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COMPLIANCE GROUNDWATER MONITORING REPORT

90 Bay Spring Avenue
Map 2/Lot 154
Barrington, Rhode Island
RIDEM File No. SR-01-0106

Prepared for:

Bay Spring Realty Company
909 North Main Street
Providence, Rhode Island 02904

Prepared by:

Resource Controls,
a division of Environmental Strategies &
Management, Inc.

474 Broadway
Pawtucket, Rhode Island 02860

Pawtucket, RI • Norton, MA • Fall River, MA

July 14, 2016

July 14, 2016

Mr. Nicholas Noons, Sanitary Engineer
RI Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908-5767

SUBJECT: Compliance Groundwater Monitoring report
Bay Spring Realty Company
90 Bay Spring Avenue (Map 2/Lot 154)
Barrington, Rhode Island
RIDEM File No. SR-01-0106

Dear Mr. Noons:

On behalf of Bay Spring Realty Company, Resource Controls, a division of Environmental Strategies & Management, Inc. (Resource Controls) has prepared this Compliance Groundwater Monitoring Report for the property located at 90 Bay Spring Avenue, Barrington, Rhode Island (the Site) – RIDEM File No. SR-01-0106 (Former Case No. 2013-024). A Locus Map showing the location of the Site relative to regional geographic features is included as Attachment A, and a Site Plan including sample locations and relevant historic and current Site features is attached as Attachment B.

FIELD ACTIVITIES

On July 6, 2016, groundwater was gauged to the nearest 0.01 foot using an electronic interface probe in monitoring wells MW-3, MW-5, MW-104, MW-105 and MW-106; and groundwater samples were collected from monitoring wells MW-3, MW-5, and MW-105. No light non-aqueous phase liquid (LNAPL) was detected. Fluid level measurements are summarized on the well monitoring form included in Attachment C. The inferred direction of groundwater flow is to the southeast (water table elevation contours modeled from the July 6, 2016 gauging event are included on the Site Plan – Figure 2/Attachment B). Groundwater samples were collected by low flow sampling methodology. The samples were collected in clean, preserved glassware, labeled in the field, placed on ice and submitted under standard chain-of custody protocol to ESS Laboratory (ESS) of Cranston, Rhode Island. The samples were analyzed for VOCs.

ANALYTICAL RESULTS

Laboratory analysis of groundwater samples collected from MW-3, MW-5 and MW-105 indicated concentrations of VOC compounds above the laboratory reporting limits but below the RIDEM GA Groundwater Objectives. Trichloroethene was detected in MW-105 below the applicable RIDEM GA Groundwater Objectives. Since the RIDEM does not have promulgated groundwater standards intended to be protective of surface water, Resource Controls compared the TCE concentration to the Massachusetts Contingency Plan (MCP) Method 1 GW-3 Groundwater Standards (TCE – 5,000 ug/l). TCE concentrations at the Site in groundwater were reported below these standards.

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The groundwater analytical results are summarized in Table 1 included as Attachment D, and a copy of the laboratory report is included in Attachment E.

Laboratory analytical results indicate that concentrations of contaminants detected in groundwater from each well are lower than previous sampling event conducted in March of 2016, with the exception of an increase in 4-Isopropyltoluene concentrations in MW-3. The RIDEM does not have promulgated GA Groundwater Standards for 4-isopropyltoluene.

CONCLUSIONS & RECOMMENDATIONS

Based on the results of the July 7, 2016 groundwater gauging and sampling efforts, Resource Controls offers the following conclusions:

- Groundwater laboratory analytical results for the groundwater sampling event indicated the following:
 - Trichloroethene was detected in MW-105 below the RIDEM GA Groundwater Objectives, and below the MCP GW-3 Groundwater Standards (intended to be protective of surface water bodies).
 - Other VOC's detected in MW-3, MW-5 and MW-105 were detected above laboratory reporting limits, but below applicable RIDEM GA Groundwater Objectives.

Resource Controls does not suggest a change to the previously recommended remedial alternative – the implementation of engineering and institutional controls as a cost-effective remedial alternative that is in compliance with the intent of the RIDEM Remediation Regulations, is consistent with current and future land use, and manages actual and potential risks to human health and the environment. The institutional controls shall prohibit the construction of any buildings within the waterfront areas of the Site (75-foot CRMC Setback) in which residual VOC contamination has been identified in groundwater (the area of the former cistern and downgradient, and the area of MW-104 and MW-3 and downgradient), unless the proposed development/construction includes a RIDEM approved vapor intrusion mitigation technology (e.g. sub-slab depressurization system, vapor barriers, etc.).

Compliance groundwater monitoring for VOCs has been conducted in December 2015, March 2016 and July 2016. In accordance with the RIDEM Remedial Decision Letter dated May 27, 2016, three consecutive quarters have indicated VOC concentrations below RIDEM GA Objectives. As such, Resource Controls recommends the compliance groundwater monitoring be terminated.

LIMITATIONS

This report is not intended to guarantee that the Subject Property is or is not free from conditions, materials or substances that could adversely impact the environment or pose a threat to public health and safety. Rather, it is intended to be used as a summary of available information on existing conditions, the conclusions of which are based upon a reasonable review of information found in accordance with normally accepted industry standards and protocols, subject to and as limited by the scope and budget established with the client. Should further research on the Subject Property be warranted, Resource Controls must review any additional data obtained and the conclusions presented herein may be modified accordingly. Conclusions stated herein are based on the available information summarized herein and refer only to the specific Subject Property investigated. No warranty is implied or given and the report is subject to the agreement for the work, including the Standard Terms and Conditions attached to said agreement.

