogates

Sample ID	Surrogate	% Recovery	Lower Limit	Upper Limit
VPB154-GW-081214-318-320	1,2-DICHLOROETHANE-D4	123	70	120

Table A-6 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG148353-1	ACETONE	153	40	140	VPB154-GW-081214-258-260

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
Tel: (207) 874-2400
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CHAIN of CUSTODY

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Page ____ of ____

Client: Resolution Consultants
Contact: E. Vivenda
Phone #: (845) 425-4120
Fax #: ( )

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

Purchase Order #:
Proj. Name / No.: NWIRP Bethpage / 66226526
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): Vincent Vonicchio / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER: SH6503
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 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
	VPB154-GW-081214-258-260	8/12/14 / 945	GW	3	3									
	VPB154-GW-081214-278-280	8/12/14 / 1145	GW	3	3									
	VPB154-GW-081214-298-300	8/12/14 / 1345	GW	3	3									
	VPB154-GW-081214-318-320	8/12/14 / 1540	GW	3	3									
	VPB154-GW-081414-338-340	8/14/14 / 1000	GW	3	3									
	VPB154-GW-081414-358-360	8/14/14 / 1235	GW	3	3									
	VPB154-FB-081414	8/14/14 / 1415	W	6	3	3								
	VPB154-GW-081414-378-380	8/14/14 / 1445	GW	3	3									
	Trip Blank	5/2/14 / 1200	W	3	3									
		/												
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS

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

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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-1
Client ID: 154-081214-258-260
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8562.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: 19-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	~~0.49~~ 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	48	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	7.0	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	~~UL~~ 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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2/16/15

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-1
Client ID: 154-081214-258-260
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8562.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: 19-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		97.4	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		100.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-2
Client ID: 154-081214-278-280
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8567.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: 19-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.33	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	J	2.2	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.33~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113		16	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~~ UJ	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	J	0.45	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	~~J~~ U	~~0.08~~ 1.0	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		4.8	ug/L	1	1	1.0	0.21	0.50
Chloroform	~~J~~ U	~~0.52~~ 1.0	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	3.7	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	~~E~~	~~220~~ 200	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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	~~J~~ 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		7.1	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~~ 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: SH6503-2
Client ID: 154-081214-278-280
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8567.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: 19-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)		4.8	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		95.8	%					
1,2-Dichloroethane-d4		120.	%					
Dibromofluoromethane		104.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-3
Client ID: 154-081214-298-300
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8568.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: 19-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.74	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	J	3.3	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		30	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~~ UJ	~~8.0~~ 5.0	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	1.2	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		5.2	ug/L	1	1	1.0	0.21	0.50
Chloroform	~~J~~ U	~~0.65~~ 1.0	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	~~E~~	~~230~~ 200	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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		8.0	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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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-3
Client ID: 154-081214-298-300
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8568.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: 19-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)		5.2	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		93.1	%					
Toluene-d8		95.0	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		102.	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-4
Client ID: 154-081214-318-320
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8569.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: 19-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	~~J~~ J	0.79	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	J	2.2	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	J	16	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~~ UJ	~~7.6~~ 5.0	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	~~J~~ U	~~0.68~~ 1.0	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	J	2.8	ug/L	1	1	1.0	0.21	0.50
Chloroform	~~J~~ U	~~0.81~~ 1.0	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	1.9	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	~~E~~	~~210~~ 180	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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	J	7.5	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~~ 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: SH6503-4
Client ID: 154-081214-318-320
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8569.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: 19-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)	J	2.8	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		96.0	%					
1,2-Dichloroethane-d4	*	123.	%					
Dibromofluoromethane		106.	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-5RA
Client ID: 154-081414-338-340
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8586.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 18-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148424

Analysis Date: 18-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 19-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	1.3	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	J	1.5	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		13	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	UJ	~~8.7~~ 5.0	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	~~J~~ U	~~0.72~~ 1.0	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.3	ug/L	1	1	1.0	0.21	0.50
Chloroform	~~J~~ U	~~0.39~~ 1.0	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	1.5	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	J	0.34	ug/L	1	1	1.0	0.20	0.50
Trichloroethene		26	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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Katahdin
ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-5RA
Client ID: 154-081414-338-340
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8586.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 18-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148424

Analysis Date: 18-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 19-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)		2.3	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		95.9	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		104.	%					

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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-6
Client ID: 154-081414-358-360
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8559.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: 19-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	~~0.38~~ 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	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	J	3.8	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	1.5	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	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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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-6
Client ID: 154-081414-358-360
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8559.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: 19-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			94.3	%					
Toluene-d8			96.3	%					
1,2-Dichloroethane-d4			111.	%					
Dibromofluoromethane			98.7	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-7
Client ID: VPB154-FB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8557.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: 19-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	~~0.37~~ 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	~~J~~ UJ	~~8.2~~ 5.0	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	~~J~~ U	~~0.38~~ 1.0	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	1.0	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	~~J~~ 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	J	0.87	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	~~UL~~ 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: SH6503-7
Client ID: VPB154-FB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8557.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: 19-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		95.6	%					
Toluene-d8		97.9	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		99.4	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-8RA
Client ID: 154-081414-378-380
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8587.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 18-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148424

Analysis Date: 18-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 19-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	~~0.57~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	J	0.41	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	UJ	~~8.0~~ 5.0	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	J	0.34	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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ANALYTICAL SERVICES

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-8RA
Client ID: 154-081414-378-380
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8587.D

Sample Date: 14-AUG-14
Received Date: 15-AUG-14
Extract Date: 18-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148424

Analysis Date: 18-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 19-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		97.5	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		98.2	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6503-9
Client ID: VPB154-TB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8558.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: 19-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	~~0.33~~ 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~~ UJ	~~4.8~~ 5.0	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~~ 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	~~UL~~ 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: SH6503-9
Client ID: VPB154-TB-081414
Project: Navy Clean WE15-03-06 NW
SDG: SH6503
Lab File ID: C8558.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: 19-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		95.7	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		96.7	%					

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Report of Analytical Results

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

Lab Sample ID: SH6503-7
Report Date: 29-AUG-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6503

Sample Description	Matrix	Date Sampled	Date Received
VPB154-FB-081414	AQ	14-AUG-14	15-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	~~10.26~~ mg/L 1.0 U	1.0	0.10	.5	SM5310B	WG148878	22-AUG-14 21:59:38	N/A	N/A	

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6302-2RA
Client ID: 154-080814-198-200
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8515.D

Sample Date: 08-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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)	J	0.89	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		97.0	%					
Toluene-d8		95.5	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		98.5	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6302-3RA
Client ID: 154-080814-228-230
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8516.D

Sample Date: 08-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

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

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.70	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	J	1.2	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ J	0.25	ug/L	1	1	1.0	0.25	0.50
Freon-113		10	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	9.8	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	J	0.61	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.6	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.4	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	2.7	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		180	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		4.8	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	UMM	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: SH6302-3RA
Client ID: 154-080814-228-230
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8516.D

Sample Date: 08-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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)		2.6	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		92.4	%					
Toluene-d8		95.4	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		97.9	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6302-4RA
Client ID: 154-081114-238-240
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8517.D

Sample Date: 11-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

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

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.35	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	J	1.5	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	0.30	ug/L	1	1	1.0	0.25	0.50
Freon-113		14	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		1.0	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	J	0.81	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		4.1	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.86	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.21	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J	3.4	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		190	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		5.1	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: SH6302-4RA
Client ID: 154-081114-238-240
Project: Navy Clean WE15-03-06 NW
SDG: SH6302
Lab File ID: C8517.D

Sample Date: 11-AUG-14
Received Date: 12-AUG-14
Extract Date: 14-AUG-14
Extracted By: DJP
Extraction Method: SW846 5030
Lab Prep Batch: WG148235

Analysis Date: 14-AUG-14
Analyst: DJP
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 16-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)		4.1	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		91.4	%					
Toluene-d8		93.6	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		98.7	%					

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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:	SH6621	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) and EPA SW-846 Method 9060A for Total Organic Carbon (TOC)	
Validation Level:	3	
AECOM Project Number:	60266526.SA.DV	
Prepared by:	Dawn Brule/RESCON	Completed on: 12/18/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6621_8260B and 9060A

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 15 and 18, 2014.

Sample ID	Matrix/Sample Type
VPB154-SOIL-D-081514	Field Duplicate of VPB154-SOIL-081514-422-424
VPB154-GW-081514-398-400	Groundwater
VPB154-GW-081514-418-420	Groundwater
VPB154-GW-081514-438-440	Groundwater
VPB154-GW-081814-458-460	Groundwater
VPB154-GW-081814-483-485	Groundwater
VPB154-SOIL-081514-422-424	Soil
VPB154-TRIP BLANK-081814	Trip Blank

The samples were analyzed in accordance with *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (USEPA, 1996), specifically:

- Method 8260B, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry*
- Method 9060A, *Total Organic Carbon*

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 (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 Table A-1.

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

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-2.

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 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 Results

The LCS %Rs 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

Field duplicate RPDs were reviewed for conformance with the QC criterion of ≤60% for soil matrices. This criteria 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
VPB154-GW-081514-398-400	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB154-GW-081514-398-400	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-081514-418-420	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	16	0.50	UG/L	J	c,l
VPB154-GW-081514-418-420	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-081514-438-440	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	14	0.50	UG/L	J	c,l
VPB154-GW-081514-438-440	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-081814-458-460	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	10	0.50	UG/L	J	c,l
VPB154-GW-081814-458-460	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-081814-483-485	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	7.7	0.50	UG/L	J	c,l
VPB154-TRIP BLANK-081814	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB154-TRIP BLANK-081814	WQ	CARBON DISULFIDE		1.0*	UG/L	U	bl

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 -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 SH6621			

Table A-2 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG148554-2	CARBON DISULFIDE	0.39	0.50	UG/L	VPB154-GW-081514-398-400 VPB154-GW-081514-418-420 VPB154-GW-081514-438-440 VPB154-GW-081814-458-460 VPB154-TRIP BLANK-081814

Table A-3 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG148554-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	140	73	126	VPB154-GW-081514-418-420 VPB154-GW-081514-438-440 VPB154-GW-081814-458-460 VPB154-GW-081814-483-485

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 ____ of ____

Client: Radiation Consultants
Contact: E. 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 / 66266026
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): Vincent Vanicchio / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: SH6621
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 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
	VPB154-GW-081514-398-400	8/15/14 / 1000	GW	3	3									
	VPB154-GW-081514-418-420	8/15/14 / 1145	GW	3	3									
	VPB154-Soil-081514-422-424	8/15/14 / 1230	Soil	1		1								
	VPB154-Soil-MSMSD-081514-422-424	8/15/14 / 1230	Soil	1		1								
	VPB154-Soil-D-081514	8/15/14 /	Soil	1		1								
	VPB154-GW-081514-438-440	8/15/14 / 1420	GW	3	3									
	VPB154-GW-081814-458-460	8/18/14 / 1030	GW	3	3									
	VPB154-TripBlank-081814	8/18/14 / 1400	W	3	3									
	VPB154-GW-081814-483-485	8/18/14 / 1430	GW	3	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 16:30	FedEx			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		[signature] 8/19 1145			

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ORIGINAL 0000012

KAS-COC1

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-1
Client ID: 154-081514-398-400
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8637.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~~ U	~~0.34~~ 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		12	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	2.7	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: SH6621-1
Client ID: 154-081514-398-400
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8637.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		95.4	%					
Toluene-d8		95.8	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		103.	%					

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ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-2
Client ID: 154-081514-418-420
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8638.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	J	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		1.9	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.33~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ J	16	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		8.3	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	J	0.56	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.6	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.87	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.25	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	~~E~~	~~200~~ 170	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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		4.8	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-2
Client ID: 154-081514-418-420
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8638.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)		2.6	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		93.8	%					
Toluene-d8		93.5	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		104.	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-5
Client ID: 154-081514-438-440
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8639.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	J	0.97	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		1.7	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.34~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ J	14	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		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	J	0.49	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		3.0	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.76	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.26	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J	4.9	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	~~E~~	~~210~~ 190	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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		5.0	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-5
Client ID: 154-081514-438-440
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8639.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)		3.0	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		95.4	%					
Toluene-d8		93.5	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		104.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-6
Client ID: 154-081814-458-460
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8640.D

Sample Date: 18-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	J	0.43	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	J	0.28	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene		1.1	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.31~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ UJ	10	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		22	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	J	0.44	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.4	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.43	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	4.0	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~~	~~210~~ 180	ug/L	~~1~~ 4	1	~~1.0~~ 4.0	~~0.28~~ 1.1	~~0.50~~ 2.0
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		5.4	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-6
Client ID: 154-081814-458-460
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8640.D

Sample Date: 18-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)		2.4	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		91.6	%					
Toluene-d8		93.5	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		103.	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-7
Client ID: VPB154-TB-081814
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8631.D

Sample Date: 18-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~~ U	~~0.30~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~UL~~ U5	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

Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-7
Client ID: VPB154-TB-081814
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8631.D

Sample Date: 18-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		94.1	%					
Toluene-d8		96.0	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		102.	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-8
Client ID: 154-081814-483-485
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8641.D

Sample Date: 18-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	J	0.41	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	J	0.34	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	0.71	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~~ J	7.7	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		9.7	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	J	0.24	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		1.6	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		160	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		6.6	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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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6621-8
Client ID: 154-081814-483-485
Project: Navy Clean WE15-03-06 NW
SDG: SH6621
Lab File ID: C8641.D

Sample Date: 18-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)	J	1.6	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		92.5	%					
Toluene-d8		94.1	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		105.	%					

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Report of Analytical Results

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

Lab Sample ID: SH6621-3
Report Date: 05-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6621

Sample Description	Matrix	Date Sampled	Date Received
154S-081514-422-424	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	1300 ug/gdrywt	510	110	380	SW846 9060A Mod.	WG148851	22-AUG-14 11:55:44	N/A	N/A	
Total Solids	78. %	1		N/A	SM2540G	WG148631	21-AUG-14 10:57:44	SM2540G	20-AUG-14	

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Report of Analytical Results

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

Lab Sample ID: SH6621-4
Report Date: 05-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6621

Sample Description	Matrix	Date Sampled	Date Received
154-SOIL-D-081514	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	2400 ug/gdrywt	490	100	370	SW846 9060A Mod.	WG148851	22-AUG-14 12:22:24	N/A	N/A	
Total Solids	82. %	1		N/A	SM2540G	WG148631	21-AUG-14 10:58:00	SM2540G	20-AUG-14	

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RESOLUTION CONSULTANTS

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250 Apollo Drive
Chelmsford, MA 01824

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978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Service Request:	SH6777	
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) 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: 12/19/2014
Reviewed by:	Lori Herberich/RESCON	File Name: SH6777_5310B and 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
VPB154-EB-082014	Equipment blank
VPB154-GW-081914-503-505	Groundwater
VPB154-GW-081914-518-520	Groundwater
VPB154-GW-082014-538-540	Groundwater
VPB154-GW-082014-558-560	Groundwater
VPB154-GW-082014-578-580	Groundwater
VPB154-GW-082114-598-600	Groundwater
VPB154-GW-082114-618-620	Groundwater
VPB154-GW-082114-638-640	Groundwater
VPB154-GWD-082114	Field duplicate of VPB154-GW-082114-638-640
VPB154-TRIP BLANK-082114	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 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
✓	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.

