DECEMBER 2014 GROUNDWATER SAMPLING DATA SUMMARY REPORT BETHPAGE, NY

Prepared for:

Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic
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CTO WE15

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List of Acronyms and Abbreviations

DOT	Department of Transportation
IDW	Investigation Derived Waste
Katahdin	Katahdin Analytical Services, Inc.
NWIRP	Naval Weapons Industrial Reserve Plant
ONCT	Onsite Containment System
OU	Operable Unit
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QC	Quality Control
SAP	Sampling and Analysis Plan
UFP	Uniform Federal Policy
VOC	Volatile Organic Compounds

1.0 PROJECT BACKGROUND

Resolution Consultants has prepared this Data Summary Report for the Naval Facilities Engineering Command, Mid-Atlantic under contract task order WE15 Contract N62470-11-D-8013. The report describes monitoring well sampling activities in December 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).

This data summary report provides information on sampling 16 monitoring wells. The purpose of this sampling is to provide information on the extent and magnitude of volatile organic compounds (VOCs) located in a narrow area immediately south of the Onsite Containment System (ONCT) in the western offsite plume, which could represent contamination that has bypassed the ONCT. The locations of monitoring wells sampled as part of this effort are shown in Figure 2.

Documentation of these activities is included in the appendices of this report. Appendix A contains the groundwater sampling forms, Appendix B contains documentation of data validation.

2.0 FIELD PROGRAM

Field tasks were conducted in December of 2014 in accordance with the Uniform Federal Policy (UFP) Sampling and Analysis Plan (SAP) Addendum: Groundwater Sampling Using Low Stress (Low Flow) Purging and Sampling Protocol (Resolution Consultants, 2013). The field investigation included purging and sampling of the 16 monitoring wells.

2.1 Sampling

Wells were purged with a bladder pump with the intake placed at the approximate midpoint of the screened interval. The following field water quality parameters were continuously measured during purging: water temperature, pH, conductivity, oxidation-reduction potential, dissolved oxygen and turbidity. Groundwater analytical samples were collected when field water quality parameters stabilized. Samples were analyzed for VOCs via Method 8260C and 1,4-dioxane via Method 8270C by Katahdin Analytical Services (Katahdin). All purge water was managed as investigation derived waste (IDW). Samples were placed in a cooler containing ice and held for sample pick up by the laboratory courier. All samples were submitted to the laboratory for analyses of VOCs for the analytes listed in, and in accordance with, GC method SW846-8260C. Quality assurance (QA) and quality control (QC) samples were collected during the sampling effort.

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

2.2 Investigation Derived Waste

Purge water was transported from point of generation to the designated staging area at NWIRP in Department of Transportation (DOT) approved 55-gallon drums. Purge water was then containerized in a frac tank and stored at NWIRP Bethpage for characterization and ultimate disposal to the Nassau County Publicly Owned Treatment Works (POTW) in accordance with the facility's existing discharge permit. A representative water sample will be collected from each of the frac tanks and submitted to Katahdin for analysis. No solid waste was generated during sampling.

3.0 SUMMARY

Well construction information is summarized in Table 1; analytical data is summarized in Table 2; stabilized field water quality parameters are summarized in Table 3. Groundwater sample forms and data validation packages are included in Appendix A and B, respectively.

4.0 REFERENCES

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

Tables

Table 1.
Monitoring Well
Construction Summary

Well	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Mid-screen (ft bgs)	Sump Length (ft)	VPB affiliation
RE103D1	645	625	640	630	5	VPB137
RE103D2	673	653	673	663	0	
RE103D3	735	715	730	720	5	
RE104D1	375	350	370	360	5	VPB138
RE104D2	735	710	730	720	5	
RE104D3	785	760	780	770	5	
RE105D1	554.9	530	550	540	5	VPB139
RE105D2	755.9	730	750	740	5	
RE108D1	545	530	550	540	5	VPB142
RE108D2	655	630	650	640	5	
RE120D1	655	630	650	640	5	VPB 154
RE120D2	713	690	710	700	5	
RE120D3	765	740	760	750	5	
TT101D	350	325	345	335	5	VPB129
TT101D1	595	570	590	580	5	
TT101D2	765	740	760	750	5	

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	RE103D1	RE103D2	RE103D3	RE104D1
Sample Date		12/10/2014	12/10/2014	12/10/2014	12/11/2014
Sample ID		RE103D1-GW-121014	RE103D2-GW-121014	RE103D3-GW-121014	RE104D1-GW-121114
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**0.61 J**	< 0.50 U	< 0.50 U	**0.35 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	< 0.50 U	< 0.50 U	< 0.50 U	**6.2**
1,1,2-TRICHLOROETHANE	1	**0.76 J**	**0.55 J**	< 0.50 U	< 0.50 U
1,1-DICHLOROETHANE	5	**1.4**	**0.87 J**	**0.67 J**	< 0.50 U
1,1-DICHLOROETHENE	5	**9.4**	**1.5**	**0.83 J**	**1.2**
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	**4.3**	**1.8 J**	**1.0 J**	**1.5 J**
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
1,4-DIOXANE	NL	**20**	**3.0**	**1.0**	**16**
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	**0.66 J**	**0.61 J**	**0.35 J**	< 0.50 U
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CHLOROFORM	7	**1.0**	**1.2**	**0.88 J**	< 0.50 U
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**4.3**	**1.8**	**1.0**	**1.5**
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	**0.37 J**	< 1.0 U	< 1.0 U	**0.49 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	**5.4**	**0.76 J**	< 0.50 U	**2.6**
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	**1300**	**930**	**600**	**140**
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)	RE104D2	RE104D3	RE105D1	RE105D2
Sample Date		12/11/2014	12/11/2014	12/11/2014	12/11/2014
Sample ID		RE104D2-GW-121114	RE104D3-GW-121114	RE105D1-GW-121114	RE105D2-GW-121114
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	< 0.50 U	< 0.50 U	**0.54 J**	**0.84 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	< 0.50 U	< 0.50 U	**12**	**32**
1,1,2-TRICHLOROETHANE	1	< 0.50 U	< 0.50 U	< 0.50 U	**1.0**
1,1-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	**1.7**
1,1-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	**1.8**	**7.1**
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	**1.4 J**	< 1.0 U	**1.9 J**	**3.8**
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
1,4-DIOXANE	NL	**0.29**	< 0.17 U	**13 J**	**8.7**
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	< 0.50 U	< 0.50 U	**0.30 J**	**4.7**
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	**0.43 J**	< 0.50 U	**0.39 J**	**2.5**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**1.4**	< 0.50 U	**1.9**	**3.8**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 U	< 1.0 U	**0.82 J**	**0.38 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	**0.92 J**
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	**3.4**	< 0.50 U	**120 J**	**1700**
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)	RE105D2	RE108D1	RE108D2	RE120D1
Sample Date		12/11/2014	12/12/2014	12/12/2014	12/12/2014
Sample ID		DUPLICATE-GW-121114	RE108D1-GW-121214	RE108D2-GW-121214	RE120D1-GW-121214
Sample type code		FD	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**0.74 J**	< 0.50 U	**1.3**	**1.9 J**
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	**31**	**1.3**	**6.4**	**40**
1,1,2-TRICHLOROETHANE	1	**1.1**	< 0.50 U	**1.5**	**1.2 J**
1,1-DICHLOROETHANE	5	**1.7**	< 0.50 U	**5.2**	**3.4**
1,1-DICHLOROETHENE	5	**6.7**	< 0.50 U	**7.4**	**21**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***	***< 0.75 U***	***< 0.75 U***	***< 1.5 U***
1,2-DIBROMOETHANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-DICHLOROETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-DICHLOROETHENE, TOTAL	5	**3.5**	**0.46 J**	**9.0**	**4.1**
1,2-DICHLOROPROPANE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,3-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,4-DICHLOROBENZENE	3	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,4-DIOXANE	NL	**6.6**	**13**	**12**	**30**
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 5.0 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 5.0 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 5.0 U
ACETONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 5.0 U
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
CARBON TETRACHLORIDE	5	**4.3**	**0.24 J**	**1.7**	**0.59 J**
CHLOROBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
CHLOROETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
CHLOROFORM	7	**2.5**	< 0.50 U	**3.5**	**0.87 J**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
CIS-1,2-DICHLOROETHENE	5	**3.5**	**0.46 J**	**9.0**	**4.1**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 1.0 U***
CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
DIBROMOCHLOROMETHANE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
DICHLORODIFLUOROMETHANE	5	**0.58 J**	< 1.0 U	< 1.0 U	< 2.0 U
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 1.5 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 5.0 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
TETRACHLOROETHENE	5	**0.94 J**	**1.8**	**1.6**	**1.8 J**
TOLUENE	5	< 0.50 U	< 0.50 U	< 0.50 U	**1.4 J**
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***	***< 0.50 U***	***< 0.50 U***	***< 1.0 U***
TRICHLOROETHENE	5	**1700**	**140**	**3100**	**1300**
TRICHLOROFLUOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 UJ
VINYL CHLORIDE	2	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
XYLENES, TOTAL	5	< 1.5 U	< 1.5 U	< 1.5 U	< 3.0 U

Location	NYSDEC Groundwater Guidance or Standard Value (Note 1)	RE120D2	RE120D3	TT101D	TT101D1
Sample Date		12/12/2014	12/12/2014	12/9/2014	12/9/2014
Sample ID		RE120D2-GW-121214	RE120D3-GW-121214	TT101D-GW-120914	TT101D1-GW-120914
Sample type code		N	N	N	N
VOC 8260C (ug/L)					
1,1,1-TRICHLOROETHANE	5	**0.50 J**	< 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	**24**	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-TRICHLOROETHANE	1	**0.69 J**	< 0.50 U	< 0.50 U	**0.45 J**
1,1-DICHLOROETHANE	5	**1.2**	< 0.50 U	**0.87 J**	**0.78 J**
1,1-DICHLOROETHENE	5	**5.6**	< 0.50 U	**4.1**	**5.0**
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	**0.29 J**	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	**3.4**	< 1.0 U	**3.0**	**1.8 J**
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
1,4-DIOXANE	NL	**16**	< 0.17 U	**7.6**	**12**
2-BUTANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
2-HEXANONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
ACETONE	50	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
BENZENE	1	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOFORM	50	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
BROMOMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
CARBON TETRACHLORIDE	5	**0.74 J**	< 0.50 U	< 0.50 U	**1.7**
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	**0.77 J**	< 0.50 U	**0.54 J**	**0.91 J**
CHLOROMETHANE	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**3.4**	< 0.50 U	**3.0**	**1.8**
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	**0.30 J**	< 1.0 U	**2.2**	**1.7 J**
ETHYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
METHYL ACETATE	NL	< 0.75 U	< 0.75 U	< 0.75 U	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
O-XYLENE	NL	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
STYRENE	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
TETRACHLOROETHENE	5	**3.6**	< 0.50 U	< 0.50 U	< 0.50 U
TOLUENE	5	**0.40 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	**900**	**3.4**	**67**	**160**
TRICHLOROFLUOROMETHANE	5	< 1.0 UJ	< 1.0 UJ	< 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)	TT101D2
Sample Date		12/9/2014
Sample ID		TT101D2-GW-120914
Sample type code		N
VOC 8260C (ug/L)		
1,1,1-TRICHLOROETHANE	5	**0.42 J**
1,1,2,2-TETRACHLOROETHANE	5	< 0.50 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 0.50 U
1,1,2-TRICHLOROETHANE	1	**0.60 J**
1,1-DICHLOROETHANE	5	**0.76 J**
1,1-DICHLOROETHENE	5	**4.6**
1,2,4-TRICHLOROBENZENE	5	< 0.50 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	***< 0.75 U***
1,2-DIBROMOETHANE	NL	< 0.50 U
1,2-DICHLOROBENZENE	3	< 0.50 U
1,2-DICHLOROETHANE	5	< 0.50 U
1,2-DICHLOROETHENE, TOTAL	5	**1.9 J**
1,2-DICHLOROPROPANE	1	< 0.50 U
1,3-DICHLOROBENZENE	3	< 0.50 U
1,4-DICHLOROBENZENE	3	< 0.50 U
1,4-DIOXANE	NL	**2.9**
2-BUTANONE	50	< 2.5 U
2-HEXANONE	50	< 2.5 U
4-METHYL-2-PENTANONE	NL	< 2.5 U
ACETONE	50	< 2.5 U
BENZENE	1	< 0.50 U
BROMODICHLOROMETHANE	50	< 0.50 U
BROMOFORM	50	< 0.50 U
BROMOMETHANE	5	< 1.0 U
CARBON DISULFIDE	60	< 0.50 U
CARBON TETRACHLORIDE	5	**1.3**
CHLOROBENZENE	5	< 0.50 U
CHLOROETHANE	5	< 1.0 U
CHLOROFORM	7	**0.89 J**
CHLOROMETHANE	5	< 1.0 U
CIS-1,2-DICHLOROETHENE	5	**1.9**
CIS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***
CYCLOHEXANE	NL	< 0.50 U
DIBROMOCHLOROMETHANE	5	< 0.50 U
DICHLORODIFLUOROMETHANE	5	< 1.0 U
ETHYLBENZENE	5	< 0.50 U
ISOPROPYLBENZENE	5	< 0.50 U
M- AND P-XYLENE	NL	< 1.0 U
METHYL ACETATE	NL	< 0.75 U
METHYL CYCLOHEXANE	NL	< 0.50 U
METHYL TERT-BUTYL ETHER	10	< 0.50 U
METHYLENE CHLORIDE	5	< 2.5 U
O-XYLENE	NL	< 0.50 U
STYRENE	5	< 0.50 U
TETRACHLOROETHENE	5	**0.53 J**
TOLUENE	5	< 0.50 U
TRANS-1,2-DICHLOROETHENE	5	< 0.50 U
TRANS-1,3-DICHLOROPROPENE	0.4	***< 0.50 U***
TRICHLOROETHENE	5	**520**
TRICHLOROFLUOROMETHANE	5	< 1.0 U
VINYL CHLORIDE	2	< 1.0 U
XYLENES, TOTAL	5	< 1.5 U