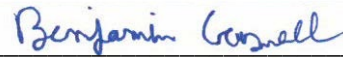
Please do not hesitate to contact the undersigned if additional information is needed.

Very truly yours,

RESOURCE CONTROLS, a division of Environmental Strategies & Management, Inc.



Mark J. House
Vice President and Senior Scientist



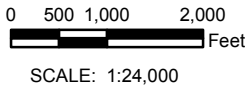
Benjamin P. Caswell
Environmental Scientist

Attachments: Attachment A Locus Map
 Attachment B Site Plan
 Attachment C Well Monitoring Form
 Attachment D Tables
 Attachment E Laboratory Report
 Attachment F Additional Limitations

cc: Bay Spring Realty Company

ATTACHMENT A

Locus Map



Source: Rhode Island Geographic Information System (RIGIS)
 2015 Topographic Map - Bristol, Rhode Island-Massachusetts Quad

LOCUS MAP

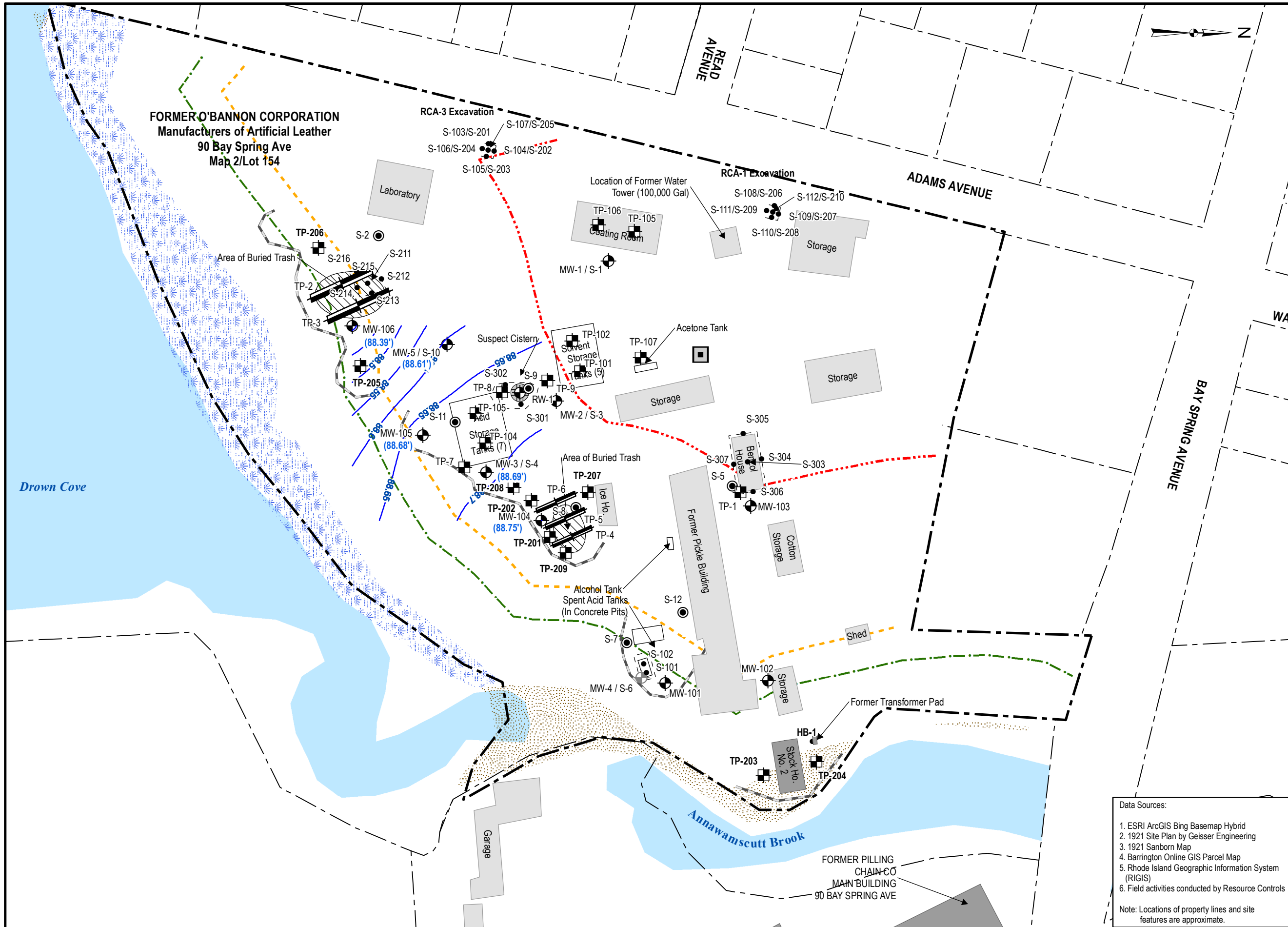
**90 BAY SPRING AVENUE
 BARRINGTON, RHODE ISLAND**



DRAWN BY	PROJECT	PRINT DATE	FIGURE
BPC	7131A	07/06/2016	1

ATTACHMENT B

Site Plan



LEGEND

- Property Line
- █ Existing Building
- ▒ Former Building
- Former Tank(s)
- ▨ Beach
- ▧ Salt Marsh
- Water Body
- - - Extent of Excavation
- Approximate 50 ft Vegetated Buffer
- Approximate 75 ft CRMC Setback
- Approximate 200 ft CRMC Jurisdiction
- Water Table Elevation Contour (ft)
- (88.69') Water Table Elevation (ft)
- Hydrant
- ⊕ Existing Monitoring Well
- ⊖ Former Monitoring Well
- ⊠ Test Pit
- Soil Sample

0 17.5 35 70 Feet
Approximate Scale: 1 inch = 70 feet

PREPARED BY:
Resource Controls
 Engineering & Environmental Solutions
 a division of Environmental Strategies & Management, Inc.