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;
- 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).

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 Tables A-3 and A-4.

Sample results were qualified as follows:

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.**
* 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.			

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.
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-5.

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

	Action	
Criteria	**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-6.

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) non-detects 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

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
VPB154-EB-082014	WQ	TOTAL ORGANIC CARBON		1.0*	MG/L	U	bl
VPB154-EB-082014	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB154-EB-082014	WQ	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-EB-082014	WQ	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-EB-082014	WQ	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-081914-503-505	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	20	0.50	UG/L	J	c,l
VPB154-GW-081914-503-505	WG	1,1-DICHLOROETHENE	2.9	0.50	UG/L	J	c
VPB154-GW-081914-503-505	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-081914-503-505	WG	ACETONE	8.4	2.5	UG/L	J	c,l
VPB154-GW-081914-503-505	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-081914-503-505	WG	CHLOROMETHANE		2.0*	UG/L	U	bt
VPB154-GW-081914-503-505	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-081914-518-520	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	26	0.50	UG/L	J	c,l
VPB154-GW-081914-518-520	WG	1,1-DICHLOROETHENE	5.5	0.50	UG/L	J	c
VPB154-GW-081914-518-520	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-081914-518-520	WG	ACETONE	8.3	2.5	UG/L	J	c,l
VPB154-GW-081914-518-520	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-081914-518-520	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-081914-518-520	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082014-538-540	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	61	0.50	UG/L	J	c,l
VPB154-GW-082014-538-540	WG	1,1-DICHLOROETHENE	18	0.50	UG/L	J	c
VPB154-GW-082014-538-540	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082014-538-540	WG	2-BUTANONE	3.8	2.5	UG/L	J	c
VPB154-GW-082014-538-540	WG	ACETONE	20	2.5	UG/L	J	c,l
VPB154-GW-082014-538-540	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082014-538-540	WG	CHLOROMETHANE		2.0*	UG/L	U	bt
VPB154-GW-082014-538-540	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082014-558-560	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	57	0.50	UG/L	J	c,l
VPB154-GW-082014-558-560	WG	1,1-DICHLOROETHENE	19	0.50	UG/L	J	c
VPB154-GW-082014-558-560	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082014-558-560	WG	2-BUTANONE	2.4	2.5	UG/L	J	c
VPB154-GW-082014-558-560	WG	ACETONE	9.6	2.5	UG/L	J	c,l

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082014-558-560	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082014-558-560	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082014-578-580	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	120	0.50	UG/L	J	c,l
VPB154-GW-082014-578-580	WG	1,1-DICHLOROETHENE	39	0.50	UG/L	J	c
VPB154-GW-082014-578-580	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082014-578-580	WG	ACETONE	8.3	2.5	UG/L	J	c,l
VPB154-GW-082014-578-580	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082014-578-580	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082014-578-580	WG	TRICHLOROETHENE	1800	10	UG/L	J	s
VPB154-GW-082114-598-600	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	41	0.50	UG/L	J	c,l
VPB154-GW-082114-598-600	WG	1,1-DICHLOROETHENE	14	0.50	UG/L	J	c
VPB154-GW-082114-598-600	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082114-598-600	WG	2-BUTANONE	4.5	2.5	UG/L	J	c
VPB154-GW-082114-598-600	WG	ACETONE	12	2.5	UG/L	J	c,l
VPB154-GW-082114-598-600	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082114-598-600	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-082114-598-600	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082114-598-600	WG	TRICHLOROETHENE	350	5.0	UG/L	J	s
VPB154-GW-082114-618-620	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	70	0.50	UG/L	J	c,l
VPB154-GW-082114-618-620	WG	1,1-DICHLOROETHENE	44	0.50	UG/L	J	c
VPB154-GW-082114-618-620	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082114-618-620	WG	2-BUTANONE	2.3	2.5	UG/L	J	c
VPB154-GW-082114-618-620	WG	ACETONE	10	2.5	UG/L	J	c,l
VPB154-GW-082114-618-620	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082114-618-620	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082114-618-620	WG	TRICHLOROETHENE	810	5.0	UG/L	J	s
VPB154-GW-082114-638-640	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	69	0.50	UG/L	J	c,l
VPB154-GW-082114-638-640	WG	1,1-DICHLOROETHENE	29	0.50	UG/L	J	c
VPB154-GW-082114-638-640	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GW-082114-638-640	WG	2-BUTANONE	1.4	2.5	UG/L	J	c
VPB154-GW-082114-638-640	WG	ACETONE	6.2	2.5	UG/L	J	c,l
VPB154-GW-082114-638-640	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GW-082114-638-640	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082114-638-640	WG	TRICHLOROETHENE	1800	10	UG/L	J	s

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GWD-082114	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	70	0.50	UG/L	J	c,l
VPB154-GWD-082114	WG	1,1-DICHLOROETHENE	28	0.50	UG/L	J	c
VPB154-GWD-082114	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-GWD-082114	WG	2-BUTANONE	1.5	2.5	UG/L	J	c
VPB154-GWD-082114	WG	ACETONE	6.2	2.5	UG/L	J	c,l
VPB154-GWD-082114	WG	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-GWD-082114	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GWD-082114	WG	TRICHLOROETHENE	1600	10	UG/L	J	s
VPB154-TRIP BLANK-082114	WQ	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.50	UG/L	UJ	c
VPB154-TRIP BLANK-082114	WQ	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	c
VPB154-TRIP BLANK-082114	WQ	BROMOMETHANE		1.0	UG/L	UJ	c
VPB154-TRIP BLANK-082114	WQ	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-TRIP BLANK-082114	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 SH6777			

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: all samples in SDG SH6777			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG148878-1	TOTAL ORGANIC CARBON	0.25	0.50	MG/L	VPB154-EB-082014
WG148777-2	CARBON DISULFIDE	0.32	0.50	UG/L	VPB154-GW-081914-518-520 VPB154-GW-082114-598-600 VPB154-TRIP BLANK-082114

Table A-4 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-TRIP BLANK-082114	CHLOROMETHANE	0.86	1.0	UG/L	VPB154-GW-081914-518-520 VPB154-GW-082114-598-600

Table A-5 - Surrogates

Sample ID	Surrogate	% Recovery	Lower Limit	Upper Limit
VPB154-GW-082014-578-580	1,2-DICHLOROETHANE-D4	125	70	120
VPB154-GW-082114-598-600	1,2-DICHLOROETHANE-D4	126	70	120
VPB154-GW-082114-618-620	1,2-DICHLOROETHANE-D4	123	70	120
VPB154-GW-082114-638-640	1,2-DICHLOROETHANE-D4	126	70	120
VPB154-GWD-082114	1,2-DICHLOROETHANE-D4	126	70	120

Table A-6 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG148777-1	ACETONE	141	40	140	VPB154-GW-081914-503-505 VPB154-GW-081914-518-520 VPB154-GW-082014-538-540 VPB154-GW-082014-558-560 VPB154-GW-082014-578-580 VPB154-GW-082114-598-600 VPB154-GW-082114-618-620 VPB154-GW-082114-638-640 VPB154-GWD-082114
WG148777-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	146	73	126	VPB154-GW-081914-503-505 VPB154-GW-081914-518-520 VPB154-GW-082014-538-540 VPB154-GW-082014-558-560 VPB154-GW-082014-578-580 VPB154-GW-082114-598-600 VPB154-GW-082114-618-620 VPB154-GW-082114-638-640 VPB154-GWD-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
bt	Trip 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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Fax: (207) 775-4029

CHAIN of CUSTODY

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Page ____ of ____

Client: Resolution Consultants
Contact: E. Vivandou
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 / 66266526
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Vincent Vavrichio / V.A.
Copies To:

LAB USE ONLY
WORK ORDER #: 5H6777
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.	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
	UPB154-GW-081914-503-505	8/19/14 / 1155	GW	3	3									
	~~UPB154-GW-081914-508-510~~	~~8/19/14 / 1400~~												
	UPB154-GW-081914-518-520	8/19/14 / 1460	GW	3	3									
	UPB154-GW-082014-538-540	8/20/14 / 950	GW	3	3									
	UPB154-GW-082014-558-560	8/20/14 / 1200	GW	3	3									
	UPB154-EB-082014	8/20/14 / 1340	W	6	3	3								
	UPB154-GW-082014-578-580	8/20/14 / 1415	GW	3	3									
	UPB154-GW-082014-598-600	8/21/14 / 1000	GW	3	3									
	UPB154-GW-082114-618-620	8/21/14 / 1210	GW	3	3									
	UPB154-GW-082114-618-640	8/21/14 / 1415	GW	3	3									
	UPB154 Trip Blank-082114	8/18/14 / 1410	W	3	3									
	UPB154-GWD-082114	8/21/14 /	GW	3	3									
		/												
		/												
		/												
		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
V.A.	8/21/14 1630	Fedex			8-22-14 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.

ORIGINAL 0000012

KAS-COC1

Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-5
Client ID: VPB154-EB-082014
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8691.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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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12/29/14

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-5
Client ID: VPB154-EB-082014
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8691.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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	~~UB~~ 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~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.7	%					
Toluene-d8		95.4	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		102.	%					

12/29/14

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

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

Lab Sample ID: SH6777-5
Report Date: 09-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH6777

Sample Description	Matrix	Date Sampled	Date Received
VPB154-EB-082014	AQ	20-AUG-14	22-AUG-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	~~10.25~~ mg/L 1.0 U	1.0	0.10	.5	SM5310B	WG148878	22-AUG-14 22:49:41	N/A	N/A	

12/29/14

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-1
Client ID: 154-081914-503-505
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8692.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane		2.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~J~~ U	~~0.57~~ 2.0	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	J	2.9	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	~~J~~ J	20	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	8.4	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		2.2	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.4	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.53	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		160	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	J	0.40	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: SH6777-1
Client ID: 154-081914-503-505
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8692.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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	~~UJ~~ 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)		2.2	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		93.9	%					
Toluene-d8		94.4	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		101.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-2
Client ID: 154-081914-518-520
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8693.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.66	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~~ 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	J	5.5	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.35~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ J	26	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	8.3	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	J	0.79	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.3	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.74	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.41	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	~~J~~	~~350~~ 340	ug/L	~~1~~ 8	1	~~1.0~~ 8	~~0.28~~ 2.2	~~0.50~~ 4.0
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	J	0.50	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		3.4	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: SH6777-2
Client ID: 154-081914-518-520
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8693.D

Sample Date: 19-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		2.3	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		93.5	%					
Toluene-d8		95.2	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		100.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-3
Client ID: 154-082014-538-540
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8694.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.49	ug/L	1	2	2.0	0.24	1.0
Chloromethane	~~J~~ U	~~0.54~~ 2.0	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~~ U J	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	J	0.42	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	18	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	~~J~~ J	61	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	20	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		2.6	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		4.4	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.1	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.87	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~J~~ J	3.8	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	~~D~~	~~860~~ 970	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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		1.1	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		12	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: SH6777-3
Client ID: 154-082014-538-540
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8694.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		4.4	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		92.6	%					
Toluene-d8		93.2	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		104.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-4
Client ID: 154-082014-558-560
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8695.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.49	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~~ 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	J	0.47	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	19	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	~~J~~ J	57	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	9.6	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		2.6	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		3.9	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.98	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		1.1	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~J~~ J	2.4	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		1.6	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	~~E~~	~~810~~ 900	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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	J	0.98	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		10	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		6.5	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: SH6777-4
Client ID: 154-082014-558-560
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8695.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		3.9	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		92.7	%					
Toluene-d8		94.2	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		105.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-6
Client ID: 154-082014-578-580
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8696.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.79	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~~ 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	J	0.80	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	39	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	~~E~~ J	120	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	~~E~~ J	8.3	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		3.6	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		5.2	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.2	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		2.6	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	~~E~~ J	~~1200~~ 1800	ug/L	~~1~~ 20	1	~~1.0~~ 20	~~0.28~~ 5.6	~~0.50~~ 10
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		1.8	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		8.4	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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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-6
Client ID: 154-082014-578-580
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8696.D

Sample Date: 20-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		5.2	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		91.7	%					
Toluene-d8		93.6	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		104.	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-7
Client ID: 154-082114-598-600
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8697.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.87	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~~ 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	J	14	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ U	~~0.27~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ J	41	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	12	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		1.8	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.2	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.6	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		1.3	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~J~~ J	4.5	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	~~E~~ J	~~100~~ 350	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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		1.1	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene	J	0.40	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: SH6777-7
Client ID: 154-082114-598-600
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8697.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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)		2.2	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		96.8	%					
Toluene-d8		97.8	%					
1,2-Dichloroethane-d4	*	120.	%					
Dibromofluoromethane		108.	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-8
Client ID: 154-082114-618-620
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8698.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.54	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~~ 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	J	0.37	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	44	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	~~J~~ J	70	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	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		4.7	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		3.1	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.5	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		3.7	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~J~~ J	2.3	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~~ J	~~770~~ 810	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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		1.6	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		1.7	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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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-8
Client ID: 154-082114-618-620
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8698.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		3.1	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		94.4	%					
Toluene-d8		96.1	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		106.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH melac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-9
Client ID: 154-082114-638-640
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8699.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.39	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~~ 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	J	0.40	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	29	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~~ J	69	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~~ J	6.2	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		4.5	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		4.4	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.3	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		2.5	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ J	1.4	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	~~E~~ J	~~1200~~ 1800	ug/L	~~1~~ 20	1	~~1.0~~ 20	~~0.28~~ 5.6	~~0.50~~ 10
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		1.6	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		5.6	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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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-9
Client ID: 154-082114-638-640
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8699.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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)		4.4	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		91.8	%					
Toluene-d8		92.8	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		104.	%					