Notes:

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

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

Yellow highlighted values exceed Groundwater Standards or guidance value

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

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

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

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

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

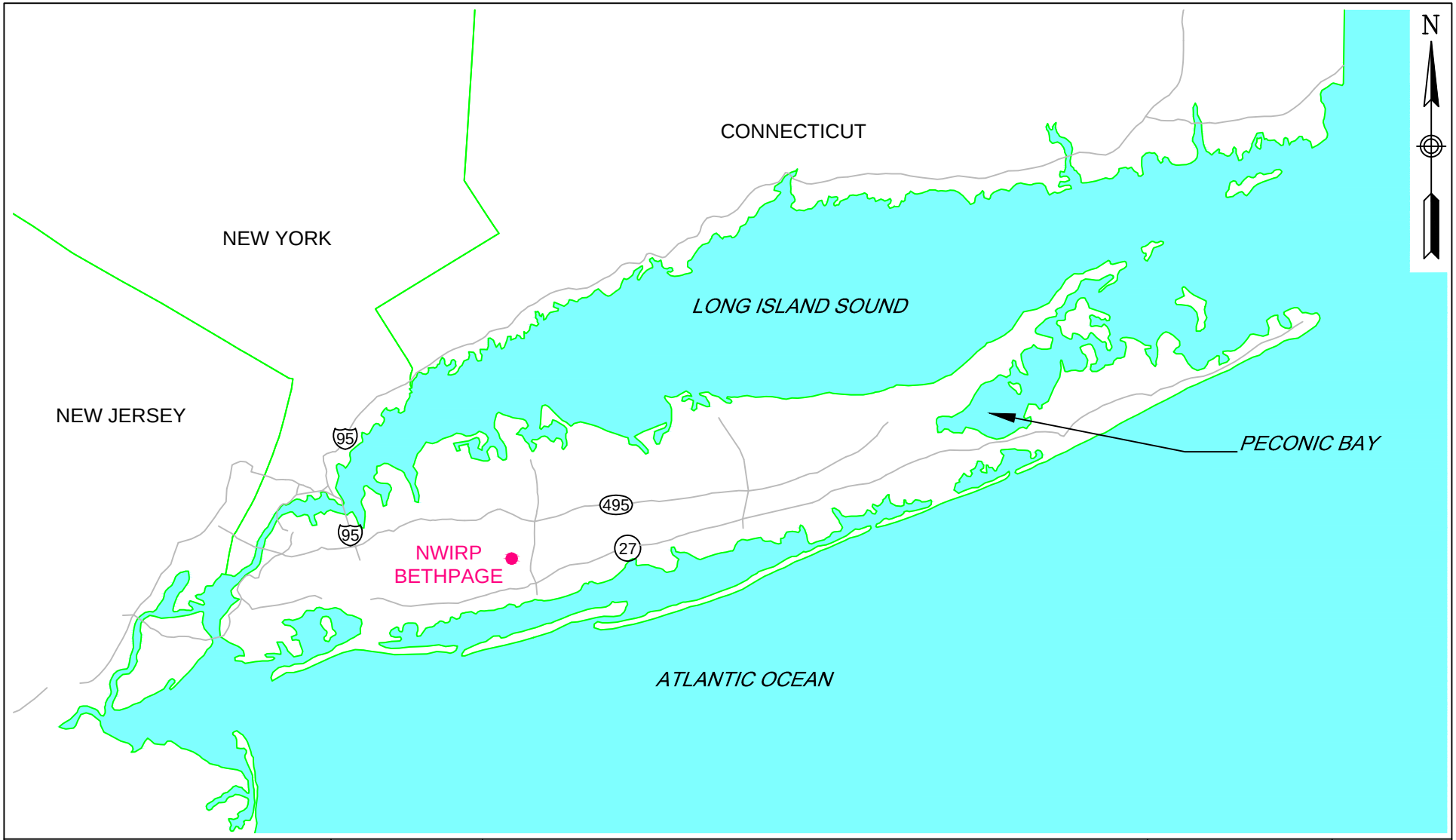
Table 3.
Stabilized Field Parameters

Well	Date	Temperature (°C)	pH	Specific Conductance (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Depth to water (ft bgs)	Flow rate (ml/min)
RE103D1	12/10/2014	12.72	4.59	0.107	4.88	226.4	0.72	38.90	375
RE103D2	12/10/2014	12.47	4.93	0.029	8.43	112	1.83	38.51	400
RE103D3	12/10/2014	14.08	4.34	0.029	6.08	211.9	1.22	38.71	500
RE104D1	12/11/2014	12.59	4.70	0.06	5.05	165.3	0.87	35.3	500
RE104D2	12/11/2014	13.64	4.99	0.022	9.13	195.1	3.03	39.03	500
RE104D3	12/11/2014	12.66	3.70	0.02	6.02	316.3	13.7	38.9	500
RE105D1	12/11/2014	14.05	4.52	0.097	2.06	308	1.44	37.12	550
RE105D2	12/11/2014	13.63	4.62	0.054	6.01	219.1	0.71	39.98	500
RE108D1	12/12/2014	13.59	5.03	0.095	7.92	164.7	95.8	39.70	475
RE108D2	12/12/2014	13.68	4.48	0.081	5.56	306	1.05	40.75	500
RE120D1	12/12/2014	14.52	5.78	0.128	1.31	118.6	11.2	35.10	515
RE120D2	12/12/2014	14.32	5.71	0.077	5.53	139.9	2.87	34.98	450
RE120D3	12/12/2014	14.44	4.35	0.028	4.00	247.3	45.3	35.45	450
TT101D	12/9/2014	14.86	4.45	0.076	0.63	141.6	0.21	32.52	600
TT101D1	12/9/2014	14.43	4.96	0.074	0.88	67.7	1.91	33.4	375
TT101D2	12/9/2014	14.57	4.97	0.033	8.38	162.5	0.72	33.9	500

* Initial water level not equilibrated due to pump installation; drawdown during sampling not determined.

Figures

112G00622\0510\112G00622CM01.DWG 08/02/10 MKB



0 15 30

SCALE IN MILES

NAVFAC

GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

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

F:\Projects\Navy\Bethpage WXE0817.0 Deliverables\7.2 CADD\GIS_files\Bethpage\MAP DOCS\MXD\MISC\2014 03 Wells Sampled\F2 GW Samples 2015 02 19.mxd

Former Northrop Grumman Site

Hooker Ruco

Bethpage Community Park

Former Naval Weapons Industrial Reserve Plant

Former Northrop Grumman Site

N

RE108D1 RE108D2

RE104D1 RE104D2 RE104D3

RE103D1 RE103D2 RE103D3

RE105D1 RE105D2

RE120D1 RE120D2 RE120D3

TT-101D TT-101D1 TT-101D2

0 750 1,500 3,000 Feet

Legend

- Monitoring Well - Sampled
- Monitoring Well - Unsampled
- Vertical Profile Boring
- Water Supply Well
- Extraction Well

LOCATION MAP
DECEMBER 2014 GROUNDWATER SAMPLING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE15
APPROVED BY —	DATE —
APPROVED BY —	DATE —
FIGURE NO. 2	REV 0

Appendices

Appendix A

Groundwater Sampling Forms

RESOLUTION CONSULTANTS

Well ID: TT1010

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 9 / 14 | Time: Start 1000 am/pm
Project No: 60266526 | Finish 1200 am/pm
Site Location: TT1010
Weather Conds: rain 35-40° | Collector(s): Paul Karch

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 34.5 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 32.49 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature ± 3% - D.O. ± 10% (values >0.5 mg/L) Turbidity ± 10%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. ± 3% - Drawdown < 0.3' Remove a minimum 1 screen volume

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	M71544X
	HANNA	HI 9828	064526X

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1035										CN
1045		14.97	4.51	0.080	2.80	317				
1050		14.68	4.54	0.075	2.57	488		600		
1055		15.01	4.59	0.075	1.12	95.5			32.49	
1100	5 gal	14.98	4.56	0.0075	1.34	103.4				
1105	10	14.96	4.56	0.0075	1.34	104.6	4.75			
1110		14.87	4.58	0.073	0.95	111.3				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

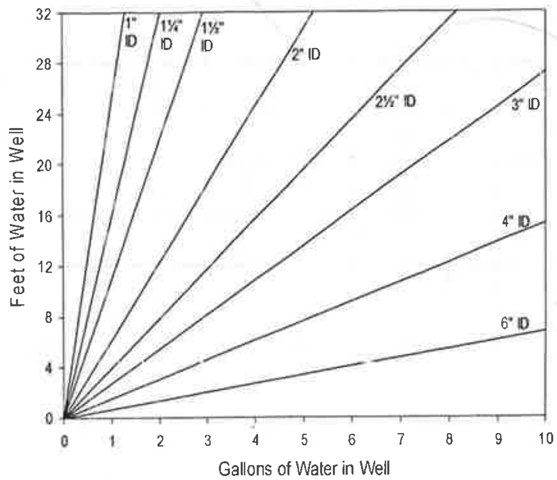
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TT1010-GW-120914	40-mL vial	3	HCl	VOCs	1150
TT1010-GW-120914	1-L amber	2	none	1,4-Dioxane	1150

Comments _____

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1115		10.98	4.53	0.076	0.99	116.2		660	32.51	
1120	½ gal	14.85	4.52	0.076	2.01	121.7	0.47			
1125		14.40	4.50	0.076	0.73	128.9				
1130		14.84	4.47	0.076	0.71	133.3				
1135		14.70	4.46	0.076	0.68	136.5	0.31			
1140	1 gal	14.93	4.45	0.076	0.63	141.6	0.21	608	32.52	
1145										Sample

RESOLUTION CONSULTANTS

Well ID: TT10101

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage Date: 12 / 9 / 14 Time: Start 1002 am/pm
Project No: 60266526 Finish 1300 am/pm
Site Location: TT10101
Weather Conds: rain 35-40° Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 540 c. Length of Water Column _____ (a-b) Casing Diameter/Material 4-inch PVC

b. Water Table Depth 33'4" d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14772184
	HANNA	HI 79803	0645264

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1043	3	14.61	5.33	0.079	1.64	77.2				
1048	6	14.66	5.16	0.076	1.10	68.1				
1054		14.71	5.13	0.076	0.94	64.7				
1101		14.66	5.08	0.076	0.88	63.1		350	33'4"	
1106		14.63	5.07	0.076	0.81	65.8	0.29			
1111	13.5	14.63	5.04	0.076	0.78	63.7				
1117		14.73	5.01	0.076	.71	61.8		350	33'5"	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

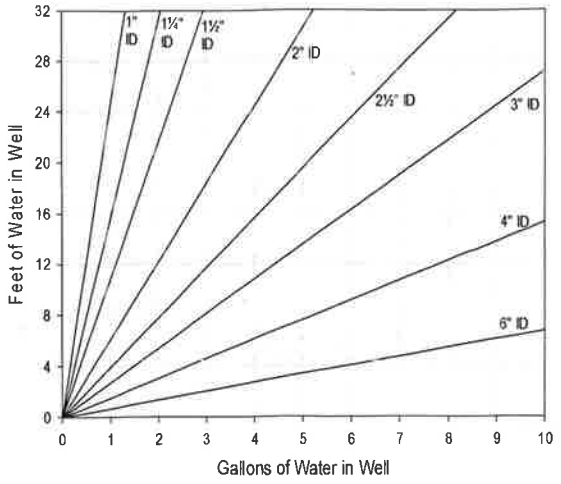
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TT10101-GW-120914	40-mL vial	3	HCl	VOCs	1230
TT10101-GW-120914	1-L amber	2	none	1,4-Dioxane	1230

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1127	16	14.91	5.01	0.076	0.76	61.3	1.55			
1129		14.72	5.00	0.077	0.89	62.4				
1136		14.70	4.98	0.077	0.93	63.9	7.68	415	33.44	
1141		14.74	4.99	0.077	0.91	64.9				
1146		14.80	4.99	0.076	0.91	64.9				
1152		14.73	4.97	0.076	0.90	63.8	5.86	425	33.4	
1157		17.60	4.97	0.075	0.87	63.9				
1202		14.87	4.96	0.075	0.90	64.6				
1208		14.67	4.96	0.075	0.89	66.1	2.11	350	33.45	
1213		14.60	4.96	0.074	0.89	65.3				
1218		14.55	4.96	0.074	0.89	67.1				
1225	50	14.93	4.96	0.074	0.88	67.7	1.91	375	33.4	

RESOLUTION CONSULTANTS

Well ID: TT10102

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage
Project No: 60266526
Site Location: TT10102
Weather Conds: rain, 35-40°
Date: 12 / 9 / 14
Time: Start 1000 am/pm
Finish 1300 am/pm
Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 76.0
c. Length of Water Column _____ (a-b)
Casing Diameter/Material: 4-inch PVC
b. Water Table Depth 33.9
d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	478600
	HANNA	HI 179803	0B4526