DRAWING DESCRIPTION:

SITE PLAN

CLIENT:
Bay Spring Realty Co.

LOCATION:
**90 BAY SPRING AVENUE
 BARRINGTON, RHODE ISLAND**

DESIGNED BY: BPC	CHECKED BY: JVJ	APPROVED BY: MJH
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DRAWING DATE: 07/06/2016	SHEET NUMBER: 1 of 1
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PROJECT NUMBER: 7131A	DRAWING NAME: SITE PLAN
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Data Sources:

- ESRI ArcGIS Bing Basemap Hybrid
- 1921 Site Plan by Geisser Engineering
- 1921 Sanborn Map
- Barrington Online GIS Parcel Map
- Rhode Island Geographic Information System (RIGIS)
- Field activities conducted by Resource Controls

Note: Locations of property lines and site features are approximate.

FIGURE 2

ATTACHMENT C

Well Monitoring Form

WELL MONITORING FORM

Project: Bay Spring, Barrington
 Project No.: 7131A
 Location: 90 Bay Spring Avenue
 Date: 03/29/16
 Operator: BPC
 Method: Interface Probe

Well ID	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	Depth to Bottom (feet)	LNAPL Thickness (feet)	LNAPL Specific Gravity (unitless)	Water Equivalent (feet)	Corrected Depth to Water (feet)	Corrected Water Table Elevation (feet)
MW-1	101.78	ND	NM	NM	ND	NA	NA	NA	NA
MW-2	101.97	ND	NM	NM	ND	NA	NA	NA	NA
MW-3	95.66	ND	6.97	13.02	ND	NA	NA	NA	88.69
MW-5	98.61	ND	10.00	14.06	ND	NA	NA	NA	88.61
MW-101	96.29	ND	NM	NM	ND	NA	NA	NA	NA
MW-102	97.05	ND	NM	NM	ND	NA	NA	NA	NA
MW-103	100.98	ND	NM	NM	ND	NA	NA	NA	NA
MW-104	96.20	ND	7.45	14.10	ND	NA	NA	NA	88.75
MW-105	97.18	ND	8.50	12.75	ND	NA	NA	NA	88.68
MW-106	97.50	ND	9.11	14.46	ND	NA	NA	NA	88.39

NM = Not Measured; ND = None Detected at >0.01 feet; NA = Not Applicable; DRY = No Water in Well

NOTES:

ATTACHMENT D

Tables

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

BAY SPRING REALTY CO.
90 BAY SPRING AVENUE
BARRINGTON, RHODE ISLAND

Sample Identifier Date Sampled	AOC-6: Drum Storage Area/Benzol House			AOC-7: Waste Disposal Area No. 2			AOC-8: Acid Storage Tanks					AOC-9: Solvent Storage Tanks		AOC-10: Coating Room		RIDEM Groundwater Objectives						
	MW-103 6/6/2014	12/17/2015	6/6/2014	10/9/2014	4/9/2015	12/17/2015	11/26/2012	2/13/2013	6/6/2014	10/9/2014	4/9/2015	7/9/2015	12/17/2015	3/29/2016	11/26/2012	6/6/2014	11/26/2012	6/6/2014	GA Objectives	GB UCLs		
VOLATILE ORGANIC COMPOUNDS (ug/L)																						
1,1,1-Trichloroethane	--	<1.0	2.7	--	--	2.7	24.1	1.2	--	<1.0	2.1	<1.0	2.1	5.5	11	<0.1	<1.0	<1.0	--	200	68,000	
1,1,2-Trichloroethane	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	NS	
1,1,2-Trichloro-1,2,2-hydroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
1,1-Dichloroethane	--	<1.0	1.2	--	--	4.0	9.8	3.0	--	<1.0	1.8	<1.0	<1.0	6.0	4.3	<0.1	<1.0	<1.0	--	NS	NS	
1,1-Dichloroethene	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	1.7	1.6	<1.0	<0.1	<1.0	<1.0	--	7	23,000	
1,2,4-Trimethylbenzene	--	<1.0	62.7	--	--	48.4	3.7	1.0	--	4.1	<1.0	<1.0	2.3	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
1,2-Dibromo-3-Chloropropane	--	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<5.0	<5.0	--	0.2	NS	
1,2-Dibromoethane (EDB)	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	0.05	NS	
1,2-Dichloroethane	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	670,000	
1,3,5-Trimethylbenzene	--	<1.0	285	--	--	84.6	12.2	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
2-Butanone	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	NS	NS	
2-Hexanone	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	NS	NS	
4-Isopropyltoluene	--	<1.0	8.0	--	--	5.2	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
4-Methyl-2-Pentanone	--	<25	<25	--	--	<25	<25	<25	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	NS	NS	
Acetone	--	<10	<10	--	--	<10	<10	102	--	<10	<10	<10	<10	<10	<10	10.4	<10	<10	--	NS	NS	
Benzene	--	<1.0	<1.0	--	--	<1.0	<1.0	1.1	--	3.4	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	18,000	
Carbon Disulfide	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
Carbon Tetrachloride	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	NS	
Chloroethane	--	<2.0	<2.0	--	--	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.2	<2.0	<2.0	--	NS	NS	
Chloroform	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
cis-1,2-Dichloroethene	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	70	69,000	
o-Xylene	--	<1.0	4.4	--	--	6.0	1.4	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	700	16,000	
Isopropylbenzene	--	<1.0	3.4	--	--	3.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
Methylene Chloride	--	<2.0	<2.0	--	--	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.2	<2.0	<2.0	--	5	NS	
Naphthalene	--	<1.0	2.6	--	--	2.4	<1.0	<1.0	--	1.6	<1.0	<1.0	1.3	<1.0	<1.0	<0.1	<1.0	<1.0	--	100	NS	
n-Propylbenzene	--	<1.0	3.2	--	--	2.3	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
sec-Butylbenzene	--	<1.0	1.8	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	NS	NS	
tert-Butylbenzene	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	NS	
Toluene	--	<1.0	<1.0	--	--	1.3	<1.0	1.1	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	1,000	21,000	
Trichloroethene	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	5	87,000	
Vinyl Chloride	--	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	--	2	NS	
Xylene O	--	<1.0	5.2	--	--	5.9	<1.0	2.2	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	--	10,000	NS	
Xylene P/M	--	<2.0	27.9	--	--	27.6	<2.0	3.6	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.2	<2.0	<2.0	--	10,000	NS	
Xylenes (Total)	--	<3.0	33	--	--	33.5	<3.0	5.8	--	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<0.3	<3.0	<3.0	--	NS	NS	
All other VOCs	--	ND	ND	--	--	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	NS	NS
SEMI-VOLATILE ORGANIC COMPOUNDS (ug/L)																						
2,4-Dimethylphenol	--	--	--	--	--	--	--	<51	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
2-Methylphenol	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Acetophenone	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Benzaldehyde	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Di-n-butylphthalate	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Isophorone	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Nitrobenzene	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Phenol	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
2-Methylnaphthalene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Acenaphthene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Acenaphthylene	--	--	--	--	--	--	--	0.3	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Benzo(a)anthracene	--	--	--	--	--	--	--	<0.05	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Benzo(a)pyrene	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--	--	--	--	0.2	NS	
Benzo(b)fluoranthene	--	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Benzo(k)fluoranthene	--	--	--	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Chrysene	--	--	--	--	--	--	--	0.09	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Fluoranthene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Hexachlorobenzene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	1	NS	
Indeno(1,2,3-cd)Pyrene	--	--	--	--	--	--	--	0.07	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Naphthalene	--	--	--	--	--	--	--	0.62	--	--	--	--	--	--	--	--	--	--	--	100	NS	
Pentachlorophenol	--	--	--	--	--	--	--	<1.01	--	--	--	--	--	--	--	--	--	--	--	1	NS	
Phenanthrene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
Pyrene	--	--	--	--	--	--	--	<0.2	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
All other SVOCs	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	NS	NS	
TOTAL PETROLEUM HYDROCARBONS (mg/L)																						
Diesel Range Organics (C10-C28)																						
TOTAL METALS (mg/L)																						
Arsenic	<0.001	--	<0.001	--	--	0.003	--	0.0065	0.0027	0.0042	--	--	0.003	--	--	<0.001	--	<0.001	0.01	NS		
Barium	0.034	--	<0.025	--	--	<0.025	--	0.096	0.121	0.061	--	--	0.049	--	--	0.035	--	<0.025	2	NS		
Cadmium	<0.0025	--	<0.0025	--	--	<0.0025	--	<0.0025	<0.0025	<0.0025	--	--	<0.0025	--	--	<0.0025	--	<0.0025	0.0			

ATTACHMENT E
Laboratory Reports



CERTIFICATE OF ANALYSIS

Benjamin Caswell
Environmental Strategies & Management, Inc.
474 Broadway
Pawtucket, RI 02860-1377

RE: Bay Spring Realty (7131A)
ESS Laboratory Work Order Number: 1607048

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 10:29 am, Jul 13, 2016

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

SAMPLE RECEIPT

The following samples were received on July 06, 2016 for the analyses specified on the enclosed Chain of Custody Record.

The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1607048-01	MW-3	Ground Water	8260B
1607048-02	MW-105	Ground Water	8260B
1607048-03	MW-5	Ground Water	8260B



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

PROJECT NARRATIVE

8260B Volatile Organic Compounds

CG60731-BS1 Blank Spike recovery is above upper control limit (B+).
Diethyl Ether (178% @ 70-130%)

CG60731-BSD1 Blank Spike recovery is above upper control limit (B+).
Diethyl Ether (186% @ 70-130%)

CZG0079-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).
Diethyl Ether (33% @ 30%)