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ANALYTICAL SERVICES

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-11
Client ID: VPB154-GWD-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8700.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-AUG-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	J	0.34	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~~ 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	J	0.42	ug/L	1	2	2.0	0.24	1.0
1,1-Dichloroethene	J	28	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~~ J	70	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~~ J	6.2	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		4.4	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		4.1	ug/L	1	1	1.0	0.21	0.50
Chloroform		1.3	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane		2.5	ug/L	1	1	1.0	0.20	0.50
2-Butanone	~~U~~ J	1.5	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	~~E~~ J	~~1200~~ 1600	ug/L	~~1~~ 20	1	~~1.0~~ 20	~~0.28~~ 5.6	~~0.50~~ 10
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		1.6	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		5.6	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: SH6777-11
Client ID: VPB154-GWD-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8700.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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	~~UJ~~ 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)		4.1	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		92.1	%					
Toluene-d8		94.2	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		107.	%					

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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-10
Client ID: VPB154-TB-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8690.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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	~~J~~ U	~~0.86~~ 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	0.25	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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ANALYTICAL SERVICES

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6777-10
Client ID: VPB154-TB-082114
Project: Navy Clean WE15-03-06 NW
SDG: SH6777
Lab File ID: C8690.D

Sample Date: 21-AUG-14
Received Date: 22-AUG-14
Extract Date: 22-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG148777

Analysis Date: 22-AUG-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 26-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~~ 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~~ UJ	0.75	ug/L	1	1	1.0	0.50	0.75
P-Bromofluorobenzene		94.8	%					
Toluene-d8		96.0	%					
1,2-Dichloroethane-d4		112.	%					
Dibromofluoromethane		103.	%					

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage
Laboratory:	Katahdin Analytical
Service Request:	SH6880
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS)
Validation Level:	3
AECOM Project Number:	60266526.SA.DV
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Reviewed by:	Lori Herberich/RESCON — File Name: SH6880_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
VPB154-GW-082214-663-665	Groundwater
VPB154-GW-082214-678-680	Groundwater
VPB154-GW-082514-698-700	Groundwater
VPB154-GW-082514-718-720	Groundwater
VPB154-GW-082514-738-740	Groundwater
VPB154-TRIP BLANK-082514	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/trip blanks/equipment blanks
- ✗ Surrogate spike recoveries
- ✗ Matrix spike (MS) and/or matrix spike duplicate (MSD) results

✗	Laboratory control sample (LCS) results
NA	Field duplicate results
✓	Internal standards 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.

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

- For sample VPB154-GW-082514-698-700 the laboratory decanted the liquid from one vial prior to analysis.
- For both samples VPB154-GW-082514-718-720 and VPB154-GW-082514-738-740, the laboratory decanted the water from three individual vials into one vial as a composite. Due to limited volume, the samples were analyzed at dilutions of 1:20 and 1:2, respectively.

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.

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
- the retention time method acceptance criteria were met.

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

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.**
* 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

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-5.

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) 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.
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.

Nonconformances are summarized in Attachment A in Table A-6.

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
VPB154-GW-082214-663-665	WG	1,1,1-TRICHLOROETHANE	2.0	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	84	0.50	UG/L	J	c,s,l
VPB154-GW-082214-663-665	WG	1,1,2-TRICHLOROETHANE	1.2	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	1,1-DICHLOROETHANE	2.6	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	1,1-DICHLOROETHENE	16	0.50	UG/L	J	c,s
VPB154-GW-082214-663-665	WG	1,2-DICHLOROETHENE, TOTAL	3.9	1.0	UG/L	J	s
VPB154-GW-082214-663-665	WG	2-BUTANONE	2.4	2.5	UG/L	J	c,s
VPB154-GW-082214-663-665	WG	ACETONE	10	2.5	UG/L	J	c,s
VPB154-GW-082214-663-665	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt
VPB154-GW-082214-663-665	WG	CARBON TETRACHLORIDE	2.4	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	CHLOROFORM	1.6	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	CIS-1,2-DICHLOROETHENE	3.9	0.50	UG/L	J	s
VPB154-GW-082214-663-665	WG	DICHLORODIFLUOROMETHANE	0.26	1.0	UG/L	J	s
VPB154-GW-082214-663-665	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082214-678-680	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	21	0.50	UG/L	J	c,l
VPB154-GW-082214-678-680	WG	1,1-DICHLOROETHENE	3.2	0.50	UG/L	J	c
VPB154-GW-082214-678-680	WG	ACETONE	8.7	2.5	UG/L	J	c
VPB154-GW-082214-678-680	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	c,bt
VPB154-GW-082214-678-680	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	c
VPB154-GW-082514-698-700	WG	1,1,1-TRICHLOROETHANE	0.60	0.50	UG/L	J	mc,s,m
VPB154-GW-082514-698-700	WG	1,1,2,2-TETRACHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	30	0.50	UG/L	J	mc,c,s,l,m

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-698-700	WG	1,1,2-TRICHLOROETHANE	0.68	0.50	UG/L	J	mc,s
VPB154-GW-082514-698-700	WG	1,1-DICHLOROETHANE	1.5	0.50	UG/L	J	mc,s,m
VPB154-GW-082514-698-700	WG	1,1-DICHLOROETHENE	6.0	0.50	UG/L	J	mc,c,s,m
VPB154-GW-082514-698-700	WG	1,2,4-TRICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,2-DIBROMO-3-CHLOROPROPANE		0.75	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,2-DIBROMOETHANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,2-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,2-DICHLOROETHANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,2-DICHLOROETHENE, TOTAL	2.9	1.0	UG/L	J	mc,s,m
VPB154-GW-082514-698-700	WG	1,2-DICHLOROPROPANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,3-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	1,4-DICHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	2-BUTANONE	5.3	2.5	UG/L	J	mc,c,s
VPB154-GW-082514-698-700	WG	2-HEXANONE		2.5	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	4-METHYL-2-PENTANONE		2.5	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	ACETONE	26	2.5	UG/L	J	mc,c,s
VPB154-GW-082514-698-700	WG	BENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	BROMODICHLOROMETHANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	BROMOFORM		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	BROMOMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	CARBON DISULFIDE		1.0*	UG/L	UJ	mc,c,bt
VPB154-GW-082514-698-700	WG	CARBON TETRACHLORIDE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-698-700	WG	CHLOROBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	CHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	CHLOROFORM	1.2	0.50	UG/L	J	mc,s
VPB154-GW-082514-698-700	WG	CHLOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	CIS-1,2-DICHLOROETHENE	2.9	0.50	UG/L	J	mc,s,m
VPB154-GW-082514-698-700	WG	CIS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	CYCLOHEXANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	DIBROMOCHLOROMETHANE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	DICHLORODIFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	ETHYLBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	ISOPROPYLBENZENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	M- AND P-XYLENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	METHYL ACETATE		0.75	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	METHYL CYCLOHEXANE		0.50	UG/L	UJ	mc,c
VPB154-GW-082514-698-700	WG	METHYL TERT-BUTYL ETHER		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	METHYLENE CHLORIDE		2.5	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	O-XYLENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	STYRENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	TETRACHLOROETHENE	4.6	0.50	UG/L	J	mc,s
VPB154-GW-082514-698-700	WG	TOLUENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	TRANS-1,2-DICHLOROETHENE		0.50	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	TRANS-1,3-DICHLOROPROPENE		0.50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-698-700	WG	TRICHLOROETHENE	700	10	UG/L	J	mc
VPB154-GW-082514-698-700	WG	TRICHLOROFLUOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	VINYL CHLORIDE		1.0	UG/L	UJ	mc
VPB154-GW-082514-698-700	WG	XYLENES, TOTAL		1.5	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,1,1-TRICHLOROETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,1,2,2-TETRACHLOROETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		10	UG/L	UJ	mc,c
VPB154-GW-082514-718-720	WG	1,1,2-TRICHLOROETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,1-DICHLOROETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,1-DICHLOROETHENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2,4-TRICHLOROBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DIBROMO-3-CHLOROPROPANE		15	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DIBROMOETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DICHLOROBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DICHLOROETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DICHLOROETHENE, TOTAL		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,2-DICHLOROPROPANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,3-DICHLOROBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	1,4-DICHLOROBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	2-BUTANONE		50	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	2-HEXANONE		50	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	4-METHYL-2-PENTANONE		50	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-718-720	WG	ACETONE		50	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	BENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	BROMODICHLOROMETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	BROMOFORM		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	BROMOMETHANE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CARBON DISULFIDE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CARBON TETRACHLORIDE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CHLOROBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CHLOROETHANE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CHLOROFORM		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CHLOROMETHANE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CIS-1,2-DICHLOROETHENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CIS-1,3-DICHLOROPROPENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	CYCLOHEXANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	DIBROMOCHLOROMETHANE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	DICHLORODIFLUOROMETHANE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	ETHYLBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	ISOPROPYLBENZENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	M- AND P-XYLENE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	METHYL ACETATE		15	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	METHYL CYCLOHEXANE		10	UG/L	UJ	mc,c
VPB154-GW-082514-718-720	WG	METHYL TERT-BUTYL ETHER		10	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-718-720	WG	METHYLENE CHLORIDE		50	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	O-XYLENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	STYRENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TETRACHLOROETHENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TOLUENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TRANS-1,2-DICHLOROETHENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TRANS-1,3-DICHLOROPROPENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TRICHLOROETHENE		10	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	TRICHLOROFLUOROMETHANE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	VINYL CHLORIDE		20	UG/L	UJ	mc
VPB154-GW-082514-718-720	WG	XYLENES, TOTAL		30	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,1,1-TRICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,1,2,2-TETRACHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		1.0	UG/L	UJ	mc,c
VPB154-GW-082514-738-740	WG	1,1,2-TRICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,1-DICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,1-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2,4-TRICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2-DIBROMO-3-CHLOROPROPANE		1.5	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2-DIBROMOETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2-DICHLOROETHANE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-738-740	WG	1,2-DICHLOROETHENE, TOTAL		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,2-DICHLOROPROPANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,3-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	1,4-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	2-BUTANONE		5.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	2-HEXANONE		5.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	4-METHYL-2-PENTANONE		5.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	ACETONE	15	5.0	UG/L	J	mc,c
VPB154-GW-082514-738-740	WG	BENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	BROMODICHLOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	BROMOFORM		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	BROMOMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CARBON DISULFIDE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CARBON TETRACHLORIDE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CHLOROBENZENE	0.69	1.0	UG/L	J	mc
VPB154-GW-082514-738-740	WG	CHLOROETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CHLOROFORM		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CHLOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CIS-1,2-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CIS-1,3-DICHLOROPROPENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	CYCLOHEXANE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	DIBROMOCHLOROMETHANE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082514-738-740	WG	DICHLORODIFLUOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	ETHYLBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	ISOPROPYLBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	M- AND P-XYLENE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	METHYL ACETATE		1.5	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	METHYL CYCLOHEXANE		1.0	UG/L	UJ	mc,c
VPB154-GW-082514-738-740	WG	METHYL TERT-BUTYL ETHER		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	METHYLENE CHLORIDE		5.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	O-XYLENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	STYRENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	TETRACHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	TOLUENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	TRANS-1,2-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	TRANS-1,3-DICHLOROPROPENE		1.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	TRICHLOROETHENE	1.4	1.0	UG/L	J	mc
VPB154-GW-082514-738-740	WG	TRICHLOROFLUOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	VINYL CHLORIDE		2.0	UG/L	UJ	mc
VPB154-GW-082514-738-740	WG	XYLENES, TOTAL		3.0	UG/L	UJ	mc
VPB154-TRIP BLANK-082514	WQ	2-BUTANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-082514	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-082514	WQ	CARBON DISULFIDE		1.0*	UG/L	U	bt

*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: VPB154-GW-082214-663-665,VPB154-GW-082214-678-680,VPB154-GW-082514-698-700,VPB154-GW-082514-718-720,VPB154-GW-082514-738-740			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG149034-4	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	39	≤20%
	METHYLCYCLOHEXANE	29	≤20%
Associated samples: VPB154-GW-082214-663-665,VPB154-GW-082214-678-680,VPB154-GW-082514-698-700,VPB154-GW-082514-718-720,VPB154-GW-082514-738-740			
WG149439-4	2-BUTANONE	-21	≤20%
	2-HEXANONE	-24	≤20%
Associated samples: VPB154-TRIP BLANK-082514			

Table A-3 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-TRIP BLANK-082514	CARBON DISULFIDE	0.32	0.50	UG/L	VPB154-GW-082214-663-665, VPB154-GW-082214-678-680, VPB154-GW-082514-698-700

Table A-4 - Surrogates

Sample ID	Surrogate	% Recovery	Lower Limit	Upper Limit
VPB154-GW-082514-698-700	1,2-DICHLOROETHANE-D4	122	70	120
VPB154-GW-082214-663-665	1,2-DICHLOROETHANE-D4	121	70	120
VPB154-GW-082514-718-720	1,2-DICHLOROETHANE-D4	122	70	120

Table A-5 - Matrix Spikes

Sample ID	Compound	MS % Recovery	MSD % Recovery	Lower Limit	Upper Limit	RPD	RPD Limit
VPB154-GW-082514-698-700	CYCLOHEXANE	148	147	71	133	<1	30

Sample ID	Compound	MS % Recovery	MSD % Recovery	Lower Limit	Upper Limit	RPD	RPD Limit
VPB154-GW-082514-698-700	O-XYLENE	120	122	80	120	1	30
VPB154-GW-082514-698-700	XYLENES, TOTAL	121	122	89	116	0	30
VPB154-GW-082514-698-700	CIS-1,2-DICHLOROETHENE	125	129	70	125	3	30
VPB154-GW-082514-698-700	METHYL TERT-BUTYL ETHER	134	133	65	125	1	30
VPB154-GW-082514-698-700	1,2-DICHLOROETHENE, TOTAL	126	130	84	121	3	30
VPB154-GW-082514-698-700	2-HEXANONE	150	162	55	130	8	30
VPB154-GW-082514-698-700	BENZENE	119	121	80	120	2	30
VPB154-GW-082514-698-700	1,1,1-TRICHLOROETHANE	135	131	65	130	3	30
VPB154-GW-082514-698-700	4-METHYL-2-PENTANONE	139	132	60	135	5	30
VPB154-GW-082514-698-700	METHYL CYCLOHEXANE	174	173	73	125	1	30
VPB154-GW-082514-698-700	BROMODICHLOROMETHANE	127	123	75	120	3	30
VPB154-GW-082514-698-700	1,1-DICHLOROETHANE	138	135	70	135	2	30
VPB154-GW-082514-698-700	1,1-DICHLOROETHENE	141	146	70	130	3	30
VPB154-GW-082514-698-700	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	153	165	73	126	6	30
VPB154-GW-082514-698-700	1,2-DICHLOROPROPANE	126	127	75	125	0	30
VPB154-GW-082514-698-700	TRICHLOROETHENE	0	0	70	125	5	30
VPB154-GW-082514-698-700	METHYL ACETATE	140	132	70	132	6	30