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1055		14.50	5.17	0.046	5.86	91.6	0.56	500	33.90	clear/mod
1100		14.32	5.06	0.045	3.57	100.1	0.61	500	33.90	"
1105		14.41	5.03	0.044	3.46	98.2	0.60	500	33.90	"
1110		14.57	5.02	0.044	3.57	102.4	0.61	500	33.90	"
1115		14.68	5.05	0.035	4.58	107.5	0.62	500	33.90	"
1120		14.55	5.00	0.034	4.92	114.4	0.57	500	33.90	"
1125		14.68	4.99	0.034	5.05	117.9	0.57	500	33.90	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION:

Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TT10102-GW-120914	40-mL vial	3	HCl	VOCs	1238
TT10102-GW-120914	1-L amber	2	none	1,4-Dioxane	1238

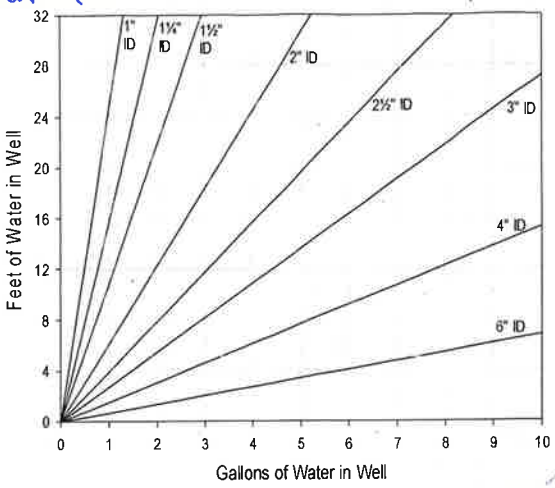
Comments

Signature _____ Date _____

1215	14.56	4.98	0.033	8.38	161.5	0.77	500	33.9
1220	14.57	4.97	0.033	8.32	162.3	0.71	500	33.9
1225	14.58	4.94	0.034	8.35	162.5	0.75	500	33
1230	14.57	4.97	0.033	8.38	162.5	0.72	500	33.9

Purge Volume Calculation

1238 - Sample



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID: MW 101D2

(continued from front)

1125 gals

10 gal →

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1130		14.64	5.05	0.034	6.39	124.1	0.57	500	33.90	clear / no odor
1135		14.60	5.00	0.034	6.99	131.8	0.58	500	33.90	
1140		14.66	4.99	0.034	7.49	135.8	2.09	500	33.90	
1145		14.63	4.99	0.034	8.01	14.2	2.13	500	33.90	
1150		14.63	4.98	0.034	8.07	143.8	1.67	500	33.90	
1155		14.64	4.97	0.034	8.17	149.4	1.80	500	33.90	
1200		14.58	4.99	0.033	8.27	157.3	1.33	500	33.90	
1205		14.56	4.99	0.034	8.24	153.2	6.11	500	33.90	
1210		14.56	4.97	0.033	8.38	158.0	0.71	500	33.90	
1215		14.56	4.98	0.033	8.38					

RESOLUTION CONSULTANTS

Well ID: RE10301

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 10 / 14 | Time: Start 830 am/pm | Finish 1230 am/pm
Project No: 60266526
Site Location: Avoca & Hamlin
Weather Conds: 40° light rain | Collector(s): Joe Yanowitz

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 640 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 38.55 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	471544X
	HANNA	HI 97803	0645261

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
950		12.89	4.35	0.103	3.61	210.5	0.55	425	38.70	
957		12.81	4.75	0.102	2.33	186.3				
1002		13.06	4.80	0.102	2.05	183.2				
1007		13.00	4.82	0.103	2.24	183.0	0.62	425	38.70	
1012		12.97	4.75	0.104	3.42	182.4				
1023		13.07	4.63	0.106	4.30	187.6	.72	425	38.71	
1028	5gal	12.97	4.61	0.106	4.33	193.4				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

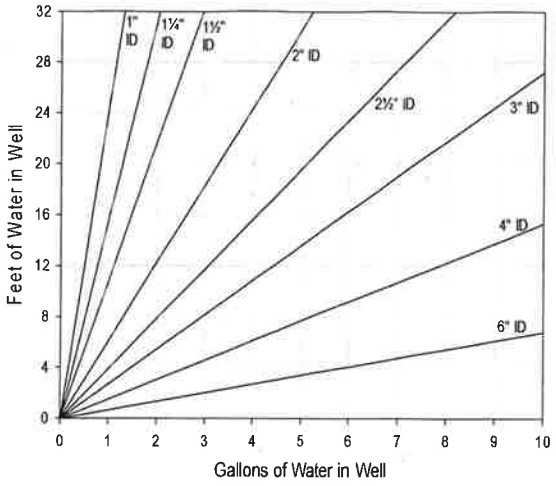
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE10301-GW-121014	40-mL vial	3	HCl	VOCs	1145
RE10301-GW-121014	1-L amber	2	none	1,4-Dioxane	1145

Comments _____

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1032		12.77	4.57	0.106	4.47	196.6				
1038		12.90	4.57	0.107	4.52	202.5	.48	425	38.71	
1043		12.93	4.56	0.107	4.57	204.4				
1050		12.92	4.57	0.108	4.61	207.8				
1056		12.85	4.57	0.108	4.67	210.6	.60	425	38.72	
1101		12.76	4.57	0.108	4.73	212.5				
1106		12.86	4.57	0.108	4.80	213.9				
1111		12.76	4.58	0.108	4.71	215.7	.70	425	38.74	
1117		12.70	4.59	0.108	4.72	217.6				
1122		12.71	4.59	0.108	4.77	218.9				
1128		12.78	4.58	0.108	4.77	221.0	.76	350	38.90	
1134		12.92	4.59	0.108	4.83	222.9				
1139		12.81	4.59	0.108	4.86	224.6	[illegible]			
1142	13gal	12.72	4.59	0.107	4.83	226.4	.72	375	38.90	
1145										Sample

RESOLUTION CONSULTANTS

Well ID: RE1030L

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 10 / 14 | Time: Start 830 am/pm
Project No: 60266526 | Finish 1200 am/pm
Site Location: Bruce & Marbin
Weather Conds: 40° light rain | Collector(s): SC

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 673 | c. Length of Water Column _____ (a-b) | Casing Diameter/Material: 4-inch PVC

b. Water Table Depth ~~673~~ 38.35 | d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556 MPS	~~U1544X~~ U178600X
	HANNA	H179803	0645264

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1005	400 mL/min	11.54	5.25	0.037	11.38	104	1.13	400	38.45	
1015		12.26	5.16	0.036	5.54	83.3		400		
1020		12.39	5.14	0.034	5.63	84.3	1.25	400	38.51	
1030		12.20	6.55	0.032	6.52	89.6				
1035		12.23	6.62	0.033	6.56	87.5	0.85	400	38.52	
1040		12.22	4.92	0.029	5.52	97	0.88	400	38.51	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

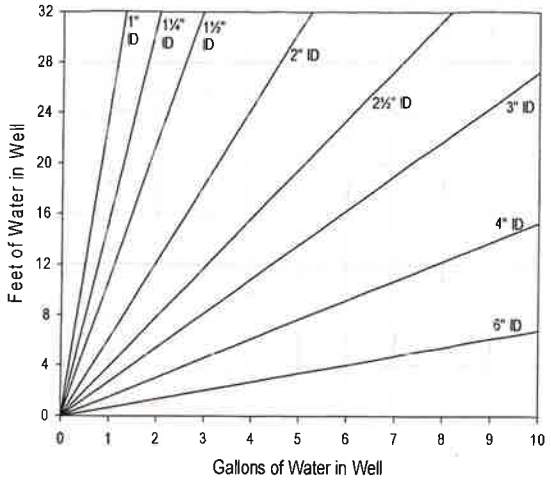
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE1030L-GW-121014	40-mL vial	3	HCl	VOCs	1210
RE1030L-GW-121014	1-L amber	2	none	1,4-Dioxane	1210

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1055		12-20	4.90	0.029	8.67	106	0.85	400	38.49	
1100		12.14	4.90	0.029	8.69	107				
1105		12.49	4.94	0.029	8.62	106	0.95		38.50	
1110		12.58	4.93	0.030	8.51	107				
1115		12.61	4.91	0.029	8.55	113	1.67	400	38.51	
1120		12.41	4.92	0.030	8.37	119			38.52	
1125		12.45	4.95	0.030	8.45	113	1.81	400	38.51	
1130		12.47	4.92	0.029	8.41	119		"	38.51	
1135		12.45	4.95	0.029	8.39	113		"	38.52	
1140		12.48	4.93	0.030	8.42	113	1.79	400	38.51	
1145		12.47	4.95	0.029	8.45	113		"		
1150		12.45	4.95	0.031	8.41	114	1.82	400	38.52	
1155		12.47	4.93	0.029	8.43	112	1.83		38.51	
	136									

RESOLUTION CONSULTANTS

Well ID: RE10303

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 10 / 14 | Time: Start 1000 am/pm | Finish 1300 am/pm
Project No: 60266526
Site Location: Aurora & Martin
Weather Conds: light rain | Collector(s): Paul Kanoth

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 730 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 38.61 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	4772KBX
	HANNA	#179803	064526X

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1000										Start
1015	problems		pull pump							
1020										start
1030		13.52	5.49	0.030	6.13	135.6		500	38.61	
1040		13.81	5.03	0.029	5.37	136.0				
1045		13.89	4.91	0.028	5.05	141.0			38.72	
1050		13.94	4.86	0.028	5.04	153.5			38.68	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION:

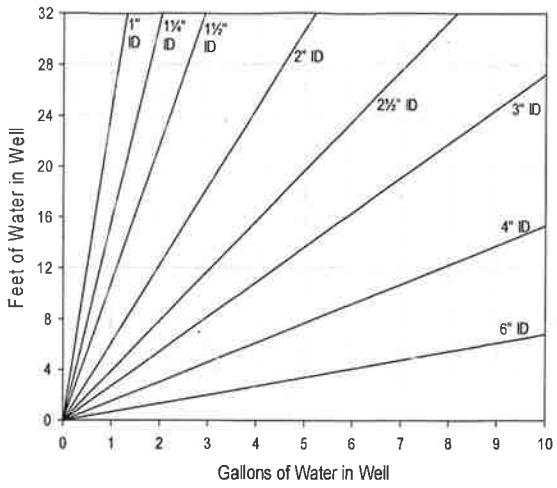
Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE103D3-GW-121014	40-mL vial	3	HCl	VOCs	1210
RE103D3-GW-121014	1-L amber	2	none	1,4-Dioxane	1210

Comments _____

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1055		13.94	4.64	0.028	5.01	154.9	8.58			
1100		14.04	4.48	0.028	5.35	163.4		500		
1105	5 gal	13.99	4.47	0.029	5.39	167.9				
1110		14.08	4.42	0.029	5.61	175.7	2.48		38.69	
1115		14.01	4.40	0.029	5.60	184.0				
1120		14.02	4.38	0.029	5.68	188.6				
1125		14.03	4.37	0.029	5.72	190.1				
1130		14.04	4.37	0.029	5.77	193.3	2.14	500		
1135	10 gal	14.10	4.37	0.029	5.81	196.1				
1140		14.04	4.36	0.029	5.88	200.0				
1145		14.03	4.36	0.029	5.94	203.6				
1150		14.03	4.35	0.029	5.97	206.1	1.22	500	38.71	
1155		14.07	4.33	0.030	5.99	208.7				
1200		14.07	4.33	0.029	6.02	210.6				
1205		14.06	4.34	0.029	6.08	212.9				
1210										Sample

RESOLUTION CONSULTANTS

Well ID: RE104D1

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 11 / 14 | Time: Start 830 am/pm | Finish 1130 am/pm
Project No: 60266526
Site Location: Hilltop
Weather Conds: cold, snow 30-40° | Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 370 c. Length of Water Column _____ (a-b) Casing Diameter/Material 4-inch PVC

b. Water Table Depth 34.75 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	471544X
	HANNA	HI9828-03	0645261

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
845		10.76	3.88	0.061	13.00	196.1		[illegible]	37.60	
850		11.79	4.61	0.061	6.36	127.3		450		
856		11.35	4.55	0.061	5.76	123.9	10.5			
900		11.40	4.53	0.061	5.97	125.0				
905		11.78	4.56	0.060	5.30	126.5	2.02	475	34.90	
910		11.91	4.53	0.060	5.44	131.4				
915	5gal	11.86	4.56	0.059	5.31	131.8				

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

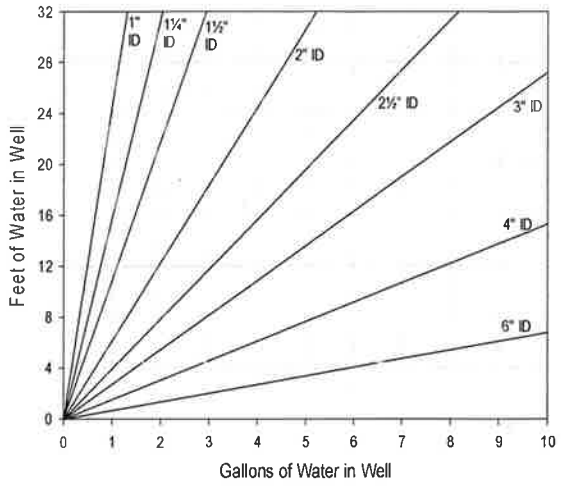
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE104D1-GW-121114	40-mL vial	3	HCl	VOCs	1025
RE104D1-GW-121114	1-L amber	2	none	1,4-Dioxane	