CZG0079-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
Bromomethane (36% @ 30%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-3
Date Sampled: 07/06/16 09:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1,1-Trichloroethane	0.0033 (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1-Dichloroethane	0.0031 (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1-Dichloroethene	0.0010 (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,1-Dichloropropene	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2,4-Trimethylbenzene	0.0010 (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2-Dibromoethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2-Dichloroethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,3-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1,4-Dioxane - Screen	ND (0.500)		8260B		1	07/07/16 15:35	CZG0079	CG60731
1-Chlorohexane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
2,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
2-Butanone	ND (0.0100)		8260B		1	07/07/16 15:35	CZG0079	CG60731
2-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
2-Hexanone	ND (0.0100)		8260B		1	07/07/16 15:35	CZG0079	CG60731
4-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
4-Isopropyltoluene	0.0047 (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Acetone	ND (0.0100)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Benzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Bromobenzene	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-3
Date Sampled: 07/06/16 09:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Bromodichloromethane	ND (0.0006)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Bromoform	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Bromomethane	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Carbon Disulfide	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Carbon Tetrachloride	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Chlorobenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Chloroethane	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Chloroform	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Chloromethane	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Dibromochloromethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Dibromomethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Dichlorodifluoromethane	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Diethyl Ether	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Di-isopropyl ether	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Ethylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Hexachlorobutadiene	ND (0.0006)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Hexachloroethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Isopropylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Methylene Chloride	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Naphthalene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
n-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
n-Propylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
sec-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Styrene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
tert-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Tetrachloroethene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-3
Date Sampled: 07/06/16 09:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Toluene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Trichloroethene	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Trichlorofluoromethane	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Vinyl Acetate	ND (0.0050)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Vinyl Chloride	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Xylene O	ND (0.0010)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Xylene P,M	ND (0.0020)		8260B		1	07/07/16 15:35	CZG0079	CG60731
Xylenes (Total)	ND (0.0020)		8260B		1	07/07/16 15:35		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>98 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>90 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-105
Date Sampled: 07/06/16 09:20
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1,1-Trichloroethane	0.0040 (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1-Dichloroethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,1-Dichloropropene	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2-Dibromoethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2-Dichloroethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,3-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1,4-Dioxane - Screen	ND (0.500)		8260B		1	07/07/16 16:02	CZG0079	CG60731
1-Chlorohexane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
2,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
2-Butanone	ND (0.0100)		8260B		1	07/07/16 16:02	CZG0079	CG60731
2-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
2-Hexanone	ND (0.0100)		8260B		1	07/07/16 16:02	CZG0079	CG60731
4-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
4-Isopropyltoluene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Acetone	ND (0.0100)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Benzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Bromobenzene	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-105
Date Sampled: 07/06/16 09:20
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Bromodichloromethane	ND (0.0006)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Bromoform	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Bromomethane	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Carbon Disulfide	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Carbon Tetrachloride	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Chlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Chloroethane	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Chloroform	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Chloromethane	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Dibromochloromethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Dibromomethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Dichlorodifluoromethane	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Diethyl Ether	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Di-isopropyl ether	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Ethylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Hexachlorobutadiene	ND (0.0006)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Hexachloroethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Isopropylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Methylene Chloride	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Naphthalene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
n-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
n-Propylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
sec-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Styrene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
tert-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Tetrachloroethene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
 Client Project ID: Bay Spring Realty
 Client Sample ID: MW-105
 Date Sampled: 07/06/16 09:20
 Percent Solids: N/A
 Initial Volume: 5
 Final Volume: 5
 Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
 ESS Laboratory Sample ID: 1607048-02
 Sample Matrix: Ground Water
 Units: mg/L
 Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Toluene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Trichloroethene	0.0024 (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Trichlorofluoromethane	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Vinyl Acetate	ND (0.0050)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Vinyl Chloride	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Xylene O	ND (0.0010)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Xylene P,M	ND (0.0020)		8260B		1	07/07/16 16:02	CZG0079	CG60731
Xylenes (Total)	ND (0.0020)		8260B		1	07/07/16 16:02		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	89 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	88 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	94 %		70-130
<i>Surrogate: Toluene-d8</i>	90 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-5
Date Sampled: 07/06/16 10:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1-Dichloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,1-Dichloropropene	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2-Dibromoethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2-Dichloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,3,5-Trimethylbenzene	0.0059 (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,3-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1,4-Dioxane - Screen	ND (0.500)		8260B		1	07/07/16 16:29	CZG0079	CG60731
1-Chlorohexane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
2,2-Dichloropropane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
2-Butanone	ND (0.0100)		8260B		1	07/07/16 16:29	CZG0079	CG60731
2-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
2-Hexanone	ND (0.0100)		8260B		1	07/07/16 16:29	CZG0079	CG60731
4-Chlorotoluene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
4-Isopropyltoluene	0.0043 (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Acetone	ND (0.0100)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Benzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Bromobenzene	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-5
Date Sampled: 07/06/16 10:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Bromodichloromethane	ND (0.0006)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Bromoform	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Bromomethane	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Carbon Disulfide	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Carbon Tetrachloride	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Chlorobenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Chloroethane	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Chloroform	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Chloromethane	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Dibromochloromethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Dibromomethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Dichlorodifluoromethane	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Diethyl Ether	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Di-isopropyl ether	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Ethylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Hexachlorobutadiene	ND (0.0006)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Hexachloroethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Isopropylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Methylene Chloride	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Naphthalene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
n-Butylbenzene	0.0084 (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
n-Propylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
sec-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Styrene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
tert-Butylbenzene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Tetrachloroethene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty
Client Sample ID: MW-5
Date Sampled: 07/06/16 10:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1607048
ESS Laboratory Sample ID: 1607048-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Toluene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Trichloroethene	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Trichlorofluoromethane	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Vinyl Acetate	ND (0.0050)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Vinyl Chloride	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Xylene O	ND (0.0010)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Xylene P,M	ND (0.0020)		8260B		1	07/07/16 16:29	CZG0079	CG60731
Xylenes (Total)	ND (0.0020)		8260B		1	07/07/16 16:29		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>95 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>90 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