Table A-6 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG149034-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	139	73	126	VPB154-GW-082214-663-665 VPB154-GW-082214-678-680 VPB154-GW-082514-698-700

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
bt	Trip 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

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Page ____ of ____

Client: Resolution Consultants
Contact: E. Vivaudou
Phone #: (845) 425-1980
Fax #: ( )

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

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

Bill (if different than above):
Address:

Sampler (Print / Sign): Vincent Varricchio [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: SH6880
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 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
	VPB154-GW-082214-663-665	8/22/14 / 1120	GW	3	3									
	VPB154-GW-082214-678-680	8/22/14 / 1325	GW	3	3									
	VPB154-GW-082514-698-700	8/25/14 / 1010	GW	3	3									
	VPB154-GW-MSMSD-082514-698-700	8/25/14 / 1010	GW	6	6									
	VPB154-GW-082514-718-720	8/25/14 / 1240	GW	3	3									
	VPB154-Trip Blank-082514	8/18/14 / 1430	W	3	3									
	VPB154-GW-082514-738-740	8/25/14 / 1515	GW	3	3									
		/												
		/												
		/												
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS
VPB154-GW-082514-718-720 - Very Silty also VPB154-GW-082514-738-740

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/25/14 1650	FedEx			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	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: SH6880-1
Client ID: 154-082214-663-665
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8765.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	~~J~~ J	0.26	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	J	16	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	~~J~~ UJ	~~0.29~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	~~J~~ J	84	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	J	2.6	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	J	3.9	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	1.6	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	2.0	ug/L	1	1	1.0	0.20	0.50
2-Butanone	J J	2.4	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	J	2.4	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	~~E~~	~~620~~ 600	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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	J	1.2	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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R 12/29/14

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SDG: SH6880
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Analysis Date: 27-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	~~UL~~ 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)	J	3.9	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		86.8	%					
Toluene-d8		91.0	%					
1,2-Dichloroethane-d4	*	121.	%					
Dibromofluoromethane		107.	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-2
Client ID: 154-082214-678-680
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8766.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	J	3.2	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	~~J~~ J	21	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	8.7	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	J	0.97	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene		2.1	ug/L	1	1	1.0	0.21	0.50
Chloroform	J	0.78	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	J	0.37	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	~~E~~	~~580~~ 550	ug/L	~~1~~ 10	1	~~1.0~~ 10	~~0.28~~ 2.8	~~0.50~~ 5.0
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	J	0.53	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		2.8	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	J	0.39	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

ACCREDITED IN ACCORDANCE WITH nelac
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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-2
Client ID: 154-082214-678-680
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8766.D

Sample Date: 22-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	~~UL~~ 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)		2.1	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		84.0	%					
Toluene-d8		88.4	%					
1,2-Dichloroethane-d4	*	120.	%					
Dibromofluoromethane		106.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-3
Client ID: 154-082514-698-700
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8767.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	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	MM	J	6.0	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	UJ	~~0.33~~ 1.0	ug/L	1	1	1.0	0.25	0.50
Freon-113	LMM	J	30	ug/L	1	1	1.0	0.31	0.50
Methylene Chloride	U	UJ	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone		J	26	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	UMM	UJ	0.50	ug/L	1	1	1.0	0.36	0.50
1,1-Dichloroethane	MM	J	1.5	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	MM	J	2.9	ug/L	1	1	1.0	0.21	0.50
Chloroform		J	1.2	ug/L	1	1	1.0	0.32	0.50
1,1,1-Trichloroethane	~~J~~MM	J	0.60	ug/L	1	1	1.0	0.20	0.50
2-Butanone		J	5.3	ug/L	1	5	5.0	1.3	2.5
Cyclohexane	UMM	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	UM		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	~~EMM~~	J	~~900~~ 700	ug/L	~~1~~ 20	1	~~10~~ 20	~~0.28~~ 5.6	~~0.50~~ 10
1,2-Dichloropropane	UMM	UJ	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	UMM		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	UM		0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	UM		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	J	J	0.68	ug/L	1	1	1.0	0.33	0.50
Tetrachloroethene		J	4.6	ug/L	1	1	1.0	0.40	0.50
Dibromochloromethane	U	UJ	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	UMM		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: SH6880-3
Client ID: 154-082514-698-700
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8767.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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)	UMM 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~~ UJ	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	UMM	0.75	ug/L	1	1	1.0	0.53	0.75
Methylcyclohexane	ULMM	0.50	ug/L	1	1	1.0	0.30	0.50
o-Xylene	UMM	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)	MM J	2.9	ug/L	1	2	2.0	0.21	1.0
1,2-Dibromoethane	U UJ	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		87.9	%					
Toluene-d8		89.5	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		106.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-4DL
Client ID: 154-082514-718-720
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8763.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	UJ	20	ug/L	20	2	40.	4.8	20.
Chloromethane	U		20	ug/L	20	2	40.	7.2	20.
Vinyl Chloride	U		20	ug/L	20	2	40.	5.0	20.
Bromomethane	U		20	ug/L	20	2	40.	9.8	20.
Chloroethane	U		20	ug/L	20	2	40.	11.	20.
Trichlorofluoromethane	U		20	ug/L	20	2	40.	4.8	20.
1,1-Dichloroethene	U		10	ug/L	20	1	20.	7.0	10.
Carbon Disulfide	U		10	ug/L	20	1	20.	5.0	10.
Freon-113	UL		10	ug/L	20	1	20.	6.2	10.
Methylene Chloride	U		50	ug/L	20	5	100	23.	50.
Acetone	U		50	ug/L	20	5	100	44.	50.
trans-1,2-Dichloroethene	U		10	ug/L	20	1	20.	5.0	10.
Methyl tert-butyl Ether	U		10	ug/L	20	1	20.	7.2	10.
1,1-Dichloroethane	U		10	ug/L	20	1	20.	4.2	10.
cis-1,2-Dichloroethene	U		10	ug/L	20	1	20.	4.2	10.
Chloroform	U		10	ug/L	20	1	20.	6.4	10.
1,1,1-Trichloroethane	U		10	ug/L	20	1	20.	4.0	10.
2-Butanone	U		50	ug/L	20	5	100	26.	50.
Cyclohexane	U		10	ug/L	20	1	20.	6.2	10.
Carbon Tetrachloride	U		10	ug/L	20	1	20.	4.4	10.
Benzene	U		10	ug/L	20	1	20.	5.2	10.
1,2-Dichloroethane	U		10	ug/L	20	1	20.	4.0	10.
Trichloroethene	U		10	ug/L	20	1	20.	5.6	10.
1,2-Dichloropropane	U		10	ug/L	20	1	20.	5.0	10.
Bromodichloromethane	U		10	ug/L	20	1	20.	6.6	10.
cis-1,3-Dichloropropene	U		10	ug/L	20	1	20.	3.8	10.
Toluene	U		10	ug/L	20	1	20.	5.4	10.
4-Methyl-2-Pentanone	U		50	ug/L	20	5	100	26.	50.
trans-1,3-Dichloropropene	U		10	ug/L	20	1	20.	4.0	10.
1,1,2-Trichloroethane	U		10	ug/L	20	1	20.	6.6	10.
Tetrachloroethene	U		10	ug/L	20	1	20.	8.0	10.
Dibromochloromethane	U		10	ug/L	20	1	20.	6.0	10.
2-Hexanone	U		50	ug/L	20	5	100	34.	50.
Chlorobenzene	U		10	ug/L	20	1	20.	4.4	10.
Ethylbenzene	U		10	ug/L	20	1	20.	4.2	10.

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Client: ENSAFE
Lab ID: SH6880-4DL
Client ID: 154-082514-718-720
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8763.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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 UJ	30	ug/L	20	3	60.	5.0	30.
Styrene	U	10	ug/L	20	1	20.	4.6	10.
Bromoform	U	10	ug/L	20	1	20.	4.6	10.
Isopropylbenzene	U	10	ug/L	20	1	20.	4.6	10.
1,1,2,2-Tetrachloroethane	U	10	ug/L	20	1	20.	7.6	10.
1,3-Dichlorobenzene	U	10	ug/L	20	1	20.	5.2	10.
1,4-Dichlorobenzene	U	10	ug/L	20	1	20.	4.8	10.
1,2-Dichlorobenzene	U	10	ug/L	20	1	20.	3.0	10.
1,2,4-Trichlorobenzene	U	10	ug/L	20	1	20.	7.4	10.
Methyl Acetate	U	15	ug/L	20	1	20.	11.	15.
Methylcyclohexane	UL	10	ug/L	20	1	20.	6.0	10.
o-Xylene	U	10	ug/L	20	1	20.	5.0	10.
M+P-Xylenes	U	20	ug/L	20	2	40.	12.	20.
1,2-Dichloroethylene (Total)	U	20	ug/L	20	2	40.	4.2	20.
1,2-Dibromoethane	U	10	ug/L	20	1	20.	4.4	10.
1,2-Dibromo-3-Chloropropane	U L	15	ug/L	20	1	20.	10.	15.
P-Bromofluorobenzene		89.2	%					
Toluene-d8		94.6	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		107.	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-6DL
Client ID: 154-082514-738-740
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8764.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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	UJ	2.0	ug/L	2	2	4.0	0.48	2.0
Chloromethane	U		2.0	ug/L	2	2	4.0	0.72	2.0
Vinyl Chloride	U		2.0	ug/L	2	2	4.0	0.50	2.0
Bromomethane	U		2.0	ug/L	2	2	4.0	0.98	2.0
Chloroethane	U		2.0	ug/L	2	2	4.0	1.1	2.0
Trichlorofluoromethane	U		2.0	ug/L	2	2	4.0	0.48	2.0
1,1-Dichloroethene	U		1.0	ug/L	2	1	2.0	0.70	1.0
Carbon Disulfide	U		1.0	ug/L	2	1	2.0	0.50	1.0
Freon-113	UL		1.0	ug/L	2	1	2.0	0.62	1.0
Methylene Chloride	U		5.0	ug/L	2	5	10.	2.3	5.0
Acetone		J	15	ug/L	2	5	10.	4.4	5.0
trans-1,2-Dichloroethene	U	UJ	1.0	ug/L	2	1	2.0	0.50	1.0
Methyl tert-butyl Ether	U		1.0	ug/L	2	1	2.0	0.72	1.0
1,1-Dichloroethane	U		1.0	ug/L	2	1	2.0	0.42	1.0
cis-1,2-Dichloroethene	U		1.0	ug/L	2	1	2.0	0.42	1.0
Chloroform	U		1.0	ug/L	2	1	2.0	0.64	1.0
1,1,1-Trichloroethane	U		1.0	ug/L	2	1	2.0	0.40	1.0
2-Butanone	U		5.0	ug/L	2	5	10.	2.6	5.0
Cyclohexane	U		1.0	ug/L	2	1	2.0	0.62	1.0
Carbon Tetrachloride	U		1.0	ug/L	2	1	2.0	0.44	1.0
Benzene	U		1.0	ug/L	2	1	2.0	0.52	1.0
1,2-Dichloroethane	U		1.0	ug/L	2	1	2.0	0.40	1.0
Trichloroethene		J	1.4	ug/L	2	1	2.0	0.56	1.0
1,2-Dichloropropane	U	UJ	1.0	ug/L	2	1	2.0	0.50	1.0
Bromodichloromethane	U		1.0	ug/L	2	1	2.0	0.66	1.0
cis-1,3-Dichloropropene	U		1.0	ug/L	2	1	2.0	0.38	1.0
Toluene	U		1.0	ug/L	2	1	2.0	0.54	1.0
4-Methyl-2-Pentanone	U		5.0	ug/L	2	5	10.	2.6	5.0
trans-1,3-Dichloropropene	U		1.0	ug/L	2	1	2.0	0.40	1.0
1,1,2-Trichloroethane	U		1.0	ug/L	2	1	2.0	0.66	1.0
Tetrachloroethene	U		1.0	ug/L	2	1	2.0	0.80	1.0
Dibromochloromethane	U		1.0	ug/L	2	1	2.0	0.60	1.0
2-Hexanone	U		5.0	ug/L	2	5	10.	3.4	5.0
Chlorobenzene		J	0.69	ug/L	2	1	2.0	0.44	1.0
Ethylbenzene	U	UJ	1.0	ug/L	2	1	2.0	0.42	1.0

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12/29/14

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-6DL
Client ID: 154-082514-738-740
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8764.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 27-AUG-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149034

Analysis Date: 27-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 UJ	3.0	ug/L	2	3	6.0	0.50	3.0
Styrene	U	1.0	ug/L	2	1	2.0	0.46	1.0
Bromoform	U	1.0	ug/L	2	1	2.0	0.46	1.0
Isopropylbenzene	U	1.0	ug/L	2	1	2.0	0.46	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	2	1	2.0	0.76	1.0
1,3-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.52	1.0
1,4-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.48	1.0
1,2-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.30	1.0
1,2,4-Trichlorobenzene	U	1.0	ug/L	2	1	2.0	0.74	1.0
Methyl Acetate	U	1.5	ug/L	2	1	2.0	1.1	1.5
Methylcyclohexane	UL	1.0	ug/L	2	1	2.0	0.60	1.0
o-Xylene	U	1.0	ug/L	2	1	2.0	0.50	1.0
M+P-Xylenes	U	2.0	ug/L	2	2	4.0	1.2	2.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	2	2	4.0	0.42	2.0
1,2-Dibromoethane	U	1.0	ug/L	2	1	2.0	0.44	1.0
1,2-Dibromo-3-Chloropropane	U	1.5	ug/L	2	1	2.0	1.0	1.5
P-Bromofluorobenzene		90.4	%					
Toluene-d8		94.6	%					
1,2-Dichloroethane-d4		119.	%					
Dibromofluoromethane		104.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH6880-5RA
Client ID: VPB154-TB-082514
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8841.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	J	0.53	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	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~~ 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	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: SH6880-5RA
Client ID: VPB154-TB-082514
Project: Navy Clean WE15-03-06 NW
SDG: SH6880
Lab File ID: C8841.D

Sample Date: 25-AUG-14
Received Date: 26-AUG-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		94.0	%					
1,2-Dichloroethane-d4		104.	%					
Dibromofluoromethane		93.0	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage
Laboratory:	Katahdin Analytical
Service Request:	SH7085
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: 12/05/2014
Reviewed by:	Lori Herberich/RESCON — File Name: SH7085_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 27 and 28, 2014.