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
920		12.11	4.60	0.059	4.76	135.9	20.2	475	35.10	
925		12.22	4.61	0.059	5.07	137.5				
931		12.22	4.64	0.059	5.08	140.8				
936		12.15	4.63	0.059	5.06	144.5	1.52	500	35.20	
941		12.17	4.65	0.059	5.00	147.4				
947		12.20	4.66	0.059	4.95	149.9				
952		12.53	4.70	0.060	5.02	151.2	1.32	500	35.25	
957	10gal	12.43	4.70	0.059	4.97	152.6				
1002		12.57	4.72	0.060	4.98	156.0				
1007		12.60	4.71	0.060	5.01	158.4	0.85	450	35.25	
1012		12.52	4.70	0.060	4.94	161.0				
1017		12.43	4.70	0.060	5.08	163.8				
1022	13gal	12.54	4.70	0.060	5.05	165.3	0.87	500	35.30	
1025										Sampled

RESOLUTION CONSULTANTS

Well ID: RE104D2

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 11 / 14 | Time: Start 730 am/pm
Project No: 60266526 | Finish 1130 am/pm
Site Location: Hilltop
Weather Conds: cold, snow 30-40° | Collector(s): Toby Chatterjee

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 730 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 38.68 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556 MPS	14E19 477248
	HANNA	HI 97803	0645261

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
900		13.33	5.05	0.024	12.78	162	5.82	500	38.79	clear
0920		13.15	5.06	0.024	10.71	163.4	4.66	500		
0925		13.21	5.04	0.024	9.19	165.8				
0930		13.36	5.02	0.023	9.14	171.3	5.11	500	38.90	
0935	5.9	13.41	5.04	0.021	9.33	175.7	3.05	500	38.98	
0940		13.43	5.02	0.021	9.34	178.1				
0945		13.45	5.02	0.021	9.34	178.3	3.01	500	39.04	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

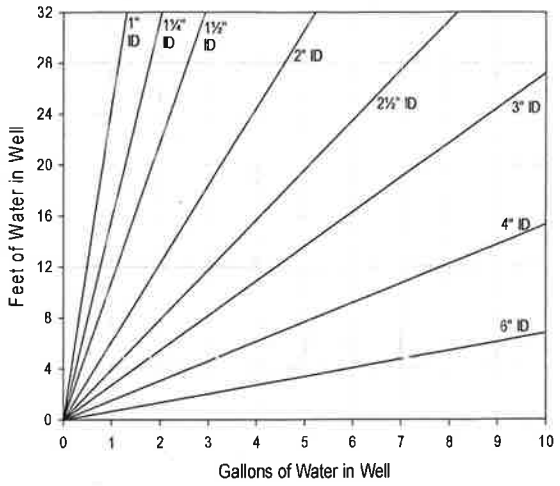
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE104D2-GW-121114	40-mL vial	3	HCl	VOCs	1040
RE104D2-GW-121114	1-L amber	2	none	1,4-Dioxane	1040

Comments _____

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
0950		13.42	5.03	0.021	9.25	180.3	3.46	500	39.04	clear
1000		13.54	5.02	0.026	9.14	186.5			39.04	
1005	10G	13.59	5.02	0.021	9.25	189.4	3.08	500	39.03	
1010		13.61	5.01	0.021	9.14	191.7			39.04	
1015		13.62	4.99	0.021	9.05	193.8	3.05	500	39.04	
1020		13.61	4.98	0.021	9.10	191.7	3.15		39.04	
1025		13.64	5.00	0.021	9.11	194.3		500	39.04	
1030	13gal	13.64	4.99	0.022	9.13	195.1	3.03		39.03	
1040										sample

RESOLUTION CONSULTANTS

Well ID: RG104D3

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 11 / 14 | Time: Start 830 am/pm | Finish 1130 am/pm
Project No: 60266526
Site Location: Hilltop
Weather Conds: snow, cold, 30-40° | Collector(s): Paul Kaneth

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 280 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 38.45 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	478600X
	Hanna	HI 98703	0645-26X

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
915								500	38.87	ON
930		11.86	3.21	0.023	5.49	268.8				
935		11.98	3.47	0.022	5.68	261.9			38.87	
940		12.21	3.67	0.021	5.63	260.1	14.3	500		
945	5 gal	12.39	3.69	0.021	6.14	272.6				
950		12.42	3.68	0.020	6.03	273.7				
955		12.45	3.68	0.020	5.98	274.3				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

(continued on back)

If no or N/A - Explain below.

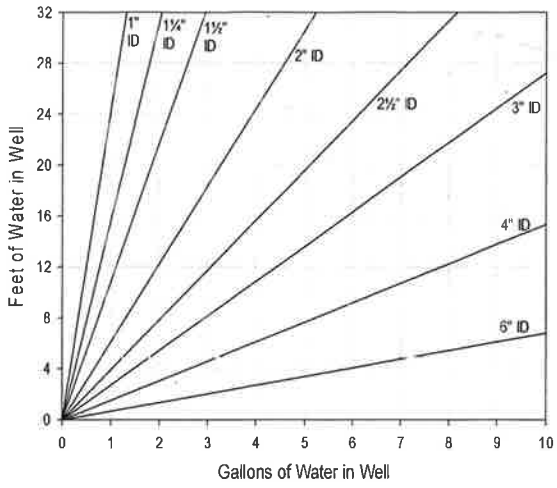
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RG104D3-121114	40-mL vial	3	HCl	VOCs	1100
	1-L amber	2	none	1,4-Dioxane	1100

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID: RE10403 (on 9:15)

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1000		12.62	3.75	0.020	6.09	276.7	11.1	500	38.92	
1005		12.53	3.76	0.020	5.94	282.7				
1010		12.42	3.72	0.020	6.09	288.0				
1015		12.74	3.75	0.020	5.89	290.7	12.8			
1020		12.54	3.76	0.020	5.93	294.6				
1025	10gal	12.73	3.68	0.020	5.84	300.4	10.8	500	38.91	
1030		12.61	3.71	0.020	5.86	304.0				
1035		12.42	3.69	0.020	5.90	308.1	13.0			
1040		12.36	3.67	0.020	5.92	312.2	13.1		38.90	
1045		12.50	3.68	0.020	5.96	313.1	13.9			
1050	13gal	12.66	3.70	0.020	6.02	316.3	13.7			
1100										Sample

RESOLUTION CONSULTANTS

Well ID: RE10501

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 11 / 14 | Time: Start 1230 am/pm | Finish 1600 am/pm
Project No: 60266526
Site Location: Lincoln
Weather Conds: partly sunny | Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 750 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 36.92 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11756OOX
	HANNA	HI 98703	0645261

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1325		13.11	4.09	0.098	4.92	300.9	4.74	500	36.95	
1332		13.81	4.72	0.094	3.35	272.9				
1337		12.90	4.79	0.098	2.59	272.3				
1342		14.07	4.74	0.098	2.33	276.0	1.18	525	37.00	
1349		13.99	4.74	0.098	2.17	280.3				
1355		13.96	4.67	0.097	2.17	283.1				
1400		14.00	4.65	0.097	2.25	281.2	6.23	515	37.02	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

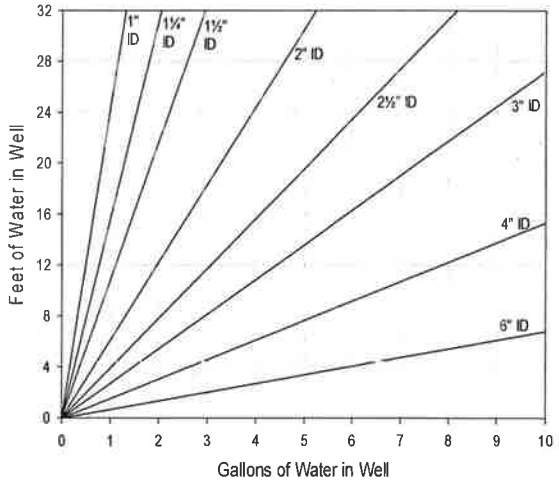
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE10501-GW-121114	40-mL vial	3	HCl	VOCs	1500
"	1-L amber	2	none	1,4-Dioxane	1500
MS/MSD					

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1405		13.94	4.62	0.097	2.22	290.2				
1410		13.97	4.61	0.097	2.24	294.1				
1415		14.01	4.59	0.097	2.26	295.6	3.53	525	37.10	
1420		14.04	4.58	0.097	2.17	297.5				
1425		14.03	4.56	0.097	2.19	299.5	1.64	550	37.10	
1430		14.07	4.54	0.097	2.13	304.1				
1440		14.05	4.53	0.097	2.09	305.2			~~37.12~~	
1445		14.05	4.52	0.097	2.05	306.8	1.44	550	37.12	
1450	13gal	14.05	4.52	0.097	2.06	308.0				
										Sagle
1500										

RESOLUTION CONSULTANTS

Well ID: RE-105D2

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 11 / 14 | Time: Start 1230 am/pm
Project No: 60266526 | Finish 1600 am/pm
Site Location: Lincoln
Weather Conds: partly cloudy 40° | Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 550 | c. Length of Water Column _____ (a-b) | Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 39.31 | d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556 MPS	~~11G19~~ 11772198

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1310										
Water in air line										
1335		9.81	4.97	0.047	12.48	198.7		350	39.69	clear
1340		13.13	4.98	0.051	8.09	199.7			39.70	
1345		small amount	0	water in	air line					
1350		12.11	started	not	running					
1355		13.22	4.88	0.051	5.08 ✓	204.7		450		

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

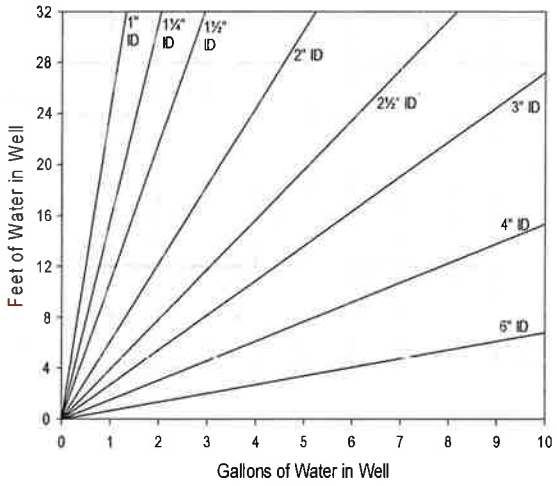
Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE105D2-GW-121114	40-mL vial	3	HCl	VOCs	1530
"	1-L amber	2	none	1,4-Dioxane	1530
DUPLICATE-GW-121114	"	"	"	"	1600

Duplicate collected at 1600

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1405		13.38	4.83	0.052	5.06	206.5	5.28	450	39.81	clear
1410		13.28	4.78	0.052	5.51	208.3		450	39.80	
1415		13.39	4.73	0.053	5.83	209.6	3.94	500	39.82	
1420	5 G	13.47	4.70	0.069	6.03	212.1		500	39.85	
1425		13.58	4.68	0.055	6.17	213.8	3.78		39.86	
1430		13.48	4.67	0.054	6.01	213.6		500	39.86	
1435		13.60	4.66	0.055	6.12	215.2	3.55		39.95	
1440		13.57	4.65	0.055	6.09	215.3	0.66	500	39.96	
1445		13.54	4.65	0.054	6.10	216.4			39.96	
1450	10 G	13.58	4.65	0.055	6.08	217.3	0.71		39.98	
1455		13.42	4.64	0.054	6.07	218.6	0.85		39.96	
1500		13.51	4.64	0.054	6.03	218.9			39.98	
1505		13.65	4.64	0.054	5.99	219.1	0.71		39.98	
1510		13.64	4.63	0.054	6.01	219.7			39.98	
1515		13.63	4.62	0.054	6.01	219.1	0.71		39.98	

RESOLUTION CONSULTANTS

Well ID: RE120D1

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 12 / 14 | Time: Start 730 am/pm | Finish 1200 am/pm
Project No: 60266526
Site Location: Shelley
Weather Conds: cloudy 33 · 40° | Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 650 c. Length of Water Column _____ (a-b) Casing Diameter/Material 4-inch PVC

b. Water Table Depth 35.00 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	71544X
	HANNA	HI 9863	061526X

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1100		13.81	5.70	0.115	6.04	120.5	22.7	500	35.11	
1105		13.92	5.68	0.116	4.48	119.3				
1110		14.25	5.66	0.118	3.98	121.0				
1115		14.22	5.71	0.125	3.00	121.3	13.2	515	35.09	
1120		14.20	5.72	0.123	2.39	120.0				
1125		14.17	5.71	0.124	1.83	121.5	9.			
1130		14.35	5.74	0.126	1.67	119.8	7.50	515	35.09	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

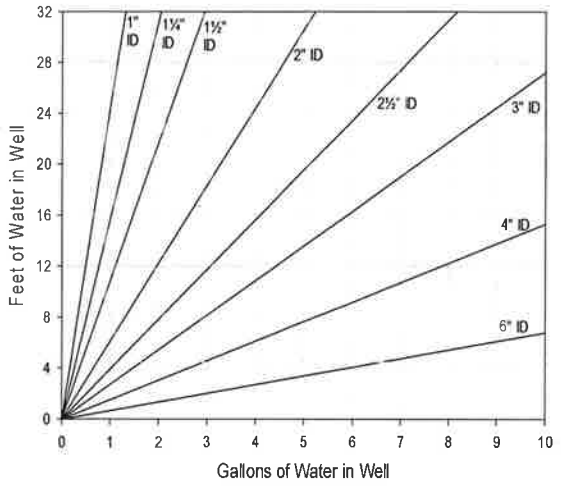
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time 1230
RE120D1-GW-121214	40-mL vial	3	HCl	VOCs	1230
	1-L amber	2	none	1,4-Dioxane	1230