Blank

1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0219		mg/L	0.02500		88	70-130			
Surrogate: 4-Bromofluorobenzene	0.0225		mg/L	0.02500		90	70-130			
Surrogate: Dibromofluoromethane	0.0234		mg/L	0.02500		93	70-130			
Surrogate: Toluene-d8	0.0228		mg/L	0.02500		91	70-130			

LCS

1,1,1,2-Tetrachloroethane	10.1		ug/L	10.00		101	70-130			
1,1,1-Trichloroethane	10.0		ug/L	10.00		100	70-130			
1,1,2,2-Tetrachloroethane	10.7		ug/L	10.00		107	70-130			
1,1,2-Trichloroethane	10.9		ug/L	10.00		109	70-130			
1,1-Dichloroethane	10.6		ug/L	10.00		106	70-130			
1,1-Dichloroethene	11.1		ug/L	10.00		111	70-130			
1,1-Dichloropropene	10.3		ug/L	10.00		103	70-130			
1,2,3-Trichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,2,3-Trichloropropane	9.53		ug/L	10.00		95	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

1,2,4-Trichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,2,4-Trimethylbenzene	10.0		ug/L	10.00		100	70-130			
1,2-Dibromo-3-Chloropropane	10.5		ug/L	10.00		105	70-130			
1,2-Dibromoethane	10.3		ug/L	10.00		103	70-130			
1,2-Dichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,2-Dichloroethane	10.4		ug/L	10.00		104	70-130			
1,2-Dichloropropane	10.0		ug/L	10.00		100	70-130			
1,3,5-Trimethylbenzene	10.7		ug/L	10.00		107	70-130			
1,3-Dichlorobenzene	10.4		ug/L	10.00		104	70-130			
1,3-Dichloropropane	10.3		ug/L	10.00		103	70-130			
1,4-Dichlorobenzene	10.9		ug/L	10.00		109	70-130			
1,4-Dioxane - Screen	246		ug/L	200.0		123	0-332			
1-Chlorohexane	10.0		ug/L	10.00		100	70-130			
2,2-Dichloropropane	10.0		ug/L	10.00		100	70-130			
2-Butanone	50.6		ug/L	50.00		101	70-130			
2-Chlorotoluene	10.8		ug/L	10.00		108	70-130			
2-Hexanone	47.2		ug/L	50.00		94	70-130			
4-Chlorotoluene	10.7		ug/L	10.00		107	70-130			
4-Isopropyltoluene	10.7		ug/L	10.00		107	70-130			
4-Methyl-2-Pentanone	52.2		ug/L	50.00		104	70-130			
Acetone	52.3		ug/L	50.00		105	70-130			
Benzene	10.4		ug/L	10.00		104	70-130			
Bromobenzene	10.7		ug/L	10.00		107	70-130			
Bromochloromethane	10.2		ug/L	10.00		102	70-130			
Bromodichloromethane	10.7		ug/L	10.00		107	70-130			
Bromoform	9.57		ug/L	10.00		96	70-130			
Bromomethane	7.06		ug/L	10.00		71	70-130			
Carbon Disulfide	10.8		ug/L	10.00		108	70-130			
Carbon Tetrachloride	10.1		ug/L	10.00		101	70-130			
Chlorobenzene	10.4		ug/L	10.00		104	70-130			
Chloroethane	11.6		ug/L	10.00		116	70-130			
Chloroform	10.2		ug/L	10.00		102	70-130			
Chloromethane	9.12		ug/L	10.00		91	70-130			
cis-1,2-Dichloroethene	10.6		ug/L	10.00		106	70-130			
cis-1,3-Dichloropropene	10.8		ug/L	10.00		108	70-130			
Dibromochloromethane	10.1		ug/L	10.00		101	70-130			
Dibromomethane	11.2		ug/L	10.00		112	70-130			
Dichlorodifluoromethane	9.74		ug/L	10.00		97	70-130			
Diethyl Ether	17.8		ug/L	10.00		178	70-130			B+
Di-isopropyl ether	9.69		ug/L	10.00		97	70-130			
Ethyl tertiary-butyl ether	9.96		ug/L	10.00		100	70-130			
Ethylbenzene	10.2		ug/L	10.00		102	70-130			
Hexachlorobutadiene	11.6		ug/L	10.00		116	70-130			
Hexachloroethane	9.52		ug/L	10.00		95	70-130			
Isopropylbenzene	10.3		ug/L	10.00		103	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
Client Project ID: Bay Spring Realty

ESS Laboratory Work Order: 1607048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