Sample ID	Matrix/Sample Type
VPB154-GW-082714-763-765	Groundwater
VPB154-GW-082714-778-780	Groundwater
VPB154-GW-082814-798-800	Groundwater
VPB154-GW-082814-818-820	Groundwater
VPB154-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.

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.

The vials of sample VPB154-GW-082714-778-780 were mostly soil and had very little standing water. Therefore, each vial was decanted and composited into one vial and analyzed. Due to limited sample volume, the sample was analyzed at a dilution of 1:2. 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 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 Tables A-3 and 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.**
* 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.

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) non-detects 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
VPB154-GW-082714-763-765	WG	ACETONE	13	2.5	UG/L	J	c,l
VPB154-GW-082714-763-765	WG	CARBON DISULFIDE		1.0*	UG/L	U	bl
VPB154-GW-082714-778-780	WG	1,1,1-TRICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,1,2,2-TETRACHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,1,2-TRICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,1-DICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,1-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2,4-TRICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DIBROMO-3-CHLOROPROPANE		1.5	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DIBROMOETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DICHLOROETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DICHLOROETHENE, TOTAL		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,2-DICHLOROPROPANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,3-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	1,4-DICHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	2-BUTANONE		5.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	2-HEXANONE		5.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	4-METHYL-2-PENTANONE		5.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	ACETONE	38	5.0	UG/L	J	mc,c,l
VPB154-GW-082714-778-780	WG	BENZENE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082714-778-780	WG	BROMODICHLOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	BROMOFORM		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	BROMOMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CARBON DISULFIDE		2.0*	UG/L	UJ	mc,bl
VPB154-GW-082714-778-780	WG	CARBON TETRACHLORIDE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CHLOROBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CHLOROETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CHLOROFORM		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CHLOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CIS-1,2-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CIS-1,3-DICHLOROPROPENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	CYCLOHEXANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	DIBROMOCHLOROMETHANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	DICHLORODIFLUOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	ETHYLBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	ISOPROPYLBENZENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	M- AND P-XYLENE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	METHYL ACETATE		1.5	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	METHYL CYCLOHEXANE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	METHYL TERT-BUTYL ETHER		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	METHYLENE CHLORIDE		5.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	O-XYLENE		1.0	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-082714-778-780	WG	STYRENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TETRACHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TOLUENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TRANS-1,2-DICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TRANS-1,3-DICHLOROPROPENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TRICHLOROETHENE		1.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	TRICHLOROFLUOROMETHANE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	VINYL CHLORIDE		2.0	UG/L	UJ	mc
VPB154-GW-082714-778-780	WG	XYLENES, TOTAL		3.0	UG/L	UJ	mc
VPB154-GW-082814-798-800	WG	2-BUTANONE		2.5	UG/L	UJ	c
VPB154-GW-082814-798-800	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-082814-798-800	WG	ACETONE	13	2.5	UG/L	J	c,l
VPB154-GW-082814-798-800	WG	CARBON DISULFIDE		1.0*	UG/L	U	bt
VPB154-GW-082814-818-820	WG	2-BUTANONE		2.5	UG/L	UJ	c
VPB154-GW-082814-818-820	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-082814-818-820	WG	ACETONE	5.9	2.5	UG/L	J	c,l
VPB154-GW-082814-818-820	WG	CARBON DISULFIDE		1.0*	UG/L	U	bt
VPB154-TRIP BLANK-082814	WQ	CARBON DISULFIDE		1.0*	UG/L	U	bl

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 - Initial Calibration Verification Standard

ICV ID	Compound	% R	Limits
WG149371-7	ACETONE	173	80-120%
Associated samples: all samples in SDG SH7085			

Table A-2 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG149439-4	2-BUTANONE	-21	≤20%
	2-HEXANONE	-24	≤20%
Associated samples: VPB154-GW-082814-798-800, VPB154-GW-082814-818-820			

Table A-3 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG149371-9	CARBON DISULFIDE	0.40	0.50	UG/L	VPB154-GW-082714-763-765 VPB154-GW-082714-778-780 VPB154-TRIP BLANK-082814

Table A-4 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-TRIP BLANK-082814	CARBON DISULFIDE	0.35	0.50	UG/L	VPB154-GW-082814-798-800, VPB154-GW-082814-818-820

Table A-5 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG149439-1	ACETONE	146	40	140	VPB154-GW-082814-798-800 VPB154-GW-082814-818-820
WG149371-8	ACETONE	173	40	140	VPB154-GW-082714-763-765 VPB154-GW-082714-778-780

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
bt	Trip 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

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Page 1 of 1

Client: Resolution Consultants
Contact: E. Vivaldo
Phone #: (845) 425-4180
Fax #: ( )

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

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

Bill (if different than above):
Address:

Sampler (Print / Sign): Vincent Varicchio / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: SH7085
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.	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
	VPB154-GW-082714-763-765	8/27/14 / 1250	GW	3	3									
	VPB154-GW-082714-778-780	8/27/14 / 1455	GW	3	3									
	VPB154-GW-082814-798-800	8/28/14 / 1045	GW	3	3									
	VPB154-GW-082814-818-820	8/28/14 / 1340	GW	3	3									
	VPB154-TripBlank-082814	8/28/14 / 1450	W	3	3									
		/												
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/28/14 / 1400	[signature]	[signature]	9-28-14 / 1600	[signature] 8-29-14 0930
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-1
Client ID: 154-082714-763-765
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8824.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: 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~~ U	~~0.29~~ 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	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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12/09/14

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-1
Client ID: 154-082714-763-765
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8824.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: 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	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		90.8	%					
Toluene-d8		91.8	%					
1,2-Dichloroethane-d4		119.	%					
Dibromofluoromethane		104.	%					

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-2DL
Client ID: 154-082714-778-780
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8823.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: 04-SEP-14

Compound	Qualifier		Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	UJ	2.0	ug/L	2	2	4.0	0.48	2.0
Chloromethane	U		2.0	ug/L	2	2	4.0	0.72	2.0
Vinyl Chloride	U		2.0	ug/L	2	2	4.0	0.50	2.0
Bromomethane	U		2.0	ug/L	2	2	4.0	0.98	2.0
Chloroethane	U		2.0	ug/L	2	2	4.0	1.1	2.0
Trichlorofluoromethane	U		2.0	ug/L	2	2	4.0	0.48	2.0
1,1-Dichloroethene	U		1.0	ug/L	2	1	2.0	0.70	1.0
Carbon Disulfide			~~0.57~~ 2.0	ug/L	2	1	2.0	0.50	1.0
Freon-113	U		1.0	ug/L	2	1	2.0	0.62	1.0
Methylene Chloride	U		5.0	ug/L	2	5	10.	2.3	5.0
Acetone		J	38	ug/L	2	5	10.	4.4	5.0
trans-1,2-Dichloroethene	U	UJ	1.0	ug/L	2	1	2.0	0.50	1.0
Methyl tert-butyl Ether	U		1.0	ug/L	2	1	2.0	0.72	1.0
1,1-Dichloroethane	U		1.0	ug/L	2	1	2.0	0.42	1.0
cis-1,2-Dichloroethene	U		1.0	ug/L	2	1	2.0	0.42	1.0
Chloroform	U		1.0	ug/L	2	1	2.0	0.64	1.0
1,1,1-Trichloroethane	U		1.0	ug/L	2	1	2.0	0.40	1.0
2-Butanone	U		5.0	ug/L	2	5	10.	2.6	5.0
Cyclohexane	U		1.0	ug/L	2	1	2.0	0.62	1.0
Carbon Tetrachloride	U		1.0	ug/L	2	1	2.0	0.44	1.0
Benzene	U		1.0	ug/L	2	1	2.0	0.52	1.0
1,2-Dichloroethane	U		1.0	ug/L	2	1	2.0	0.40	1.0
Trichloroethene	U		1.0	ug/L	2	1	2.0	0.56	1.0
1,2-Dichloropropane	U		1.0	ug/L	2	1	2.0	0.50	1.0
Bromodichloromethane	U		1.0	ug/L	2	1	2.0	0.66	1.0
cis-1,3-Dichloropropene	U		1.0	ug/L	2	1	2.0	0.38	1.0
Toluene	U		1.0	ug/L	2	1	2.0	0.54	1.0
4-Methyl-2-Pentanone	U		5.0	ug/L	2	5	10.	2.6	5.0
trans-1,3-Dichloropropene	U		1.0	ug/L	2	1	2.0	0.40	1.0
1,1,2-Trichloroethane	U		1.0	ug/L	2	1	2.0	0.66	1.0
Tetrachloroethene	U		1.0	ug/L	2	1	2.0	0.80	1.0
Dibromochloromethane	U		1.0	ug/L	2	1	2.0	0.60	1.0
2-Hexanone	U		5.0	ug/L	2	5	10.	3.4	5.0
Chlorobenzene	U		1.0	ug/L	2	1	2.0	0.44	1.0
Ethylbenzene	U		1.0	ug/L	2	1	2.0	0.42	1.0

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12/29/14

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-2DL
Client ID: 154-082714-778-780
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8823.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: 04-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U U5	3.0	ug/L	2	3	6.0	0.50	3.0
Styrene	U	1.0	ug/L	2	1	2.0	0.46	1.0
Bromoform	U	1.0	ug/L	2	1	2.0	0.46	1.0
Isopropylbenzene	U	1.0	ug/L	2	1	2.0	0.46	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	2	1	2.0	0.76	1.0
1,3-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.52	1.0
1,4-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.48	1.0
1,2-Dichlorobenzene	U	1.0	ug/L	2	1	2.0	0.30	1.0
1,2,4-Trichlorobenzene	U	1.0	ug/L	2	1	2.0	0.74	1.0
Methyl Acetate	U	1.5	ug/L	2	1	2.0	1.1	1.5
Methylcyclohexane	U	1.0	ug/L	2	1	2.0	0.60	1.0
o-Xylene	U	1.0	ug/L	2	1	2.0	0.50	1.0
M+P-Xylenes	U	2.0	ug/L	2	2	4.0	1.2	2.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	2	2	4.0	0.42	2.0
1,2-Dibromoethane	U	1.0	ug/L	2	1	2.0	0.44	1.0
1,2-Dibromo-3-Chloropropane	U	1.5	ug/L	2	1	2.0	1.0	1.5
P-Bromofluorobenzene		90.6	%					
Toluene-d8		91.9	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		102.	%					

12/24/14

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-3RA
Client ID: 154-082814-798-800
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8845.D

Sample Date: 28-AUG-14
Received Date: 29-AUG-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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~~ U	~~0.26~~ 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	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	~~J~~ 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	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	~~J~~ 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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Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8845.D

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Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		93.9	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		95.0	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-4RA
Client ID: 154-082814-818-820
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8846.D

Sample Date: 28-AUG-14
Received Date: 29-AUG-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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~~ U	~~0.29~~ 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	5.9	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~~ 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	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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Client: ENSAFE
Lab ID: SH7085-4RA
Client ID: 154-082814-818-820
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8846.D

Sample Date: 28-AUG-14
Received Date: 29-AUG-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		94.0	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		94.8	%					

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Report of Analytical Results

Client: ENSAFE
Lab ID: SH7085-5
Client ID: VPB154-TB-082814
Project: Navy Clean WE15-03-06 NW
SDG: SH7085
Lab File ID: C8818.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: 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	J	0.58	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	~~0.35~~ 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	1.4	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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% Solids: NA
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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		90.0	%					
1,2-Dichloroethane-d4		100.	%					
Dibromofluoromethane		98.2	%					

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RESOLUTION CONSULTANTS

Resolution Consultants
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Chelmsford, MA 01824

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978.905.2101 fax

Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage
Laboratory:	Katahdin Analytical
Service Request:	SH7193
Analyses/Method:	EPA SW-846 Method 8260B for VOCs (GC/MS) 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: 12/19/2014
Reviewed by:	Lori Herberich/RESCON — File Name: SH7193_5310B and 8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on August 29, 2014 and September 2, 2014.

Sample ID	Matrix/Sample Type
VPB154-EB-090214	Equipment blank
VPB154-GW-082914-838-840	Groundwater
VPB154-GW-082914-858-860	Groundwater
VPB154-GW-090214-908-910	Groundwater
VPB154-TRIP BLANK-090214	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 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)/laboratory control sample duplicate (LCSD) 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.

The vials of sample VPB154-GW-090214-908-910 were mostly soil and had very little standing water. Therefore, the laboratory decanted the water from the individual vials into one vial as a composite. Due to limited sample volume, the sample was analyzed at a 1:50 dilution. 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. 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 Table A-1.

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

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 Tables A-2 and A-3.

Sample results were qualified as follows:

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.**
* 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.			

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

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) non-detects 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.