Comments: Instl pump 8:00, Compressor problems pull pump, Swapd out different compressor (All three Broken), Couldnt start until one of the other compressors was available

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1135		14.31	5.73	0.126	1.61	119.2	7.51	515	35.09	
1140		14.34	5.74	0.125	1.58	119.3			35.09	
1145		14.35	5.75	0.126	1.53	118.7	[illegible]	[illegible]	[illegible]	
1150		14.30	5.77	0.126	1.43	119.2	11.9	515	35.09	
1155		14.40	5.78	0.127	1.41	117.2				
1200		14.41	5.79	0.127	1.39	116.0				
1205		14.40	5.79	0.127	1.35	116.2	10.9	515	35.10	
1210		14.28	5.79	0.127	1.30	116.5	10.0			
1220	13gal	14.52	5.78	0.128	1.31	118.6	11.2			
1230										Samples

RESOLUTION CONSULTANTS

Well ID: RE120 DX2

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage Date: 12 / 12 / 14 Time: Start 730 am/pm
Project No: 60266526 Finish 1200 am/pm
Site Location: Shelley
Weather Conds: cloudy 33-40 Collector(s): Paul Kraeth

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 210 / 760 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 34.28 / 35.32 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	17218 X
	Hanna	HI 79803	064526 X

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
940										ON
945		13.66	6.20	0.071	8.39	117.0		500		
950		13.81	5.93	0.072	6.60	115.9	35			
955		13.88	5.93	0.072	6.41	117.5		500	35.02	
1000		14.05	5.81	0.075	6.31	120.8	7.46		35.02	
1005		14.02	5.76	0.077	6.12	123.3		500	35.02	
1010	5G	13.94	5.74	0.077	6.06	124.6	9.12		35.01	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

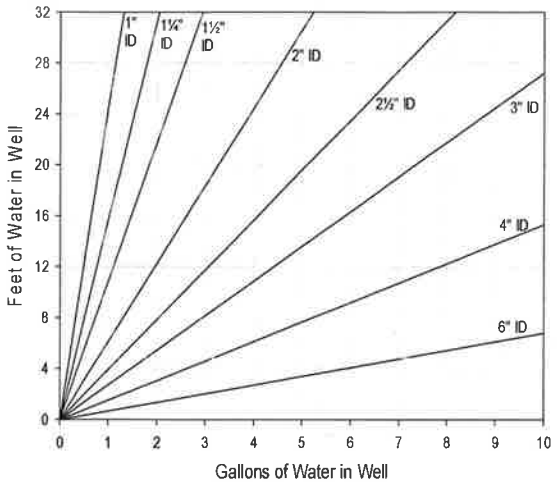
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE120S02-GW-121214	40-mL vial	3	HCl	VOCs	1120
"	1-L amber	2	none	1,4-Dioxane	1120

Comments _____

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1020		14.30	5.71	0.077	4.95	127.7		450		
1025		14.20	5.73	0.076	5.01	130.1				
1030		14.07	5.74	0.076	10.59	134.5	5.87		34.94	
1035		14.50	5.72	0.076	6.96	135.1			34.95	
1040		14.29	5.71	0.076	6.63	136.1			34.97	
1045		14.37	5.72	0.077	6.56	135.9				
1050	10gal	14.24	5.72	0.076	6.40	136.2	6.75		34.98	
1055		14.24	5.71	0.077	5.92	137.0				
1100		14.19	5.70	0.077	5.83	137.2	3.09			
1105		14.17	5.70	0.077	5.73	138.4				
1110		14.26	5.71	0.077	5.58	139.6				
1115	13gal	14.32	5.71	0.077	5.33	139.7	2.87	450	34.98	
1120	Sample									

RESOLUTION CONSULTANTS

Well ID: RE120 DX3

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage Date: 12 / 12 / 14 Time: Start 1230 am/pm
Project No: 60266526 Finish 1700 am/pm
Site Location: Shelley
Weather Conds: cloudy 33.40° Collector(s):

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 760 - 724.68 = 35.32 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 34.78 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556 MPS	U78600X
	Hanna	HI 98703	0645261

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
0920		13.32	3.74	0.029	9.45	221	67.1	450	35.45	
0930		13.68	3.98	0.028	7.29	206		450	35.45	cloudy
0935		14.16	4.44	0.027	4.50	198.3				
0945		13.94	4.51	0.029	4.37	203.3				
0950		14.00	4.49	0.028	4.34	203.7				
0955	5gal	14.03	4.47	0.028	4.30	213.3	62		35.45	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

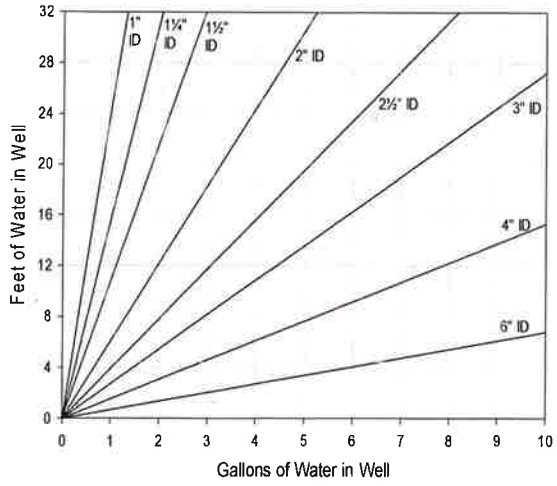
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE120D3-121214	40-mL vial	3	HCl	VOCs	1140
RE120D3-121214	1-L amber	2	none	1,4-Dioxane	1140

Comments

Signature Date

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1000		13.96	4.41	0.028	4.27	222	56.4	450	35.45	
1005		14.18	4.34	0.028	4.23	230		450		
1010		14.13	4.37	0.028	4.11	235.1	53.7	450	35.44	
1015		14.29	4.39	0.028	3.99	237.1	50.1	450	35.44	
1020	10 G	14.36	4.37	0.028	3.96	237.6			35.45	
1025		14.23	4.37	0.028	4.04	240.1	41.2	450	35.45	
1030		14.53	4.35	0028	3.96	241.3	45.5		35.45	
1035		14.53	4.38	0.027	4.03	242.5		450	35.45	
1040		14.39	4.38	0.028	3.99	247	47.3		35.45	
1045		14.45	4.36	0.028	3.98	245	41.2		35.45	
1050	13 gal	14.44	4.35	0.028	4.00	247.3	45.3	450		
1055										

RESOLUTION CONSULTANTS

Well ID: R610BD1

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 12 / 14 | Time: Start 1315 am/pm | Finish 1630 am/pm
Project No: 60266526
Site Location: Corona and Cer'l
Weather Conds: sunny 40° | Collector(s): Saby Chatterjee

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 550 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 39.70 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature ± 3% - D.O. ± 10% (values >0.5 mg/L) Turbidity ± 10%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. ± 3% - Drawdown < 0.3' Remove a minimum 1 screen volume

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14751144X
	Hanna	HI 729803	06452640

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1415		13.96	5.64	0.100	7.19	115.1	10.3	450	39.82	OH
1420		14.03	5.35	0.099	7.24	119.2				
1425		13.93	5.27	0.098	7.56	121.9				
1430		14.02	5.23	0.097	7.89	125.0	181	500	39.85	
1435		14.08	5.16	0.097	8.09	130.2				
1440		13.95	5.17	0.097	8.14	132.4				
1445		14.00	5.14	0.097	8.02	134.3	228	500	39.85	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

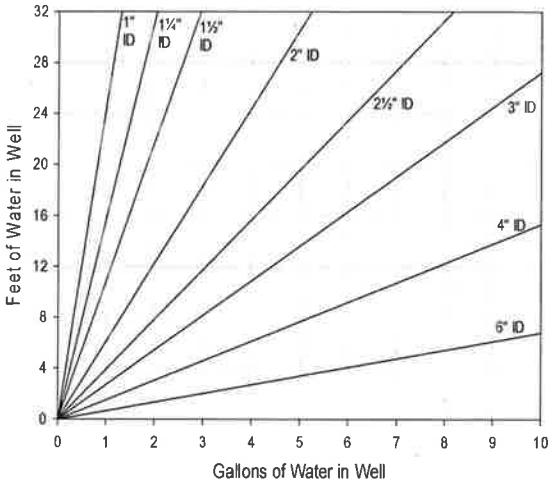
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
R610BD1-GW-121214	40-mL vial	3	HCl	VOCs	1550
R610BD1-GW-121214	1-L amber	2	none	1,4-Dioxane	1550

Comments: high turbidity caused by pump hitting the bottom

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID: RE108D1 (1415)

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1450		13.88	5.13	0.096	8.14	137.5				
1455		13.86	5.12	0.096	8.12	140.2				
1500		13.82	5.11	0.096	8.04	141.9	166	475	39.90	
1505		13.74	5.09	0.096	8.07	145.2				
1510		13.65	5.08	0.096	7.90	147.6				
1515		13.78	5.08	0.096	7.94	149.1	121	475	39.91	
1520	10gal	13.62	5.07	0.095	7.94	153.4				
1525		13.59	5.05	0.095	7.89	155.8	98.8			
1530		13.57	5.05	0.095	7.95	157.7	94.5	450	39.75	
1535		13.66	5.05	0.095	7.96	160.5	89.1			
1540		13.49	5.04	0.095	7.94	162.1	92.7			
1545	15gal	13.59	5.03	0.095	7.92	164.7	95.8	475	39.70	
1550										Sampled

Well ID: RE108D2

RESOLUTION CONSULTANTS

Low Flow Ground Water Sample Collection Record

Client: Navy NWIRP Bethpage | Date: 12 / 12 / 14 | Time: Start 1315 am/pm
Project No: 60266526 | Finish 1630 am/pm
Site Location: Corona (Cell)
Weather Conds: Sunny 40° | Collector(s): Joe Vanderhei

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 650 c. Length of Water Column _____ (a-b)

Casing Diameter/Material: 4-inch PVC

b. Water Table Depth 40.52 d. Calculated System Volume (see back) 13.1 gal / 49.4 L (20 ft screen length)

2. WELL PURGE DATA

a. Purge Method: Geotech bladder pump with drop tube assembly

b. Acceptance Criteria defined (see workplan)

- Temperature	± 3%	- D.O.	± 10% (values >0.5 mg/L)	Turbidity	± 10%
- pH	± 0.1 unit	- ORP	± 10mV		
- Sp. Cond.	± 3%	- Drawdown	< 0.3'	Remove a minimum 1 screen volume	

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556 MPS	J549744
Hanna	HI 79803	064526

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1405		12.82	5.00	0.087	9.15	87.1	2.76	500	40.67	clear
1410		13.80	4.85	0.086	5.09	243			40.69	clear
1415		13.75	4.75	0.084	4.36	250.7	1.75	500	40.69	
1420		13.82	4.68	0.083	4.54	259.7		500	40.69	
1425		13.84	4.55	0.082	5.29	269.7	1.71		40.69	
1430		13.85	4.55	0.082	5.22	272.6		500	40.70	
1435	5G	13.80	4.53	0.082	5.29	277.4	1.84		40.70	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

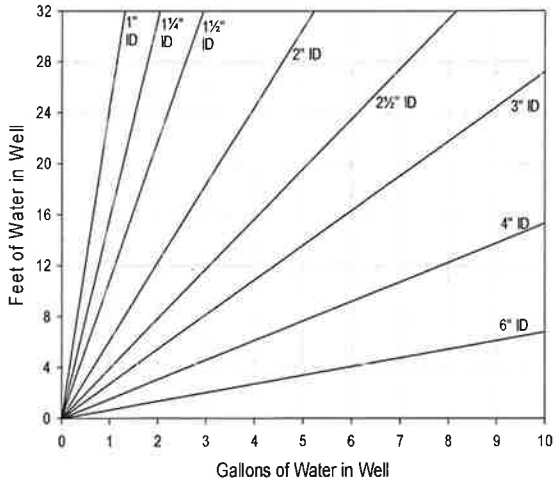
3. SAMPLE COLLECTION: Method: Geotech bladder pump with drop tube assembly

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RE108D2-GW-121214	40-mL vial	3	HCl	VOCs	1545
RE108D2-GW-121214	1-L amber	2	none	1,4-Dioxane	1545

Comments

Signature _____ Date _____

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Well ID:

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Depth to water (ft)	Color/Odor
1440		13.81	4.53	0.082	5.21	285.6		500	40.70	
1445		13.79	4.53	0.082	5.23	286.2	1.75		40.73	
1450		13.86	4.51	0.082	5.20	288.3	1.21	500	40.74	
1455		13.79	4.51	0.081	5.27	292.4	1.04	500	40.74	
1600		13.78	4.51	0.082	5.27	292.6	0.95	500	40.74	
1605	10 G	13.75	4.51	0.081	5.34	296.7		500	40.74	
1610		13.84	4.49	0.081	5.39	299.6	1.09	500	40.75	
1615		13.71	4.49	0.081	5.45	299				
1620		13.69	4.50	0.081	5.53	304	1.11	500	40.75	
1625		13.68	4.50	0.081	5.52	305		500	40.75	
1630		13.68	4.49	0.081	5.55	306	1.05	500	40.75	
1535	13G	13.68	4.48	0.081	5.56	306		500	40.75	

Appendix B

Data Validation

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	TH0485	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Semivolatile Organic Compounds (SVOCs) by U.S. EPA SW-846 Method 8270D via Selective Ion Monitoring (SIM)	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 02/04/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: TH0485_8260C_8270D

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 9 to 10 December 2014 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
RE103D1-GW-121014	Ground water	8260C/8270D_SIM
RE103D2-GW-121014	Ground water	8260C/8270D_SIM
RE103D3-GW-121014	Ground water	8260C/8270D_SIM
TRIP BLANK_12092014	Trip Blank	8260C
TT101D1-GW-120914	Ground water	8260C/8270D_SIM
TT101D2-GW-120914	Ground water	8260C/8270D_SIM
TT101D-GW-120914	Ground water	8260C/8270D_SIM

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *SW-846 Method 8270D, Semivolatile Organic Compounds by Gas Chromatograph/Mass Spectrometry* (U.S. EPA, 2007), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program*

National Functional Guidelines for Superfund Organic Methods Data Review (NFG, June 2008), and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

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

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

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. Acceptable data parameters for which all criteria were met and no qualification was performed and non-conformance or other issues that were noted during validation, but did not result in qualification of data are not discussed further.