Methyl tert-Butyl Ether	10.6		ug/L	10.00		106	70-130			
Methylene Chloride	12.2		ug/L	10.00		122	70-130			
Naphthalene	12.5		ug/L	10.00		125	70-130			
n-Butylbenzene	11.0		ug/L	10.00		110	70-130			
n-Propylbenzene	10.4		ug/L	10.00		104	70-130			
sec-Butylbenzene	10.9		ug/L	10.00		109	70-130			
Styrene	10.1		ug/L	10.00		101	70-130			
tert-Butylbenzene	10.4		ug/L	10.00		104	70-130			
Tertiary-amyl methyl ether	10.6		ug/L	10.00		106	70-130			
Tetrachloroethene	8.50		ug/L	10.00		85	70-130			
Tetrahydrofuran	9.34		ug/L	10.00		93	70-130			
Toluene	10.7		ug/L	10.00		107	70-130			
trans-1,2-Dichloroethene	10.8		ug/L	10.00		108	70-130			
trans-1,3-Dichloropropene	10.2		ug/L	10.00		102	70-130			
Trichloroethene	10.2		ug/L	10.00		102	70-130			
Trichlorofluoromethane	8.56		ug/L	10.00		86	70-130			
Vinyl Acetate	10.3		ug/L	10.00		103	70-130			
Vinyl Chloride	10.1		ug/L	10.00		101	70-130			
Xylene O	10.5		ug/L	10.00		105	70-130			
Xylene P,M	20.6		ug/L	20.00		103	70-130			
Xylenes (Total)	31.1		mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0269		mg/L	0.02500		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.0245		mg/L	0.02500		98	70-130			
Surrogate: Dibromofluoromethane	0.0277		mg/L	0.02500		111	70-130			
Surrogate: Toluene-d8	0.0258		mg/L	0.02500		103	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	10.1		ug/L	10.00		101	70-130	0.2	25	
1,1,1-Trichloroethane	10.0		ug/L	10.00		100	70-130	0.1	25	
1,1,2,2-Tetrachloroethane	10.1		ug/L	10.00		101	70-130	6	25	
1,1,2-Trichloroethane	10.5		ug/L	10.00		105	70-130	4	25	
1,1-Dichloroethane	10.7		ug/L	10.00		107	70-130	0.8	25	
1,1-Dichloroethene	11.0		ug/L	10.00		110	70-130	1	25	
1,1-Dichloropropene	10.5		ug/L	10.00		105	70-130	3	25	
1,2,3-Trichlorobenzene	9.68		ug/L	10.00		97	70-130	6	25	
1,2,3-Trichloropropane	8.83		ug/L	10.00		88	70-130	8	25	
1,2,4-Trichlorobenzene	9.34		ug/L	10.00		93	70-130	7	25	
1,2,4-Trimethylbenzene	10.0		ug/L	10.00		100	70-130	0.4	25	
1,2-Dibromo-3-Chloropropane	9.55		ug/L	10.00		96	70-130	10	25	
1,2-Dibromoethane	9.86		ug/L	10.00		99	70-130	4	25	
1,2-Dichlorobenzene	10.4		ug/L	10.00		104	70-130	2	25	
1,2-Dichloroethane	10.0		ug/L	10.00		100	70-130	4	25	
1,2-Dichloropropane	10.0		ug/L	10.00		100	70-130	0.1	25	
1,3,5-Trimethylbenzene	10.2		ug/L	10.00		102	70-130	6	25	
1,3-Dichlorobenzene	10.5		ug/L	10.00		105	70-130	1	25	
1,3-Dichloropropane	10.3		ug/L	10.00		103	70-130	0.3	25	



CERTIFICATE OF ANALYSIS

Client Name: Environmental Strategies & Management, Inc.
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ESS Laboratory Work Order: 1607048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

1,4-Dichlorobenzene	10.8		ug/L	10.00		108	70-130	0.4	25	
1,4-Dioxane - Screen	208		ug/L	200.0		104	0-332	16	200	
1-Chlorohexane	10.1		ug/L	10.00		101	70-130	0.4	25	
2,2-Dichloropropane	10.1		ug/L	10.00		101	70-130	0.3	25	
2-Butanone	46.1		ug/L	50.00		92	70-130	9	25	
2-Chlorotoluene	10.7		ug/L	10.00		107	70-130	0.8	25	
2-Hexanone	42.2		ug/L	50.00		84	70-130	11	25	
4-Chlorotoluene	10.5		ug/L	10.00		105	70-130	2	25	
4-Isopropyltoluene	10.6		ug/L	10.00		106	70-130	0.4	25	
4-Methyl-2-Pentanone	46.8		ug/L	50.00		94	70-130	11	25	
Acetone	49.1		ug/L	50.00		98	70-130	6	25	
Benzene	10.5		ug/L	10.00		105	70-130	1	25	
Bromobenzene	10.1		ug/L	10.00		101	70-130	5	25	
Bromochloromethane	10.8		ug/L	10.00		108	70-130	5	25	
Bromodichloromethane	10.3		ug/L	10.00		103	70-130	4	25	
Bromoform	8.83		ug/L	10.00		88	70-130	8	25	
Bromomethane	7.56		ug/L	10.00		76	70-130	7	25	
Carbon Disulfide	10.8		ug/L	10.00		108	70-130	0.3	25	
Carbon Tetrachloride	9.60		ug/L	10.00		96	70-130	5	25	
Chlorobenzene	10.3		ug/L	10.00		103	70-130	1	25	
Chloroethane	12.0		ug/L	10.00		120	70-130	3	25	
Chloroform	10.4		ug/L	10.00		104	70-130	2	25	
Chloromethane	8.95		ug/L	10.00		90	70-130	2	25	
cis-1,2-Dichloroethene	10.3		ug/L	10.00		103	70-130	3	25	
cis-1,3-Dichloropropene	10.7		ug/L	10.00		107	70-130	0.3	25	
Dibromochloromethane	9.43		ug/L	10.00		94	70-130	6	25	
Dibromomethane	10.8		ug/L	10.00		108	70-130	3	25	
Dichlorodifluoromethane	8.95		ug/L	10.00		90	70-130	8	25	
Diethyl Ether	18.6		ug/L	10.00		186	70-130	5	25	B+
Di-isopropyl ether	9.61		ug/L	10.00		96	70-130	0.8	25	
Ethyl tertiary-butyl ether	9.84		ug/L	10.00		98	70-130	1	25	
Ethylbenzene	10.1		ug/L	10.00		101	70-130	0.8	25	
Hexachlorobutadiene	10.0		ug/L	10.00		100	70-130	14	25	
Hexachloroethane	9.16		ug/L	10.00		92	70-130	4	25	
Isopropylbenzene	10.5		ug/L	10.00		105	70-130	2	25	
Methyl tert-Butyl Ether	10.2		ug/L	10.00		102	70-130	4	25	
Methylene Chloride	11.4		ug/L	10.00		114	70-130	6	25	
Naphthalene	10.4		ug/L	10.00		104	70-130	19	25	
n-Butylbenzene	10.3		ug/L	10.00		103	70-130	6	25	
n-Propylbenzene	10.6		ug/L	10.00		106	70-130	2	25	
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130	2	25	
Styrene	10.0		ug/L	10.00		100	70-130	0.5	25	
tert-Butylbenzene	10.4		ug/L	10.00		104	70-130	0.3	25	
Tertiary-amyl methyl ether	10.2		ug/L	10.00		102	70-130	4	25	
Tetrachloroethene	7.98		ug/L	10.00		80	70-130	6	25	