Nonconformances are summarized in Attachment A in Table A-#. 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
VPB154-EB-090214	WQ	TOTAL ORGANIC CARBON		1.0*	MG/L	UJ	bl
VPB154-EB-090214	WQ	2-BUTANONE		2.5	UG/L	UJ	c
VPB154-EB-090214	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-082914-838-840	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-082914-838-840	WG	ACETONE	23	2.5	UG/L	J	l
VPB154-GW-082914-838-840	WG	CARBON DISULFIDE		1.0*	UG/L	U	be
VPB154-GW-082914-858-860	WG	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-GW-082914-858-860	WG	ACETONE	22	2.5	UG/L	J	l
VPB154-GW-082914-858-860	WG	CARBON DISULFIDE		1.0*	UG/L	U	be
VPB154-GW-090214-908-910	WG	1,1,1-TRICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,1,2,2-TETRACHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,1,2-TRICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,1-DICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,1-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2,4-TRICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DIBROMO-3-CHLOROPROPANE		38	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DIBROMOETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DICHLOROETHENE, TOTAL		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,2-DICHLOROPROPANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	1,3-DICHLOROBENZENE		25	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-090214-908-910	WG	1,4-DICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	2-BUTANONE		120	UG/L	UJ	mc,c
VPB154-GW-090214-908-910	WG	2-HEXANONE		120	UG/L	UJ	mc,c
VPB154-GW-090214-908-910	WG	4-METHYL-2-PENTANONE		120	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	ACETONE		120	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	BENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	BROMODICHLOROMETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	BROMOFORM		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	BROMOMETHANE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CARBON DISULFIDE		50*	UG/L	UJ	mc,be
VPB154-GW-090214-908-910	WG	CARBON TETRACHLORIDE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CHLOROETHANE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CHLOROFORM		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CHLOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CIS-1,2-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CIS-1,3-DICHLOROPROPENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	CYCLOHEXANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	DIBROMOCHLOROMETHANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	DICHLORODIFLUOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	ETHYLBENZENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	ISOPROPYLBENZENE		25	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-090214-908-910	WG	M- AND P-XYLENE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	METHYL ACETATE		38	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	METHYL CYCLOHEXANE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	METHYL TERT-BUTYL ETHER		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	METHYLENE CHLORIDE		120	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	O-XYLENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	STYRENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TETRACHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TOLUENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TRANS-1,2-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TRANS-1,3-DICHLOROPROPENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TRICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	TRICHLOROFLUOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	VINYL CHLORIDE		50	UG/L	UJ	mc
VPB154-GW-090214-908-910	WG	XYLENES, TOTAL		75	UG/L	UJ	mc
VPB154-TRIP BLANK-090214	WQ	2-BUTANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-090214	WQ	2-HEXANONE		2.5	UG/L	UJ	c
VPB154-TRIP BLANK-090214	WQ	CARBON DISULFIDE		1.0*	UG/L	U	bl

*LOQ

Attachment A

Nonconformance Summary Tables

Table A-1 -Continuing Calibration Verification Standard

CCV ID	Compound	% D	Limits
WG149439-4	2-BUTANONE	-21	≤20%
	2-HEXANONE	-24	≤20%
Associated samples: all samples in SDG SH7193			

Table A-2 - Lab Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
WG149729-1	TOTAL ORGANIC CARBON	0.50	0.50	MG/L	VPB154-EB-090214
WG149439-2	CARBON DISULFIDE	0.28	0.50	UG/L	VPB154-TRIP BLANK-090214

Table A-3 - Field Blanks

Blank ID	Compound	Result	LOD	Units	Associated Samples
VPB154-EB-090214	CARBON DISULFIDE	0.30	0.50	UG/L	VPB154-GW-082914-838-840 VPB154-GW-082914-858-860 VPB154-GW-090214-908-910

Table A-4 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG149439-1	ACETONE	146	40	140	VPB154-GW-082914-838-840 VPB154-GW-082914-858-860

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

Page ____ of ____

Client: Resolution Consultants
Contact: K. Vivacchio
Phone #: (845) 425-4180
Fax #: ( )
Address: 160 Red Schoolhouse Rd.
City: Chestnut Ridge
State: NY
Zip Code: 10977
Purchase Order #:
Proj. Name / No.: NWIRP Rethpage / 60266526
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Vincent Vavrischka
Copies To:

LAB USE ONLY
WORK ORDER #: SH7193
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 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
	VPB154-GW-082914-858-860	8/29/14 / 1000	GW	3	3									
	VPB154-GW-082914-858-860	8/29/14 / 1200	GW	2	2									
	VPB154-EB-090214	9/2/14 / 1300	W	6	3	3								
	VPB154-Trip Blank-090214	8/18/14 / 1430	W	3	3									
	VPB154-GW-090214-908-910	9/2/14 / 1520	GW	3	3									
		/												
		/												
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		/												
		/												

COMMENTS: VPB154-GW-090214-908-910
VPB154-GW-082914-858-860 both very silty.

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/2/14 1700	FedEX			[signature] 9-3-14/0915
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	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: SH7193-3
Client ID: VPB154-EB-090214
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8843.D

Sample Date: 02-SEP-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	0.30	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~~ 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	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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R 12/29/17

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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: SH7193-3
Report Date: 16-SEP-14
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: SH7193

Sample Description	Matrix	Date Sampled	Date Received
VPB154-EB-090214	AQ	02-SEP-14 13:00:00	03-SEP-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	~~10.41~~ mg/L	1.0	0.10	.5	SM5310B	WG149729	04-SEP-14 21:14:20	N/A	N/A	

1.0 U

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Katahdin
ANALYTICAL SERVICES

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-1
Client ID: 154-082914-838-840
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8850.D

Sample Date: 29-AUG-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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~~ U	~~0.30~~ 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	23	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		9.8	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	0.33	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~~ 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: SH7193-1
Client ID: 154-082914-838-840
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8850.D

Sample Date: 29-AUG-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		96.1	%					
Toluene-d8		95.8	%					
1,2-Dichloroethane-d4		114.	%					
Dibromofluoromethane		100.	%					

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ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-2
Client ID: 154-082914-858-860
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8851.D

Sample Date: 29-AUG-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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~~ U	~~0.48~~ 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	22	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		10	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~~ UJ	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	J	0.67	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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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-2
Client ID: 154-082914-858-860
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8851.D

Sample Date: 29-AUG-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		96.1	%					
Toluene-d8		95.3	%					
1,2-Dichloroethane-d4		114.	%					
Dibromofluoromethane		96.1	%					

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Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-5DL
Client ID: 154-090214-908-910
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8844.D

Sample Date: 02-SEP-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	UJ	50	ug/L	50	2	100	12.	50.
Chloromethane	U		50	ug/L	50	2	100	18.	50.
Vinyl Chloride	U		50	ug/L	50	2	100	12.	50.
Bromomethane	U		50	ug/L	50	2	100	24.	50.
Chloroethane	U		50	ug/L	50	2	100	28.	50.
Trichlorofluoromethane	U		50	ug/L	50	2	100	12.	50.
1,1-Dichloroethene	U		25	ug/L	50	1	50.	18.	25.
Carbon Disulfide	J		~~15~~ 50	ug/L	50	1	50.	12.	25.
Freon-113	U		25	ug/L	50	1	50.	16.	25.
Methylene Chloride	U		120	ug/L	50	5	250	56.	120
Acetone	UL		120	ug/L	50	5	250	110	120
trans-1,2-Dichloroethene	U		25	ug/L	50	1	50.	12.	25.
Methyl tert-butyl Ether	U		25	ug/L	50	1	50.	18.	25.
1,1-Dichloroethane	U		25	ug/L	50	1	50.	10.	25.
cis-1,2-Dichloroethene	U		25	ug/L	50	1	50.	10.	25.
Chloroform	U		25	ug/L	50	1	50.	16.	25.
1,1,1-Trichloroethane	U		25	ug/L	50	1	50.	10.	25.
2-Butanone	U		120	ug/L	50	5	250	66.	120
Cyclohexane	U		25	ug/L	50	1	50.	16.	25.
Carbon Tetrachloride	U		25	ug/L	50	1	50.	11.	25.
Benzene	U		25	ug/L	50	1	50.	13.	25.
1,2-Dichloroethane	U		25	ug/L	50	1	50.	10.	25.
Trichloroethene	U		25	ug/L	50	1	50.	14.	25.
1,2-Dichloropropane	U		25	ug/L	50	1	50.	12.	25.
Bromodichloromethane	U		25	ug/L	50	1	50.	16.	25.
cis-1,3-Dichloropropene	U		25	ug/L	50	1	50.	9.5	25.
Toluene	U		25	ug/L	50	1	50.	14.	25.
4-Methyl-2-Pentanone	U		120	ug/L	50	5	250	66.	120
trans-1,3-Dichloropropene	U		25	ug/L	50	1	50.	10.	25.
1,1,2-Trichloroethane	U		25	ug/L	50	1	50.	16.	25.
Tetrachloroethene	U		25	ug/L	50	1	50.	20.	25.
Dibromochloromethane	U		25	ug/L	50	1	50.	15.	25.
2-Hexanone	U		120	ug/L	50	5	250	85.	120
Chlorobenzene	U		25	ug/L	50	1	50.	11.	25.
Ethylbenzene	U		25	ug/L	50	1	50.	10.	25.

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Katahdin
NALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-5DL
Client ID: 154-090214-908-910
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8844.D

Sample Date: 02-SEP-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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 UJ	75	ug/L	50	3	150	12.	75.
Styrene	U	25	ug/L	50	1	50.	12.	25.
Bromoform	U	25	ug/L	50	1	50.	12.	25.
Isopropylbenzene	U	25	ug/L	50	1	50.	12.	25.
1,1,2,2-Tetrachloroethane	U	25	ug/L	50	1	50.	19.	25.
1,3-Dichlorobenzene	U	25	ug/L	50	1	50.	13.	25.
1,4-Dichlorobenzene	U	25	ug/L	50	1	50.	12.	25.
1,2-Dichlorobenzene	U	25	ug/L	50	1	50.	7.5	25.
1,2,4-Trichlorobenzene	U	25	ug/L	50	1	50.	18.	25.
Methyl Acetate	U	38	ug/L	50	1	50.	26.	38.
Methylcyclohexane	U	25	ug/L	50	1	50.	15.	25.
o-Xylene	U	25	ug/L	50	1	50.	12.	25.
M+P-Xylenes	U	50	ug/L	50	2	100	30.	50.
1,2-Dichloroethylene (Total)	U	50	ug/L	50	2	100	10.	50.
1,2-Dibromoethane	U	25	ug/L	50	1	50.	11.	25.
1,2-Dibromo-3-Chloropropane	U	38	ug/L	50	1	50.	25.	38.
P-Bromofluorobenzene		94.2	%					
Toluene-d8		94.2	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		96.4	%					

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ANALYTICAL SERVICES

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-4
Client ID: VPB154-TB-090214
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8842.D

Sample Date: 02-SEP-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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~~ U	~~0.27~~ 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	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~~ 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	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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12/29/17

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7193-4
Client ID: VPB154-TB-090214
Project: Navy Clean WE15-03-06 NW
SDG: SH7193
Lab File ID: C8842.D

Sample Date: 02-SEP-14
Received Date: 03-SEP-14
Extract Date: 03-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149439

Analysis Date: 03-SEP-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	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		90.4	%					
Toluene-d8		91.5	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane		93.2	%					

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RESOLUTION CONSULTANTS

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Data Validation Report

Project:	Regional Groundwater Investigation - NWIRP Bethpage
Laboratory:	Katahdin Analytical
Service Request:	SH7248
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: 12/05/2014
Reviewed by:	Lori Herberich/RESCON — File Name: SH7248_8260B

SUMMARY

The samples listed below were collected by Resolution Consultants from the Regional Groundwater Investigation - NWIRP Bethpage site on September 3, 2014.

Sample ID	Matrix/Sample Type
VPB154-GW-090314-918-920	Groundwater
VPB154-TRIP BLANK-090314	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 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.

The vials of sample VPB154-GW-090314-918-920 were mostly soil and had very little standing water. Therefore, each vial was decanted and composited into one vial and analyzed. Due to limited sample volume, the sample was analyzed at a 1:50 dilution. 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. 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/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.

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

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) non-detects 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.

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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
VPB154-GW-090314-918-920	WG	1,1,1-TRICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,1,2,2-TETRACHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,1,2-TRICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,1-DICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,1-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2,4-TRICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2-DIBROMO-3-CHLOROPROPANE		38	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2-DIBROMOETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2-DICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2-DICHLOROETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,2-DICHLOROETHENE, TOTAL		50	UG/L	UJ	mc,l
VPB154-GW-090314-918-920	WG	1,2-DICHLOROPROPANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,3-DICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	1,4-DICHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	2-BUTANONE		120	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	2-HEXANONE		120	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	4-METHYL-2-PENTANONE		120	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	ACETONE		120	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	BENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	BROMODICHLOROMETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	BROMOFORM		25	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-090314-918-920	WG	BROMOMETHANE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CARBON DISULFIDE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CARBON TETRACHLORIDE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CHLOROBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CHLOROETHANE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CHLOROFORM		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CHLOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CIS-1,2-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CIS-1,3-DICHLOROPROPENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	CYCLOHEXANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	DIBROMOCHLOROMETHANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	DICHLORODIFLUOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	ETHYLBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	ISOPROPYLBENZENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	M- AND P-XYLENE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	METHYL ACETATE		38	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	METHYL CYCLOHEXANE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	METHYL TERT-BUTYL ETHER		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	METHYLENE CHLORIDE		120	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	O-XYLENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	STYRENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	TETRACHLOROETHENE		25	UG/L	UJ	mc

Sample ID	Matrix	Compound	Result	LOD	Units	Validation Qualifiers	Validation Reason
VPB154-GW-090314-918-920	WG	TOLUENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	TRANS-1,2-DICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	TRANS-1,3-DICHLOROPROPENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	TRICHLOROETHENE		25	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	TRICHLOROFLUOROMETHANE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	VINYL CHLORIDE		50	UG/L	UJ	mc
VPB154-GW-090314-918-920	WG	XYLENES, TOTAL		75	UG/L	UJ	mc
VPB154-TRIP BLANK-090314	WQ	1,2-DICHLOROETHENE, TOTAL		1.0	UG/L	UJ	I

Attachment A

Nonconformance Summary Tables

Table A-1 - Lab Control Samples

LCS ID	Compound	LCS % Recovery	Lower Limit	Upper Limit	Associated Samples
WG149482-1	1,2-DICHLOROETHENE, TOTAL	80.7	84	121	VPB154-GW-090314-918-920 VPB154-TRIP BLANK-090314

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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Page 1 of 1

Client: Resolution Consultants
Contact: E. Vivanda
Phone #: (845) 425-4180
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): Vincent Vonricchio / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #: SH7248
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.	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
	VPD154-GW-090314-918920	9/3/14 / 1605	GW	3	3									
	VPD154-TripBlank-090314	8/18/14 / 1430	W	3	3									
		/												
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COMMENTS: Sample Very Silty

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/3/14 / 1600	Fed Ex			[signature] 9-4-14 09:15
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: SH7248-1DL
Client ID: 154-090314-918-920
Project: Navy Clean WE15-03-06 NW
SDG: SH7248
Lab File ID: C8867.D