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality and no results were qualified during this data review. All compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory. Analytical completeness was calculated to be 100% and the data are usable for their intended purpose, according to U.S. EPA guidelines and Department of Defense guidelines. Attachment A provides final results after data review.

ATTACHMENTS

Attachment A: Final Results after Data Review

Attachment A
Final Results after Data Review

			Lab ID	TH0485-1	
			Sample ID	TT101D-GW-120914	
			Sample Date	12/9/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.87	J
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	4.1	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.29	J
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	3	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	0.54	J
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	2.2	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	67	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	7.6	

			Lab ID	TH0485-2	
			Sample ID	TT101D1-GW-120914	
			Sample Date	12/9/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.45	J
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.78	J
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	5	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.8	J
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1.7	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	0.91	J
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.8	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1.7	J
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	160	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	12	

			Lab ID	TH0485-3	
			Sample ID	TT101D2-GW-120914	
			Sample Date	12/9/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.42	J
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.6	J
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.76	J
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	4.6	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.9	J
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1.3	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	0.89	J
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.9	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.53	J
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	520	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	2.9	

			Lab ID	TH0485-4	
			Sample ID	TRIP BLANK_12092014	
			Sample Date	12/9/2014	
			Matrix	TRIP BLANK	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	NA	

			Lab ID	TH0485-5	
			Sample ID	RE103D3-GW-121014	
			Sample Date	12/10/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.67	J
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.83	J
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	J
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.35	J
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	0.88	J
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	600	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	1	

			Lab ID	TH0485-6	
			Sample ID	RE103D1-GW-121014	
			Sample Date	12/10/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.61	J
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.76	J
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.4	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	9.4	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	4.3	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.66	J
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	1	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	4.3	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.37	J
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	5.4	
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	1300	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	20	

			Lab ID	TH0485-7	
			Sample ID	RE103D2-GW-121014	
			Sample Date	12/10/2014	
			Matrix	Groundwater	
Method	**Analyte**	**CAS No**	**Units**	Result	Qual
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.55	J
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.87	J
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1.5	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.8	J
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U
8260C	ACETONE	67-64-1	UG_L	2.5	U
8260C	BENZENE	71-43-2	UG_L	0.5	U
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U
8260C	BROMOFORM	75-25-2	UG_L	0.5	U
8260C	BROMOMETHANE	74-83-9	UG_L	1	U
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.61	J
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U
8260C	CHLOROETHANE	75-00-3	UG_L	1	U
8260C	CHLOROFORM	67-66-3	UG_L	1.2	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.8	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U
8260C	O-XYLENE	95-47-6	UG_L	0.5	U
8260C	STYRENE	100-42-5	UG_L	0.5	U
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.76	J
8260C	TOLUENE	108-88-3	UG_L	0.5	U
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U
8260C	TRICHLOROETHENE	79-01-6	UG_L	930	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U
8270D	1,4-DIOXANE	123-91-1	UG_L	3	

Attachment A
Final Results after Data Review

Notes:

ID	=	Identification
UG_L	=	Micrograms per liter
Qual	=	Final qualifier
U	=	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	=	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	TH0532	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Total Organic Carbon (TOC) by U.S. EPA SW-846 Method 9060A	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 02/06/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: TH0532_8260C_9060A

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 20 November 2014 and 10 December 2014 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB153-GW-120814-718-720	Groundwater	8260C
VPB153-GW-120814-738-740	Groundwater	8260C
VPB153-SOIL-112014-423-425	Soil	9060A
VPB153-SOIL-D-112014	Field Duplicate	9060A
VPB153-TRIP BLANK-121114	Trip Blank	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *SW-846 Method 9060A, Total Organic Carbon* (U.S. EPA, 1996), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory*

Program National Functional Guidelines for Inorganic Superfund Data Review (NFG, January 2010) and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

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

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

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

RESULTS

Data Completeness/Sample Integrity

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

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

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

Due to limitations in the reporting system, the laboratory omitted the first characters "VPB-" and middle characters "GW-" from the sample ID in samples VPB153-GW-120814-718-720 and VPB153-GW-120814-738-740, and truncated Trip Blank to "TB" in the report. Below shows a list of samples that were mostly comprised of soil and not very much liquid:

- VPB153-GW-120814-738-740 had three vials decanted, composited into one vial and analyzed at a dilution of 1:4;

- VPB153-GW-120814-718-720 had one vial decanted prior to analysis.

Positive and non-detected results for both samples listed above were qualified as estimated (j and UJ) respectively due to possible loss of sample integrity during the decanting process. Non-conformances are summarized in Attachment A in Table A-1.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular laboratory blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related.
Non-conformances are summarized in Attachment A in Table A-1.

Blank Non-conformances Chart:

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

Notes:

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

Field Duplicate

Field duplicate RPDs were reviewed for conformance with the Resolution Consultants QC criteria of ≤50% for solid matrices and ≤30% for aqueous matrices. These criteria apply if both results were greater than two times the limit of quantitation (LOQ). Non-conformance is summarized in Attachment A in Table A-2. Data qualification to the analytes associated with the specific field duplicate RPDs was as follows:

Field Duplicate Non-conformances Chart:

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

Notes:

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

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. Environmental Protection Agency and Department of Defense guidelines. Table 1 shows a summary of qualified data as a result of validation actions. Final data review qualifiers

used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

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

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-120814-718-720	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	2-BUTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	ACETONE	17	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-120814-718-720	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-120814-718-720	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-120814-718-720	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1,1-TRICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1,2,2-TETRACHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1,2-TRICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1-DICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,1-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2,4-TRICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DIBROMO-3-CHLOROPROPANE	3.0	3.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DIBROMOETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DICHLOROETHENE, TOTAL	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,2-DICHLOROPROPANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,3-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	1,4-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	2-BUTANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-120814-738-740	2-HEXANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-120814-738-740	4-METHYL-2-PENTANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-120814-738-740	ACETONE	22	10	20	UG_L	UJ	bt,mc
VPB153-GW-120814-738-740	BENZENE	2.0	2.0	4.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-120814-738-740	BROMODICHLOROMETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	BROMOFORM	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	BROMOMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CARBON DISULFIDE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CARBON TETRACHLORIDE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CHLOROETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CHLOROFORM	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CHLOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CIS-1,2-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CIS-1,3-DICHLOROPROPENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	CYCLOHEXANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	DIBROMOCHLOROMETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	DICHLORODIFLUOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	ETHYLBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	ISOPROPYLBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	M- AND P-XYLENE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	METHYL ACETATE	3.0	3.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	METHYL CYCLOHEXANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	METHYL TERT-BUTYL ETHER	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	METHYLENE CHLORIDE	10	10	20	UG_L	UJ	mc
VPB153-GW-120814-738-740	O-XYLENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	STYRENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	TETRACHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	TOLUENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	TRANS-1,2-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	TRANS-1,3-DICHLOROPROPENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	TRICHLOROETHENE	2.8	2.0	4.0	UG_L	J	mc
VPB153-GW-120814-738-740	TRICHLOROFLUOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	VINYL CHLORIDE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-120814-738-740	XYLENES, TOTAL	6.0	6.0	12	UG_L	UJ	mc
VPB153-SOIL-112014-423-425	TOTAL ORGANIC CARBON	6800	460	620	UG_G	J	fd
VPB153-SOIL-D-112014	TOTAL ORGANIC CARBON	2800	460	620	UG_G	J	fd

Notes:

ID	=	Identification
LOD	=	Limit of detection
LOQ	=	Limit of quantitation
UG_L	=	Micrograms per liter
UG_G	=	Micrograms per gram
Validation Qual	=	Qualifier codes and explanation (Refer to Attachment B)
Reason Code	=	Reason code (Refer to Attachment C)

Attachment A
Non Conformance Summary Table

Table (A-1)
Field Blanks

Blank ID	Analyte	Blank Result (UG_L)	LOD	LOQ	Associated Samples	Sample Result (UG_L)	Qualifier
VPB153-TRIP BLANK	ACETONE	7.0	2.5	5.0	VPB153-GW-120814-718-720	17	U
VPB153-TRIP BLANK	ACETONE	7.0	2.5	5.0	VPB153-GW-120814-738-740	22	U

Notes:

LOD = Limit of detection
LOQ = Limit of quantitation
UG_L = Micrograms per liter
U = Sample qualified as undetected "U" because the analyte concentration was less than the LOQ.

Table (A-2)
Field Duplicate

Sample ID	Duplicate ID	Compound	Sample Result (UG_G)	Duplicate Result (UG_G)	LOQ	RPD	Qualifiers
VPB153-SOIL-112014-423-425	VPB153-SOIL-D-112014	TOTAL ORGANIC CARBON	6800	2800	620	83.3	J - both results

Notes:

UG_G = Micrograms per gram
LOQ = Limit of quantitation
RPD = Relative percent difference
J = Estimated value

Attachment B
Qualifier Codes and Explanations

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

Attachment C
Reason Codes and Explanations

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

Attachment D
Final Results after Data Review

		Lab ID	TH0532-1		
		Sample ID	VPB153-GW-120814-718-720		
		Sample Date	12/8/2014		
		Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	17	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

			Lab ID	TH0532-2DL		
			Sample ID	VPB153-GW-120814-738-740		
			Sample Date	12/8/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	2	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	2	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	4	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	2	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	4	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	4	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2.8	J	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	4	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

			Lab ID	TH0532-3		
			Sample ID	VPB153-TRIP BLANK-121114		
			Sample Date	12/11/2014		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	7		
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

			Sample Delivery Group	TH0532		
			Lab ID	TH0532-4		
			Sample ID	VPB153-SOIL-112014-423-425		
			Sample Date	11/20/2014		
			Sample Type	Soil		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
9060A	TOTAL ORGANIC CARBON	-28	UG_G	6800	J	fd

			Sample Delivery Group	TH0532		
			Lab ID	TH0532-5		
			Sample ID	VPB153-SOIL-D-112014		
			Sample Date	11/20/2014		
			Sample Type	Field Duplicate		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
9060A	TOTAL ORGANIC CARBON	-28	UG_G	2800	J	fd

Notes:

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

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	TH0534	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Semivolatile Organic Compounds (SVOCs) by U.S. EPA SW-846 Method 8270D via Selective Ion Monitoring (SIM)	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 02/10/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: TH0534_8260C_8270D

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 11 December 2014 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
RE104D1-GW-121114	Ground water	8260C/8270D_SIM
RE104D2-GW-121114	Ground water	8260C/8270D_SIM
RE104D3-GW-121114	Ground water	8260C/8270D_SIM
RE105D1-GW-121114	Ground water	8260C/8270D_SIM
RE105D2-GW-121114	Ground water	8260C/8270D_SIM
DUPLICATE-GW-121114	Field Duplicate of RE105D2-GW-121114	8260C/8270D_SIM
TRIP BLANK_12112014	Trip Blank	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *SW-846 Method 8270D, Semivolatile Organic Compounds by Gas Chromatograph/Mass Spectrometry*

(U.S. EPA, 2007), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

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

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

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

RESULTS

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular laboratory blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related.
Non-conformances are summarized in Attachment A in Table A-1.