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8260B Volatile Organic Compounds

Batch CG60731 - 5030B

Tetrahydrofuran	8.54		ug/L	10.00		85	70-130	9	25	
Toluene	10.3		ug/L	10.00		103	70-130	3	25	
trans-1,2-Dichloroethene	10.9		ug/L	10.00		109	70-130	0.4	25	
trans-1,3-Dichloropropene	10.0		ug/L	10.00		100	70-130	2	25	
Trichloroethene	10.4		ug/L	10.00		104	70-130	1	25	
Trichlorofluoromethane	8.64		ug/L	10.00		86	70-130	0.9	25	
Vinyl Acetate	9.32		ug/L	10.00		93	70-130	10	25	
Vinyl Chloride	10.6		ug/L	10.00		106	70-130	4	25	
Xylene O	10.3		ug/L	10.00		103	70-130	2	25	
Xylene P,M	20.2		ug/L	20.00		101	70-130	2	25	
Xylenes (Total)	30.5		mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0266		mg/L	0.02500		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.0242		mg/L	0.02500		97	70-130			
Surrogate: Dibromofluoromethane	0.0274		mg/L	0.02500		110	70-130			
Surrogate: Toluene-d8	0.0257		mg/L	0.02500		103	70-130			



CERTIFICATE OF ANALYSIS

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Notes and Definitions

- U Analyte included in the analysis, but not detected
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1607048

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

ATTACHMENT F

Additional Limitations

ADDITIONAL LIMITATIONS

1. The observations described in this Report were made under the conditions stated herein. The conclusions presented in the Report are based solely upon the services described therein and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in the Report was carried out in accordance with our Proposal and Associated Statement of Standard Terms and Conditions.
2. In preparing the Report, Resource Controls has relied on certain information provided by state and local officials and other parties referenced therein and on information contained in the files of state and/or local agencies available to Resource Controls at the time of the site evaluation. Although there may have been some degree of overlap in the information provided by the various sources, Resource Controls did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.
3. Observations and explorations were made of the site as indicated within the Report. Where access to portions of the site were unavailable or limited, Resource Controls renders no opinion as to the presence of hazardous materials, asbestos, lead paint or oil, or to the presence of indirect evidence relating to the same, in that portion of the site or structure. In addition, Resource Controls renders no opinion as to the presence of hazardous materials, lead paint, oil, PCBs or asbestos or to the presence of indirect evidence relating to hazardous materials, oil, lead paint or asbestos, where direct observation of the interior walls, floor, or ceiling of a structure on a site was obstructed by objects or coverings on or over these structures.
4. The purpose of this Report was to assess the characteristics of the subject site with respect to the possible presence in the environment of hazardous materials as defined within the project contract. No specific attempt was made to check the regulatory compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.
5. Except as noted within the text of this Report, no quantitative laboratory testing was performed as part of this evaluation. Where such analyses have been conducted by an outside laboratory, Resource Controls has relied upon the data provided and has not conducted an independent third party evaluation of the reliability of this data.
6. Any chemical analyses performed for specific parameters during the course of studies have been used, in part, as a basis for determining the areas of environmental concern. Additional chemical constituents not searched for may be present at the site. Defined areas of environmental concern do not cover the potential additional constituents.
7. Governmental agencies' interpretations, requirements and enforcement policies may impact the type and scope of any site remediation required for a site. In addition, statutes, rules and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practice. If such changes occur, it may be necessary to re-evaluate their impact on the scope of any site remediation required.
8. Any water level readings made in the test pits, borings and/or wells and were made under the conditions stated on the logs. This data may have been reviewed and interpretations have been made in the text of this Report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall, temperature and other factors different from those prevailing at the time measurements were made.
9. Any and all cost estimates or opinions presented are based on Resource Controls opinion of most probable costs and are based on information available at the time of the estimate. Such estimates may vary from actual contract values based on many market and engineering variables beyond the control of Resource Controls. No warranty or guarantee is offered on the accuracy or validity of the estimates provided.