Sample Date: 03-SEP-14
Received Date: 04-SEP-14
Extract Date: 04-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149482

Analysis Date: 04-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 05-SEP-14

Compound	Qualifier		Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	UJ	50	ug/L	50	2	100	12.	50.
Chloromethane	U		50	ug/L	50	2	100	18.	50.
Vinyl Chloride	U		50	ug/L	50	2	100	12.	50.
Bromomethane	U		50	ug/L	50	2	100	24.	50.
Chloroethane	U		50	ug/L	50	2	100	28.	50.
Trichlorofluoromethane	U		50	ug/L	50	2	100	12.	50.
1,1-Dichloroethene	U		25	ug/L	50	1	50.	18.	25.
Carbon Disulfide	U		25	ug/L	50	1	50.	12.	25.
Freon-113	U		25	ug/L	50	1	50.	16.	25.
Methylene Chloride	U		120	ug/L	50	5	250	56.	120
Acetone	UL		120	ug/L	50	5	250	110	120
trans-1,2-Dichloroethene	U		25	ug/L	50	1	50.	12.	25.
Methyl tert-butyl Ether	U		25	ug/L	50	1	50.	18.	25.
1,1-Dichloroethane	U		25	ug/L	50	1	50.	10.	25.
cis-1,2-Dichloroethene	U		25	ug/L	50	1	50.	10.	25.
Chloroform	U		25	ug/L	50	1	50.	16.	25.
1,1,1-Trichloroethane	U		25	ug/L	50	1	50.	10.	25.
2-Butanone	U		120	ug/L	50	5	250	66.	120
Cyclohexane	U		25	ug/L	50	1	50.	16.	25.
Carbon Tetrachloride	U		25	ug/L	50	1	50.	11.	25.
Benzene	U		25	ug/L	50	1	50.	13.	25.
1,2-Dichloroethane	U		25	ug/L	50	1	50.	10.	25.
Trichloroethene	U		25	ug/L	50	1	50.	14.	25.
1,2-Dichloropropane	U		25	ug/L	50	1	50.	12.	25.
Bromodichloromethane	U		25	ug/L	50	1	50.	16.	25.
cis-1,3-Dichloropropene	U		25	ug/L	50	1	50.	9.5	25.
Toluene	U		25	ug/L	50	1	50.	14.	25.
4-Methyl-2-Pentanone	U		120	ug/L	50	5	250	66.	120
trans-1,3-Dichloropropene	U		25	ug/L	50	1	50.	10.	25.
1,1,2-Trichloroethane	U		25	ug/L	50	1	50.	16.	25.
Tetrachloroethene	U		25	ug/L	50	1	50.	20.	25.
Dibromochloromethane	U		25	ug/L	50	1	50.	15.	25.
2-Hexanone	U		120	ug/L	50	5	250	85.	120
Chlorobenzene	U		25	ug/L	50	1	50.	11.	25.
Ethylbenzene	U		25	ug/L	50	1	50.	10.	25.

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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7248-1DL
Client ID: 154-090314-918-920
Project: Navy Clean WE15-03-06 NW
SDG: SH7248
Lab File ID: C8867.D

Sample Date: 03-SEP-14
Received Date: 04-SEP-14
Extract Date: 04-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149482

Analysis Date: 04-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 05-SEP-14

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Xylenes (total)	U UJ	75	ug/L	50	3	150	12.	75.
Styrene	U	25	ug/L	50	1	50.	12.	25.
Bromoform	U	25	ug/L	50	1	50.	12.	25.
Isopropylbenzene	U	25	ug/L	50	1	50.	12.	25.
1,1,2,2-Tetrachloroethane	U	25	ug/L	50	1	50.	19.	25.
1,3-Dichlorobenzene	U	25	ug/L	50	1	50.	13.	25.
1,4-Dichlorobenzene	U	25	ug/L	50	1	50.	12.	25.
1,2-Dichlorobenzene	U	25	ug/L	50	1	50.	7.5	25.
1,2,4-Trichlorobenzene	U	25	ug/L	50	1	50.	18.	25.
Methyl Acetate	U	38	ug/L	50	1	50.	26.	38.
Methylcyclohexane	U	25	ug/L	50	1	50.	15.	25.
o-Xylene	U	25	ug/L	50	1	50.	12.	25.
M+P-Xylenes	U	50	ug/L	50	2	100	30.	50.
1,2-Dichloroethylene (Total)	UL	50	ug/L	50	2	100	10.	50.
1,2-Dibromoethane	U	25	ug/L	50	1	50.	11.	25.
1,2-Dibromo-3-Chloropropane	U	38	ug/L	50	1	50.	25.	38.
P-Bromofluorobenzene		91.0	%					
Toluene-d8		91.2	%					
1,2-Dichloroethane-d4		105.	%					
Dibromofluoromethane		90.2	%					

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ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7248-2
Client ID: VPB154-TB-090314
Project: Navy Clean WE15-03-06 NW
SDG: SH7248
Lab File ID: C8864.D

Sample Date: 03-SEP-14
Received Date: 04-SEP-14
Extract Date: 04-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149482

Analysis Date: 04-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 05-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	0.55	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	J	1.2	ug/L	1	5	5.0	1.1	2.5
Acetone	~~UC~~ 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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Cert No E87604

Report of Analytical Results

Client: ENSAFE
Lab ID: SH7248-2
Client ID: VPB154-TB-090314
Project: Navy Clean WE15-03-06 NW
SDG: SH7248
Lab File ID: C8864.D

Sample Date: 03-SEP-14
Received Date: 04-SEP-14
Extract Date: 04-SEP-14
Extracted By: REC
Extraction Method: SW846 5030
Lab Prep Batch: WG149482

Analysis Date: 04-SEP-14
Analyst: REC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 05-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)	~~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		93.6	%					
Toluene-d8		92.2	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		93.7	%					

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Section 5

VPB 154 Analytical Data Table

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/7/2014	8/7/2014	8/7/2014	8/7/2014
Sample ID		VPB154-GW-080714-58-60	VPB154-GW-080714-98-100	VPB154-GW-080714-148-150	VPB154-GWD-080714
Sample Interval		58 - 60 ft	98 - 100 ft	148 - 150 ft	148 - 150 ft
Sample type code		N	N	N	FD
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 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	**2.9 J**
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	**7.7**	**8.3**	**12**	**13**
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	< 1.0 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	**0.33 J**	< 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 UJ	< 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	**0.30 J**	< 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	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/8/2014	8/8/2014	8/11/2014	8/12/2014
Sample ID		VPB154-GW-080814-198-200	VPB154-GW-080814-228-230	VPB154-GW-081114-238-240	VPB154-GW-081214-258-260
Sample Interval		198 - 200 ft	228 - 230 ft	238 - 240 ft	258 - 260 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	**0.21 J**	< 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	**1.7**	**10**	**14**	< 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	**0.61 J**	**0.81 J**	< 0.50 U
1,1-DICHLOROETHENE	5	< 0.50 U	**1.2 J**	**1.5 J**	< 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	**0.89 J**	**2.6**	**4.1**	< 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	**20 J**	**2.7 J**	**3.4 J**	**7.0 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	**72 J**	**9.8 J**	**16 J**	**48 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	**0.26 J**	**0.25 J**	**0.30 J**	< 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	**1.4**	**0.86 J**	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**0.89 J**	**2.6**	**4.1**	< 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	**0.70 J**	**0.35 J**	< 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 UJ	< 0.75 UJ	< 0.75 UJ	< 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	**1.0**	< 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	**3.2**	**4.8**	**5.1**	< 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	**31**	**180**	**190**	< 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	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/12/2014	8/12/2014	8/12/2014	8/14/2014
Sample ID		VPB154-GW-081214-278-280	VPB154-GW-081214-298-300	VPB154-GW-081214-318-320	VPB154-GW-081414-338-340
Sample Interval		278 - 280 ft	298 - 300 ft	318 - 320 ft	338 - 340 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 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	**16**	**30**	**16 J**	**13**
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 1.0 U	< 1.2 U	< 1.0 U	< 1.0 U
1,1-DICHLOROETHENE	5	**2.2 J**	**3.3 J**	**2.2 J**	**1.5 J**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	**0.34 J**
1,2-DICHLOROETHENE, TOTAL	5	**4.8**	**5.2**	**2.8 J**	**2.3**
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	**3.7 J**	< 2.5 U	**1.9 J**	**1.5 J**
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 U
ACETONE	50	< 15 UJ	< 5.0 UJ	< 5.0 UJ	< 5.0 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	< 1.0 UJ	< 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	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**4.8**	**5.2**	**2.8 J**	**2.3**
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	**0.33 J**	**0.74 J**	**0.79 J**	**1.3 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	**0.45 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 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	**7.1**	**8.0**	**7.5 J**	< 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	**200**	**200**	**180**	**26**
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	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/14/2014	8/14/2014	8/15/2014	8/15/2014
Sample ID		VPB154-GW-081414-358-360	VPB154-GW-081414-378-380	VPB154-GW-081514-398-400	VPB154-GW-081514-418-420
Sample Interval		358 - 360 ft	378 - 380 ft	398 - 400 ft	418 - 420 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	**0.25 J**
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 UJ	**0.41 J**	< 0.50 UJ	**16 J**
1,1,2-TRICHLOROETHANE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	**0.56 J**
1,1-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	**1.9**
1,2,4-TRICHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 UJ***	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 UJ	< 1.0 U	< 1.0 U	**2.6**
1,2-DICHLOROPROPANE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
2-BUTANONE	50	**3.8 J**	< 2.5 U	**2.7 J**	< 2.5 U
2-HEXANONE	50	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 17 UJ	< 5.0 UJ	**12**	**8.3**
BENZENE	1	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U
CARBON TETRACHLORIDE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	< 0.50 UJ	< 0.50 U	< 0.50 U	**0.87 J**
CHLOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	**2.6**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	**1.0 J**
ETHYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 UJ	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 UJ	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	**4.8**
TOLUENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 UJ***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
TRICHLOROETHENE	5	**1.5 J**	**0.34 J**	< 0.50 U	**170**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
VINYL CHLORIDE	2	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 UJ	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/15/2014	8/18/2014	8/18/2014	8/19/2014
Sample ID		VPB154-GW-081514-438-440	VPB154-GW-081814-458-460	VPB154-GW-081814-483-485	VPB154-GW-081914-503-505
Sample Interval		438 - 440 ft	458 - 460 ft	483 - 485 ft	503 - 505 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**0.26 J**	< 0.50 U	< 0.50 U	**0.53 J**
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	**14 J**	**10 J**	**7.7 J**	**20 J**
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	**0.40 J**
1,1-DICHLOROETHANE	5	**0.49 J**	**0.44 J**	**0.24 J**	< 0.50 U
1,1-DICHLOROETHENE	5	**1.7**	**1.1**	**0.71 J**	**2.9 J**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 0.75 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	**3.0**	**2.4**	**1.6 J**	**2.2**
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	**4.9 J**	**4.0 J**	< 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**	**22**	**9.7**	**8.4 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 UJ
CARBON DISULFIDE	60	< 1.0 U	< 1.0 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	**0.76 J**	**0.43 J**	< 0.50 U	**1.4**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
CIS-1,2-DICHLOROETHENE	5	**3.0**	**2.4**	**1.6**	**2.2**
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	**0.97 J**	**0.43 J**	**0.41 J**	**2.0**
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 UJ
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	**5.0**	**5.4**	**6.6**	< 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	**190**	**180**	**160**	**160**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	**0.28 J**	**0.34 J**	< 1.0 U
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/19/2014	8/20/2014	8/20/2014	8/20/2014
Sample ID		VPB154-GW-081914-518-520	VPB154-GW-082014-538-540	VPB154-GW-082014-558-560	VPB154-GW-082014-578-580
Sample Interval		518 - 520 ft	538 - 540 ft	558 - 560 ft	578 - 580 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**0.41 J**	**0.87 J**	**1.1**	**2.6**
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	**26 J**	**61 J**	**57 J**	**120 J**
1,1,2-TRICHLOROETHANE	1	**0.50 J**	**1.1**	**0.98 J**	**1.8**
1,1-DICHLOROETHANE	5	**0.79 J**	**2.6**	**2.6**	**3.6**
1,1-DICHLOROETHENE	5	**5.5 J**	**18 J**	**19 J**	**39 J**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 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	**2.3**	**4.4**	**3.9**	**5.2**
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	**3.8 J**	**2.4 J**	< 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	**8.3 J**	**20 J**	**9.6 J**	**8.3 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 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 1.0 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	**0.74 J**	**1.1**	**0.98 J**	**1.2**
CHLOROMETHANE	5	< 1.0 U	< 2.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**2.3**	**4.4**	**3.9**	**5.2**
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	**0.66 J**	**0.49 J**	**0.49 J**	**0.79 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
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	**3.4**	**12**	**10**	**8.4**
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	**340**	**970**	**900**	**1800 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	**0.42 J**	**0.47 J**	**0.80 J**
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/21/2014	8/21/2014	8/21/2014	8/21/2014
Sample ID		VPB154-GW-082114-598-600	VPB154-GW-082114-618-620	VPB154-GW-082114-638-640	VPB154-GWD-082114
Sample Interval		598 - 600 ft	618 - 620 ft	638 - 640 ft	638 - 640 ft
Sample type code		N	N	N	FD
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**1.3**	**3.7**	**2.5**	**2.5**
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	**41 J**	**70 J**	**69 J**	**70 J**
1,1,2-TRICHLOROETHANE	1	**1.1**	**1.6**	**1.6**	**1.6**
1,1-DICHLOROETHANE	5	**1.8**	**4.7**	**4.5**	**4.4**
1,1-DICHLOROETHENE	5	**14 J**	**44 J**	**29 J**	**28 J**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 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	**2.2**	**3.1**	**4.4**	**4.1**
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	**4.5 J**	**2.3 J**	**1.4 J**	**1.5 J**
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	**12 J**	**10 J**	**6.2 J**	**6.2 J**
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
CARBON DISULFIDE	60	< 1.0 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	**1.6**	**1.5**	**1.3**	**1.3**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**2.2**	**3.1**	**4.4**	**4.1**
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	**0.87 J**	**0.54 J**	**0.39 J**	**0.34 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ
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	**0.40 J**	**1.7**	**5.6**	**5.6**
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	**350 J**	**810 J**	**1800 J**	**1600 J**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	**0.37 J**	**0.40 J**	**0.42 J**
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/22/2014	8/22/2014	8/25/2014	8/25/2014
Sample ID		VPB154-GW-082214-663-665	VPB154-GW-082214-678-680	VPB154-GW-082514-698-700	VPB154-GW-082514-718-720
Sample Interval		663 - 665 ft	678 - 680 ft	698 - 700 ft	718 - 720 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**2.0 J**	**0.37 J**	**0.60 J**	***< 10 UJ***
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**84 J**	**21 J**	**30 J**	***< 10 UJ***
1,1,2-TRICHLOROETHANE	1	**1.2 J**	**0.53 J**	**0.68 J**	***< 10 UJ***
1,1-DICHLOROETHANE	5	**2.6 J**	**0.97 J**	**1.5 J**	***< 10 UJ***
1,1-DICHLOROETHENE	5	**16 J**	**3.2 J**	**6.0 J**	***< 10 UJ***
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 UJ***	***< 15 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,2-DICHLOROETHENE, TOTAL	5	**3.9 J**	**2.1**	**2.9 J**	***< 20 UJ***
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
2-BUTANONE	50	**2.4 J**	< 2.5 U	**5.3 J**	< 50 UJ
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 UJ	< 50 UJ
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 UJ	< 50 UJ
ACETONE	50	**10 J**	**8.7 J**	**26 J**	< 50 UJ
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	***< 20 UJ***
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 10 UJ
CARBON TETRACHLORIDE	5	**2.4 J**	< 0.50 U	< 0.50 UJ	***< 10 UJ***
CHLOROBENZENE	5	< 0.50 U	**0.39 J**	< 0.50 UJ	***< 10 UJ***
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	***< 20 UJ***
CHLOROFORM	7	**1.6 J**	**0.78 J**	**1.2 J**	***< 10 UJ***
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	***< 20 UJ***
CIS-1,2-DICHLOROETHENE	5	**3.9 J**	**2.1**	**2.9 J**	***< 10 UJ***
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***	***< 10 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
DICHLORODIFLUOROMETHANE	5	**0.26 J**	< 1.0 U	< 1.0 UJ	***< 20 UJ***
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 UJ	< 20 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 UJ	< 15 UJ
METHYL CYCLOHEXANE	NL	< 0.50 UJ	< 0.50 UJ	< 0.50 UJ	< 10 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 UJ	***< 50 UJ***
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 UJ	< 10 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
TETRACHLOROETHENE	5	< 0.50 U	**2.8**	**4.6 J**	***< 10 UJ***
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 UJ	***< 10 UJ***
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 UJ***	***< 10 UJ***
TRICHLOROETHENE	5	**600**	**550**	**700 J**	***< 10 UJ***
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 UJ	***< 20 UJ***
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 UJ	***< 20 UJ***
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 UJ	***< 30 UJ***