Field Blank Non-conformances Chart:

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

Notes:

LOQ	=	Limit of quantitation
U	=	Undetected refer to Attachment B
R	=	Rejected

MS/MSD Results

MS/MSDs are generated to provide information about the effect of each sample matrix on the sample preparation and the measurement methodology. MS/MSD percent recoveries (%Rs) assess the effect of the sample matrix on the accuracy of the analytical results and %Rs above the laboratory control limit could indicate a potential high result bias while %Rs below QC limits could indicate a potential low result bias. The relative percent differences (RPDs) between the MS and MSD results are evaluated to assess sample precision. The MS/MSD %Rs and RPDs were reviewed for conformance with the QC acceptance criteria. Non-conformances are summarized in Attachment A in Table A-2. Data qualification to the analytes associated with the specific MS/MSD non-conformances were as follows:

MS/MSD Non-conformances Chart:

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

Notes:

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

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. Environmental Protection Agency and Department of Defense guidelines. Table 1 shows a summary of qualified data as a result of validation actions. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

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

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
RE105D1-GW-121114	ACETONE	4.0	2.5	5.0	UG_L	U	bt
RE105D1-GW-121114	TRICHLOROETHENE	120	0.50	1.0	UG_L	J	m
RE105D1-GW-121114	1,4-DIOXANE	13	0.34	0.47	UG_L	J	m

Notes:

ID	=	Identification
LOD	=	Limit of detection
LOQ	=	Limit of quantitation
UG_L	=	Micrograms per liter
Validation Qual	=	Qualifier codes and explanation (Refer to Attachment B)
Reason Code	=	Reason code (Refer to Attachment C)

Attachment A
Non Conformance Summary Table

Table (A-1)
Field Blanks

Blank ID	Analyte	Blank Result (UG_L)	LOQ x2	Associated Samples	Qualifier
TRIP BLANK_12112014	ACETONE	3.0	10.0	DUPLICATE-GW-121114	None (a)
TRIP BLANK_12112014	ACETONE	3.0	10.0	RE104D1-GW-121114	None (a)
TRIP BLANK_12112014	ACETONE	3.0	10.0	RE104D2-GW-121114	None (a)
TRIP BLANK_12112014	ACETONE	3.0	10.0	RE104D3-GW-121114	None (a)
TRIP BLANK_12112014	ACETONE	3.0	10.0	RE105D1-GW-121114	U
TRIP BLANK_12112014	ACETONE	3.0	10.0	RE105D2-GW-121114	None (a)

Notes:
ID = Identification
UG_L = Micrograms per liter
(a) = No qualifier applied; analyte not detected. Refer to field blank non-conformances chart.
U = Flagged "U" because analyte concentration was less than two times the limit of quantitation. Refer to field blank non-conformances chart.

Table (A-2)
Matrix Spike / Matrix Spike Duplicate

Sample ID	Compound	MS % R	MSD % R	% R Lower Limit	% R Upper Limit	Qualifier
RE105D1-GW-121114	TRICHLOROETHENE	136	94	70	125	J+
RE105D1-GW-121114	1,4-DIOXANE	114	312	10	93	J+

Notes:
MS = Matrix spike
MSD = Matrix spike duplicate
%R = Percent recovery
J+ = Positive values were qualified estimated due to potential high result bias. Refer to matrix spike/matrix spike duplicate non-conformances chart.

Attachment B
Qualifier Codes and Explanations

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

Attachment C
Reason Codes and Explanations

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

Attachment D
Final Results after Data Review

		Lab ID		TH0534-1		
		Sample ID		RE104D1-GW-121114		
		Sample Date		12/11/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.35	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	6.2		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1.2		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.5	J	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.5		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.49	J	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2.6		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	140		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	16		

		Lab ID		TH0534-2		
		Sample ID		RE104D2-GW-121114		
		Sample Date		12/11/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.4	J	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.43	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.4		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	3.4		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	0.29		

			Lab ID	TH0534-3		
			Sample ID	RE104D3-GW-121114		
			Sample Date	12/11/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	0.17	U	

			Lab ID	TH0534-4		
			Sample ID	RE105D1-GW-121114		
			Sample Date	12/11/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.54	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	12		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	1.8		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1.9	J	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	bt
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.3	J	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.39	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	1.9		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.82	J	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	120	J	m
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	13	J	m

			Lab ID	TH0534-5		
			Sample ID	RE105D2-GW-121114		
			Sample Date	12/11/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.84	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	32		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1		
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.7		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	7.1		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	3.8		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	4.7		
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	2.5		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3.8		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.38	J	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.92	J	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	1700		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	8.7		

			Lab ID	TH0534-6		
			Sample ID	DUPLICATE-GW-121114		
			Sample Date	12/11/2014		
			Sample Type	Field Duplicate		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.74	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	31		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1.1		
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.7		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	6.7		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	3.5		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	4.3		
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	2.5		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3.5		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.58	J	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.94	J	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	1700		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	6.6		

		Lab ID	TH0534-7		
		Sample ID	TRIP BLANK_12112014		
		Sample Date	12/11/2014		
		Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	3	J	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	NA		

Attachment D (continued)
Final Results after Data Review

Notes:

ID	=	Identification
UG_L	=	Micrograms per liter
Qual	=	Final qualifier (Refer to Attachment B)
RC	=	Reason code (Refer to Attachment C)
NA	=	Not analyzed

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	TH0604	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C Semivolatile Organic Compounds (SVOCs) by U.S. EPA SW-846 Method 8270D via Selective Ion Monitoring (SIM)	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 02/12/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: TH0604_8260C_8270D

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 12 December 2014 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
RE108D1-GW-121214	Ground water	8260C/8270D_SIM
RE108D2-GW-121214	Ground water	8260C/8270D_SIM
RE120D1-GW-121214	Ground water	8260C/8270D_SIM
RE120D2-GW-121214	Ground water	8260C/8270D_SIM
RE120D3-GW-121214	Ground water	8260C/8270D_SIM
TRIP BLANK-1_12122014	Trip Blank	8260C
TRIP BLANK-2_12122014	Trip Blank	8260C

Data validation activities were conducted using the following guidance documents: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846, specifically Method 8260C, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry* (U.S. EPA, 2006), *SW-846 Method 8270D, Semivolatile Organic Compounds by Gas Chromatograph/Mass Spectrometry*

(U.S. EPA, 2007), *U.S. Environmental Protection Agency (U.S. EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (NFG, June 2008), and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

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

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

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

RESULTS

Initial Calibration/Continuing Calibration Verification

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

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

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

- the retention time method acceptance criteria were met.

Non-conformances are summarized in Attachment A in Table A-1. Data qualification to the analytes associated with the specific CCV was as follows:

CCV Linearity Non-conformances:

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

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. Environmental Protection Agency and Department of Defense guidelines. Table 1 shows a summary of qualified data as a result of validation actions. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

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

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
RE120D1-GW-121214	TRICHLOROFLUOROMETHANE	ND	2.0	4.0	UG_L	UJ	c
RE120D2-GW-121214	TRICHLOROFLUOROMETHANE	ND	1.0	2.0	UG_L	UJ	c
RE120D3-GW-121214	TRICHLOROFLUOROMETHANE	ND	1.0	2.0	UG_L	UJ	c

Notes:

ID	=	Identification
LOD	=	Limit of detection
LOQ	=	Limit of quantitation
UG_L	=	Micrograms per liter
Validation Qual	=	Qualifier codes and explanation (Refer to Attachment B)
Reason Code	=	Reason code (Refer to Attachment C)

Attachment A
Non Conformance Summary Table

Table (A-1)
Continuing Calibration Verification

Calibration ID	Analyte	%D	Associated Samples	Qualifier
WG1558964-4	TRICHLOROFLUOROMETHANE	21.26474	RE120D3-GW-121214	UJ
WG1558964-4	TRICHLOROFLUOROMETHANE	21.26474	RE120D1-GW-121214	UJ
WG1558964-4	TRICHLOROFLUOROMETHANE	21.26474	RE120D2-GW-121214	UJ

Notes:
ID = Identification
%D = Percent difference
UJ = Refer to Attachment

Attachment B
Qualifier Codes and Explanations

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

Attachment C
Reason Codes and Explanations

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

Attachment D
Final Results after Data Review

			Lab ID	TH0604-1DL2		
			Sample ID	RE120D1-GW-121214		
			Sample Date	12/12/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	1.9	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	1	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	40		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1.2	J	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	3.4		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	21		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	1	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	1.5	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	1	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	1	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	1	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	4.1		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	1	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	1	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	1	U	
8260C	2-BUTANONE	78-93-3	UG_L	5	U	
8260C	2-HEXANONE	591-78-6	UG_L	5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	5	U	
8260C	ACETONE	67-64-1	UG_L	5	U	
8260C	BENZENE	71-43-2	UG_L	1	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	1	U	
8260C	BROMOFORM	75-25-2	UG_L	1	U	
8260C	BROMOMETHANE	74-83-9	UG_L	2	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	1	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.59	J	
8260C	CHLOROBENZENE	108-90-7	UG_L	1	U	
8260C	CHLOROETHANE	75-00-3	UG_L	2	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.87	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	2	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	4.1		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	1	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	1	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	1	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	2	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	1	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	1	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	2	U	
8260C	METHYL ACETATE	79-20-9	UG_L	1.5	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	1	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	1	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	5	U	
8260C	O-XYLENE	95-47-6	UG_L	1	U	
8260C	STYRENE	100-42-5	UG_L	1	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1.8	J	
8260C	TOLUENE	108-88-3	UG_L	1.4	J	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	1	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	1	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	1300		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	2	UJ	c
8260C	VINYL CHLORIDE	75-01-4	UG_L	2	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	3	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	30		

			Lab ID	TH0604-2		
			Sample ID	RE120D2-GW-121214		
			Sample Date	12/12/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	J	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	24		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.69	J	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	1.2		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	5.6		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	3.4		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.74	J	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.77	J	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	3.4		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	0.3	J	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	3.6		
8260C	TOLUENE	108-88-3	UG_L	0.4	J	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	900		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	16		

			Lab ID	TH0604-3		
			Sample ID	RE120D3-GW-121214		
			Sample Date	12/12/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	3.4		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	c
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	0.17	U	

			Lab ID	TH0604-4		
			Sample ID	RE108D1-GW-121214		
			Sample Date	12/12/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	1.3		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	0.46	J	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.24	J	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.46	J	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1.8		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	140		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	13		

			Lab ID	TH0604-5		
			Sample ID	RE108D2-GW-121214		
			Sample Date	12/12/2014		
			Sample Type	Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	1.3		
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	6.4		
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	1.5		
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	5.2		
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	7.4		
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	9		
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	1.7		
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	3.5		
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	9		
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	1.6		
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	3100		
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	12		

			Lab ID	TH0604-6		
			Sample ID	TRIP BLANK-1_12122014		
			Sample Date	12/12/2014		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	11		
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	NA		

			Lab ID	TH0604-7		
			Sample ID	TRIP BLANK-2_12122014		
			Sample Date	12/12/2014		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	2.5	U	
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	
8270D_SIM	1,4-DIOXANE	123-91-1	UG_L	NA		

Attachment D (continued)
Final Results after Data Review

Notes:

ID	=	Identification
UG_L	=	Micrograms per liter
Qual	=	Final qualifier (Refer to Attachment B)
RC	=	Reason code (Refer to Attachment C)
NA	=	Not analyzed

DATA VALIDATION REPORT

Project:	Regional Groundwater Investigation — NWIRP Bethpage	
Laboratory:	Katahdin Analytical	
Sample Delivery Group:	TH0715	
Analyses/Method:	Volatile Organic Compounds (VOCs) by U.S. EPA SW-846 Method 8260C	
Validation Level:	3	
Project Number:	0888812477.SA.DV	
Prepared by:	Dana Miller/Resolution Consultants	Completed on: 01/26/2015
Reviewed by:	Tina Cantwell/Resolution Consultants	File Name: TH0715_8260C

SUMMARY

This report summarizes data review findings for samples listed below, collected by Resolution Consultants from the Regional Groundwater Investigation — NWIRP Bethpage site on 15 to 16 December 2014 in accordance with the following Sampling and Analysis Plans:

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

Sample ID	Matrix/Sample Type	Analysis
VPB153-GW-121514-798-800	Ground water	8260C
VPB153-GW-121514-818-820	Ground water	8260C
VPB153-GW-121514-838-840	Ground water	8260C
VPB153-GW-121614-878-880	Ground water	8260C
VPB153-GW-121614-898-900	Ground water	8260C
VPB153-GW-121614-918-920	Ground water	8260C
VPB153-TRIP BLANK-121814	Trip Blank	8260C

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

Guidelines for Superfund Organic Methods Data Review (NFG, June 2008), and Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (October 2010). In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

REVIEW ELEMENTS

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

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

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

RESULTS

Data Completeness/Sample Integrity

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

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

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

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

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

- VPB153-GW-121514-798-800 had three vials decanted, composited into one vial and analyzed at a dilution of 1:4;

- VPB153-GW-121514-818-820, VPB153-GW-121514-898-900, and VPB153-GW-121514-918-920 had two vials decanted and composited into one vial for each sample prior to analysis;

- VPB153-GW-121514-838-840 and VPB153-GW-121514-878-880 had three vials decanted and composited into one vial for each sample prior to analysis.

Positive and non-detected results for both samples listed above were qualified as estimated (J and UJ) respectively due to possible loss of sample integrity during the decanting process.

Laboratory Blanks/Trip Blanks

Laboratory blanks and trip blanks were analyzed with samples to assess contamination imparted by sample preparation and/or analysis. All results associated with a particular laboratory blank were evaluated to determine whether there was an inherent variability in the data, or if a problem was an isolated occurrence that did not affect the data. Samples were flagged in accordance with *Functional Guidelines* (shown below) where detections were not believed to be site-related.
Non-conformances are summarized in Attachment A in Table A-1.

Blank Non-conformances Chart:

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

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

Notes:

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

Qualifications Actions

The data was reviewed independently from the laboratory to assess data quality. All compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the method detection limit were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation. Any sample that was analyzed at a dilution because of high concentrations of target or non-targets was checked to confirm that the results and/or sample-specific LOQs and limit of detections were adjusted accordingly by the laboratory.

No results were rejected; therefore, analytical completeness was calculated to be 100 percent. Data not qualified during data review are considered usable by the project. The remaining results qualified as estimated may be high or low, but the data are usable for their intended purpose, according to U.S. Environmental Protection Agency and Department of Defense guidelines. Table 1 shows a summary of qualified data as a result of validation actions. Final data review qualifiers used to describe results and how they should be interpreted by the end data user are provided in Attachment B and Attachment C. Attachment D provides final results after data review.