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/25/2014	8/27/2014	8/27/2014	8/28/2014
Sample ID		VPB154-GW-082514-738-740	VPB154-GW-082714-763-765	VPB154-GW-082714-778-780	VPB154-GW-082814-798-800
Sample Interval		738 - 740 ft	763 - 765 ft	778 - 780 ft	798 - 800 ft
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,1,2,2-TETRACHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,1,2-TRICHLOROETHANE	1	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,1-DICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,1-DICHLOROETHENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,2,4-TRICHLOROBENZENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 1.5 UJ***	***< 0.75 U***	***< 1.5 UJ***	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,2-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,2-DICHLOROETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
1,2-DICHLOROPROPANE	1	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,3-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
1,4-DICHLOROBENZENE	3	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
2-BUTANONE	50	< 5.0 UJ	< 2.5 U	< 5.0 UJ	< 2.5 UJ
2-HEXANONE	50	< 5.0 UJ	< 2.5 U	< 5.0 UJ	< 2.5 UJ
4-METHYL-2-PENTANONE	NL	< 5.0 UJ	< 2.5 U	< 5.0 UJ	< 2.5 U
ACETONE	50	**15 J**	**13 J**	**38 J**	**13 J**
BENZENE	1	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
BROMODICHLOROMETHANE	50	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
BROMOFORM	50	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
BROMOMETHANE	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
CARBON DISULFIDE	60	< 1.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
CARBON TETRACHLORIDE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
CHLOROBENZENE	5	**0.69 J**	< 0.50 U	< 1.0 UJ	< 0.50 U
CHLOROETHANE	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
CHLOROFORM	7	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
CHLOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
CIS-1,3-DICHLOROPROPENE	0.4	***< 1.0 UJ***	***< 0.50 U***	***< 1.0 UJ***	***< 0.50 U***
CYCLOHEXANE	NL	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
ETHYLBENZENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
ISOPROPYLBENZENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
M- AND P-XYLENE	NL	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
METHYL ACETATE	NL	< 1.5 UJ	< 0.75 U	< 1.5 UJ	< 0.75 U
METHYL CYCLOHEXANE	NL	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
METHYLENE CHLORIDE	5	< 5.0 UJ	< 2.5 U	< 5.0 UJ	< 2.5 U
O-XYLENE	NL	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
STYRENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
TETRACHLOROETHENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
TOLUENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 1.0 UJ	< 0.50 U	< 1.0 UJ	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 1.0 UJ***	***< 0.50 U***	***< 1.0 UJ***	***< 0.50 U***
TRICHLOROETHENE	5	**1.4 J**	< 0.50 U	< 1.0 UJ	< 0.50 U
TRICHLOROFLUOROMETHANE	5	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
VINYL CHLORIDE	2	< 2.0 UJ	< 1.0 U	< 2.0 UJ	< 1.0 U
XYLENES, TOTAL	5	< 3.0 UJ	< 1.5 U	< 3.0 UJ	< 1.5 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154	VPB154	VPB154	VPB154
Sample Date		8/28/2014	8/29/2014	8/29/2014	9/2/2014
Sample ID		VPB154-GW-082814-818-820	VPB154-GW-082914-838-840	VPB154-GW-082914-858-860	VPB154-GW-090214-908-910
Sample Interval		818 - 820 ft	838 - 840 ft	858 - 860 ft	908 - 910 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	***< 25 UJ***
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 38 UJ***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,2-DICHLOROETHENE, TOTAL	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
2-BUTANONE	50	< 2.5 UJ	**9.8**	**10**	***< 120 UJ***
2-HEXANONE	50	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	***< 120 UJ***
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 120 UJ
ACETONE	50	**5.9 J**	**23 J**	**22 J**	***< 120 UJ***
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
CARBON DISULFIDE	60	< 1.0 U	< 1.0 U	< 1.0 U	< 50 UJ
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	**0.67 J**	***< 25 UJ***
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
CHLOROFORM	7	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
CIS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 25 UJ***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 50 UJ
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 38 UJ
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	***< 120 UJ***
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 25 UJ
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	***< 25 UJ***
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 25 UJ***
TRICHLOROETHENE	5	< 0.50 U	0.33 J	< 0.50 U	***< 25 UJ***
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	***< 50 UJ***
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	***< 75 UJ***

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	VPB154
Sample Date		9/3/2014
Sample ID		VPB154-GW-090314-918-920
Sample Interval		918 - 920 ft
Sample type code		N
VOC 8260C (ug/L)		
1,1,1-TRICHLOROETHANE	5	***< 25 UJ***
1,1,2,2-TETRACHLOROETHANE	5	***< 25 UJ***
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	***< 25 UJ***
1,1,2-TRICHLOROETHANE	1	***< 25 UJ***
1,1-DICHLOROETHANE	5	***< 25 UJ***
1,1-DICHLOROETHENE	5	***< 25 UJ***
1,2,4-TRICHLOROBENZENE	5	***< 25 UJ***
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 38 UJ***
1,2-DIBROMOETHANE	NL	< 25 UJ
1,2-DICHLOROBENZENE	3	***< 25 UJ***
1,2-DICHLOROETHANE	5	***< 25 UJ***
1,2-DICHLOROETHENE, TOTAL	5	***< 50 UJ***
1,2-DICHLOROPROPANE	1	***< 25 UJ***
1,3-DICHLOROBENZENE	3	***< 25 UJ***
1,4-DICHLOROBENZENE	3	***< 25 UJ***
2-BUTANONE	50	***< 120 UJ***
2-HEXANONE	50	***< 120 UJ***
4-METHYL-2-PENTANONE	NL	< 120 UJ
ACETONE	50	***< 120 UJ***
BENZENE	1	***< 25 UJ***
BROMODICHLOROMETHANE	50	< 25 UJ
BROMOFORM	50	< 25 UJ
BROMOMETHANE	5	***< 50 UJ***
CARBON DISULFIDE	60	< 25 UJ
CARBON TETRACHLORIDE	5	***< 25 UJ***
CHLOROBENZENE	5	***< 25 UJ***
CHLOROETHANE	5	***< 50 UJ***
CHLOROFORM	7	***< 25 UJ***
CHLOROMETHANE	5	***< 50 UJ***
CIS-1,2-DICHLOROETHENE	5	***< 25 UJ***
CIS-1,3-DICHLOROPROPENE	0.4	***< 25 UJ***
CYCLOHEXANE	NL	< 25 UJ
DIBROMOCHLOROMETHANE	5	***< 25 UJ***
DICHLORODIFLUOROMETHANE	5	***< 50 UJ***
ETHYLBENZENE	5	***< 25 UJ***
ISOPROPYLBENZENE	5	***< 25 UJ***
M- AND P-XYLENE	NL	< 50 UJ
METHYL ACETATE	NL	< 38 UJ
METHYL CYCLOHEXANE	NL	< 25 UJ
METHYL TERT-BUTYL ETHER	10	***< 25 UJ***
METHYLENE CHLORIDE	5	***< 120 UJ***
O-XYLENE	NL	< 25 UJ
STYRENE	5	***< 25 UJ***
TETRACHLOROETHENE	5	***< 25 UJ***
TOLUENE	5	***< 25 UJ***
TRANS-1,2-DICHLOROETHENE	5	***< 25 UJ***
TRANS-1,3-DICHLOROPROPENE	0.4	***< 25 UJ***
TRICHLOROETHENE	5	***< 25 UJ***
TRICHLOROFLUOROMETHANE	5	***< 50 UJ***
VINYL CHLORIDE	2	***< 50 UJ***
XYLENES, TOTAL	5	***< 75 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.

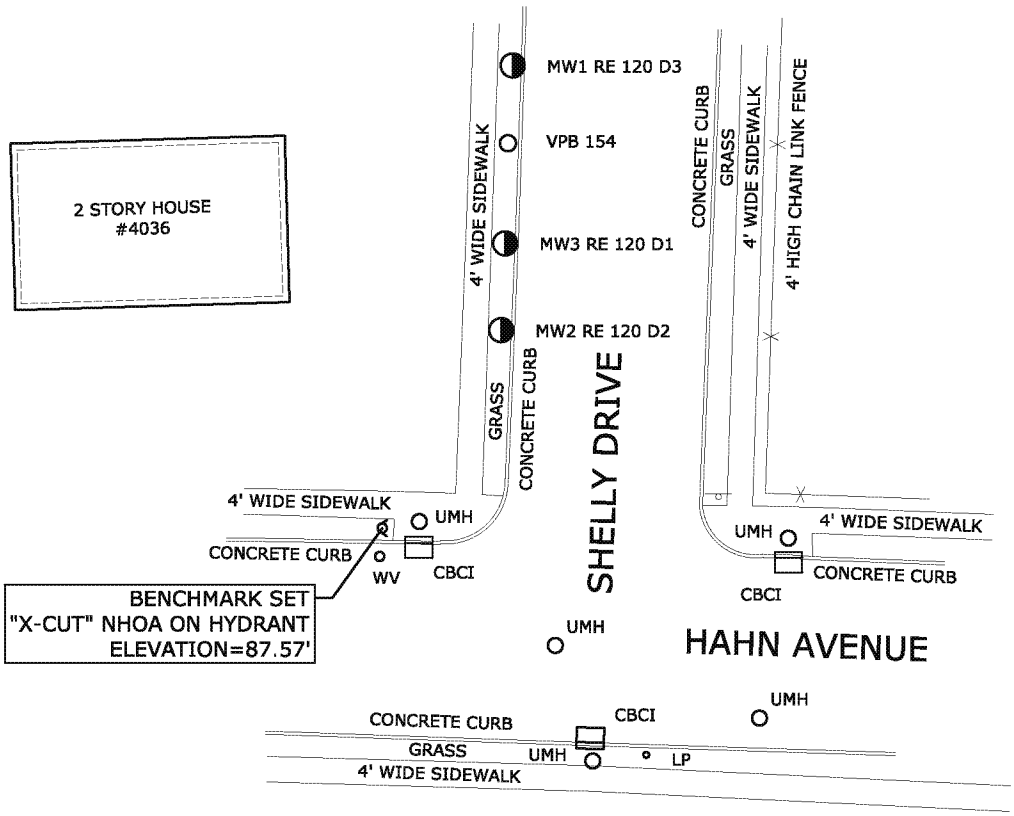
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Section 6

Survey

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
MW1 RE 120 D3	204618.12	1125061.88	N40-43-37.87	W73-29-31.05	86.14	86.14	85.70
VPB 154	204605.97	1125061.14	N40-43-37.75	W73-29-31.06	85.86	NA	NA
MW3 RE 120 D1	204590.37	1125060.70	N40-43-37.59	W73-29-31.07	86.06	86.06	85.58
MW2 RE 120 D2	204576.78	1125060.08	N40-43-37.46	W73-29-31.08	86.03	86.03	85.54



Map Notes

1. Information shown hereon was compiled from an actual field survey conducted from December 9, 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
	GV	Gas Valve
	LP	Light Post
	MW1	Monitoring Well
		Sign
	UMH	Unknown Manhole
	VPB 149	Vertical Profile Boring
	WV	Water Valve

BAR SCALE

30 0 15 30 60

1 inch = 30 ft.

DWG NO. 14-644

Date	RECORD OF WORK	Appr.

Drafter: LMK | Checker: JFC

Appr. by: JFC | Proj. No. 14.4121

VERICAL PROFILE BORING 154 SURVEY LOCATION
SHELLY DRIVE

TOWN OF BETHPAGE | NASSAU COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

SCALE: 1"=30' | DATE: DEC. 09, 2014

NONE :XREFS

CAD DWG. FILE NAME: K:\Projects\144121\Survey\Drawings and Maps\Elm Dr._Elbow Ln.dwg