ATTACHMENTS

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

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121514-798-800	1,1,1-TRICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,1,2,2-TETRACHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,1,2-TRICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,1-DICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,1-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2,4-TRICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DIBROMO-3-CHLOROPROPANE	3.0	3.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DIBROMOETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DICHLOROETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DICHLOROETHENE, TOTAL	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,2-DICHLOROPROPANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,3-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	1,4-DICHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	2-BUTANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-121514-798-800	2-HEXANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-121514-798-800	4-METHYL-2-PENTANONE	10	10	20	UG_L	UJ	mc
VPB153-GW-121514-798-800	ACETONE	11	10	20	UG_L	UJ	bt,mc
VPB153-GW-121514-798-800	BENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	BROMODICHLOROMETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	BROMOFORM	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	BROMOMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CARBON DISULFIDE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CARBON TETRACHLORIDE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CHLOROBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CHLOROETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CHLOROFORM	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CHLOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CIS-1,2-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CIS-1,3-DICHLOROPROPENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	CYCLOHEXANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	DIBROMOCHLOROMETHANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	DICHLORODIFLUOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	ETHYLBENZENE	2.0	2.0	4.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121514-798-800	ISOPROPYLBENZENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	M- AND P-XYLENE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	METHYL ACETATE	3.0	3.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	METHYL CYCLOHEXANE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	METHYL TERT-BUTYL ETHER	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	METHYLENE CHLORIDE	10	10	20	UG_L	UJ	mc
VPB153-GW-121514-798-800	O-XYLENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	STYRENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TETRACHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TOLUENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TRANS-1,2-DICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TRANS-1,3-DICHLOROPROPENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TRICHLOROETHENE	2.0	2.0	4.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	TRICHLOROFLUOROMETHANE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	VINYL CHLORIDE	4.0	4.0	8.0	UG_L	UJ	mc
VPB153-GW-121514-798-800	XYLENES, TOTAL	6.0	6.0	12	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	2-BUTANONE	1.7	2.5	5.0	UG_L	J	mc
VPB153-GW-121514-818-820	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	ACETONE	11	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-121514-818-820	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121514-818-820	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-818-820	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121514-838-840	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	2-BUTANONE	2.5	2.5	5.0	UG_L	J	mc
VPB153-GW-121514-838-840	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	ACETONE	15	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-121514-838-840	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121514-838-840	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121514-838-840	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	2-BUTANONE	2.0	2.5	5.0	UG_L	J	mc
VPB153-GW-121614-878-880	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	ACETONE	12	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-121614-878-880	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121614-878-880	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-878-880	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121614-898-900	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	2-BUTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	ACETONE	11	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-121614-898-900	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121614-898-900	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-898-900	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1,1-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1,2,2-TETRACHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1,2-TRICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,1-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2,4-TRICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DIBROMO-3-CHLOROPROPANE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DIBROMOETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DICHLOROETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DICHLOROETHENE, TOTAL	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,2-DICHLOROPROPANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,3-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	1,4-DICHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	2-BUTANONE	2.1	2.5	5.0	UG_L	J	mc
VPB153-GW-121614-918-920	2-HEXANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	4-METHYL-2-PENTANONE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	ACETONE	15	2.5	5.0	UG_L	UJ	bt,mc
VPB153-GW-121614-918-920	BENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	BROMODICHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	BROMOFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	BROMOMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CARBON DISULFIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CARBON TETRACHLORIDE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CHLOROBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CHLOROETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CHLOROFORM	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CHLOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CIS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CIS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc

Table 1
Data Validation Summary of Qualified Data

Sample ID	Compound	Result	LOD	LOQ	Units	Validation Qualifiers	Reason Code
VPB153-GW-121614-918-920	DIBROMOCHLOROMETHANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	DICHLORODIFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	ETHYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	ISOPROPYLBENZENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	M- AND P-XYLENE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	METHYL ACETATE	0.75	0.75	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	METHYL CYCLOHEXANE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	METHYL TERT-BUTYL ETHER	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	METHYLENE CHLORIDE	2.5	2.5	5.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	O-XYLENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	STYRENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TETRACHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TOLUENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TRANS-1,2-DICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TRANS-1,3-DICHLOROPROPENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TRICHLOROETHENE	0.50	0.50	1.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	TRICHLOROFLUOROMETHANE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	VINYL CHLORIDE	1.0	1.0	2.0	UG_L	UJ	mc
VPB153-GW-121614-918-920	XYLENES, TOTAL	1.5	1.5	3.0	UG_L	UJ	mc

Notes:

ID	=	Identification
LOD	=	Limit of detection
LOQ	=	Limit of quantitation
UG_L	=	Micrograms per liter
Validation Qual	=	Qualifier codes and explanation (Refer to Attachment B)
Reason Code	=	Reason code (Refer to Attachment C)

Attachment A
Non Conformance Summary Table

Table (A-1)
Field Blanks

Blank ID	Analyte	Blank Result (UG_L)	LOD	LOQ	Associated Samples	Sample Result (UG_L)	Qualifier
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	20	VPB153-GW-121514-798-800	11	U
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	5.0	VPB153-GW-121514-818-820	11	U
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	5.0	VPB153-GW-121514-838-840	15	U
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	5.0	VPB153-GW-121614-878-880	12	U
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	5.0	VPB153-GW-121614-898-900	11	U
VPB153-TRIP BLANK-121814	ACETONE	5.6	2.5	5.0	VPB153-GW-121614-918-920	15	U

Notes:

LOD = Limit of detection
LOQ = Limit of quantitation
UG_L = Micrograms per liter
U = Sample qualified as undetected “U” because the analyte concentration was less than the LOQ.

Attachment B
Qualifier Codes and Explanations

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

Attachment C
Reason Codes and Explanations

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

Attachment D
Final Results after Data Review

		Lab ID		TH0715-1DL		
		Sample ID		VPB153-GW-121514-798-800		
		Sample Date		12/15/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	2	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	2	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	2	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	2	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	2	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	2	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	2	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	3	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	2	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	2	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	2	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	4	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	2	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	2	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	2	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	10	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	10	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	10	UJ	mc
8260C	ACETONE	67-64-1	UG_L	10	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	2	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	2	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	2	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	4	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	2	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	2	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	2	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	4	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	2	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	4	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	2	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	2	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	2	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	2	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	4	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	2	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	2	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	4	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	3	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	2	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	2	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	10	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	2	UJ	mc
8260C	STYRENE	100-42-5	UG_L	2	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	2	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	2	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	2	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	2	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	2	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	4	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	4	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	6	UJ	mc

		Lab ID		TH0715-2		
		Sample ID		VPB153-GW-121514-818-820		
		Sample Date		12/15/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	1.7	J	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	11	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Lab ID		TH0715-3		
		Sample ID		VPB153-GW-121514-838-840		
		Sample Date		12/15/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2.5	J	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	15	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Lab ID		TH0715-4		
		Sample ID		VPB153-GW-121614-878-880		
		Sample Date		12/16/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2	J	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	12	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Lab ID		TH0715-5		
		Sample ID		VPB153-GW-121614-898-900		
		Sample Date		12/16/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2.5	UJ	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	11	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

		Lab ID		TH0715-6		
		Sample ID		VPB153-GW-121614-918-920		
		Sample Date		12/16/2014		
		Sample Type		Groundwater		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	UJ	mc
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	UJ	mc
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	UJ	mc
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	UJ	mc
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	UJ	mc
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	UJ	mc
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	UJ	mc
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	UJ	mc
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	UJ	mc
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	UJ	mc
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	UJ	mc
8260C	2-BUTANONE	78-93-3	UG_L	2.1	J	mc
8260C	2-HEXANONE	591-78-6	UG_L	2.5	UJ	mc
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	UJ	mc
8260C	ACETONE	67-64-1	UG_L	15	UJ	bt,mc
8260C	BENZENE	71-43-2	UG_L	0.5	UJ	mc
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	UJ	mc
8260C	BROMOFORM	75-25-2	UG_L	0.5	UJ	mc
8260C	BROMOMETHANE	74-83-9	UG_L	1	UJ	mc
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	UJ	mc
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	UJ	mc
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	UJ	mc
8260C	CHLOROETHANE	75-00-3	UG_L	1	UJ	mc
8260C	CHLOROFORM	67-66-3	UG_L	0.5	UJ	mc
8260C	CHLOROMETHANE	74-87-3	UG_L	1	UJ	mc
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	UJ	mc
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	UJ	mc
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	UJ	mc
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	UJ	mc
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	UJ	mc
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	UJ	mc
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	UJ	mc
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	UJ	mc
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	UJ	mc
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	UJ	mc
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	UJ	mc
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	UJ	mc
8260C	O-XYLENE	95-47-6	UG_L	0.5	UJ	mc
8260C	STYRENE	100-42-5	UG_L	0.5	UJ	mc
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	UJ	mc
8260C	TOLUENE	108-88-3	UG_L	0.5	UJ	mc
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	UJ	mc
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	UJ	mc
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	UJ	mc
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	UJ	mc
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	UJ	mc

			Lab ID	TH0715-7		
			Sample ID	VPB153-TRIP BLANK-121814		
			Sample Date	12/18/2014		
			Sample Type	Trip Blank		
Method	**Analyte**	**CAS No**	**Units**	Result	Qual	RC
8260C	1,1,1-TRICHLOROETHANE	71-55-6	UG_L	0.5	U	
8260C	1,1,2,2-TETRACHLOROETHANE	79-34-5	UG_L	0.5	U	
8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	UG_L	0.5	U	
8260C	1,1,2-TRICHLOROETHANE	79-00-5	UG_L	0.5	U	
8260C	1,1-DICHLOROETHANE	75-34-3	UG_L	0.5	U	
8260C	1,1-DICHLOROETHENE	75-35-4	UG_L	0.5	U	
8260C	1,2,4-TRICHLOROBENZENE	120-82-1	UG_L	0.5	U	
8260C	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	UG_L	0.75	U	
8260C	1,2-DIBROMOETHANE	106-93-4	UG_L	0.5	U	
8260C	1,2-DICHLOROBENZENE	95-50-1	UG_L	0.5	U	
8260C	1,2-DICHLOROETHANE	107-06-2	UG_L	0.5	U	
8260C	1,2-DICHLOROETHENE, TOTAL	540-59-0	UG_L	1	U	
8260C	1,2-DICHLOROPROPANE	78-87-5	UG_L	0.5	U	
8260C	1,3-DICHLOROBENZENE	541-73-1	UG_L	0.5	U	
8260C	1,4-DICHLOROBENZENE	106-46-7	UG_L	0.5	U	
8260C	2-BUTANONE	78-93-3	UG_L	2.5	U	
8260C	2-HEXANONE	591-78-6	UG_L	2.5	U	
8260C	4-METHYL-2-PENTANONE	108-10-1	UG_L	2.5	U	
8260C	ACETONE	67-64-1	UG_L	5.6		
8260C	BENZENE	71-43-2	UG_L	0.5	U	
8260C	BROMODICHLOROMETHANE	75-27-4	UG_L	0.5	U	
8260C	BROMOFORM	75-25-2	UG_L	0.5	U	
8260C	BROMOMETHANE	74-83-9	UG_L	1	U	
8260C	CARBON DISULFIDE	75-15-0	UG_L	0.5	U	
8260C	CARBON TETRACHLORIDE	56-23-5	UG_L	0.5	U	
8260C	CHLOROBENZENE	108-90-7	UG_L	0.5	U	
8260C	CHLOROETHANE	75-00-3	UG_L	1	U	
8260C	CHLOROFORM	67-66-3	UG_L	0.5	U	
8260C	CHLOROMETHANE	74-87-3	UG_L	1	U	
8260C	CIS-1,2-DICHLOROETHENE	156-59-2	UG_L	0.5	U	
8260C	CIS-1,3-DICHLOROPROPENE	10061-01-5	UG_L	0.5	U	
8260C	CYCLOHEXANE	110-82-7	UG_L	0.5	U	
8260C	DIBROMOCHLOROMETHANE	124-48-1	UG_L	0.5	U	
8260C	DICHLORODIFLUOROMETHANE	75-71-8	UG_L	1	U	
8260C	ETHYLBENZENE	100-41-4	UG_L	0.5	U	
8260C	ISOPROPYLBENZENE	98-82-8	UG_L	0.5	U	
8260C	M- AND P-XYLENE	108-38-3/106-42	UG_L	1	U	
8260C	METHYL ACETATE	79-20-9	UG_L	0.75	U	
8260C	METHYL CYCLOHEXANE	108-87-2	UG_L	0.5	U	
8260C	METHYL TERT-BUTYL ETHER	1634-04-4	UG_L	0.5	U	
8260C	METHYLENE CHLORIDE	75-09-2	UG_L	2.5	U	
8260C	O-XYLENE	95-47-6	UG_L	0.5	U	
8260C	STYRENE	100-42-5	UG_L	0.5	U	
8260C	TETRACHLOROETHENE	127-18-4	UG_L	0.5	U	
8260C	TOLUENE	108-88-3	UG_L	0.5	U	
8260C	TRANS-1,2-DICHLOROETHENE	156-60-5	UG_L	0.5	U	
8260C	TRANS-1,3-DICHLOROPROPENE	10061-02-6	UG_L	0.5	U	
8260C	TRICHLOROETHENE	79-01-6	UG_L	0.5	U	
8260C	TRICHLOROFLUOROMETHANE	75-69-4	UG_L	1	U	
8260C	VINYL CHLORIDE	75-01-4	UG_L	1	U	
8260C	XYLENES, TOTAL	1330-20-7	UG_L	1.5	U	

Notes:

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