



March 17, 2017

Haig's Delicacies
25673 Nickel Street
Hayward, CA 94545

Attn: Mr. Steve Cherezian

Subject: Monitoring Well Installation and Sampling and Indoor Air Report
25673 Nickel Place
Hayward, CA

Dear Mr. Cherezian:

Applied Water Resources, Corp. (AWR) has completed the multi medium sampling as noted above. AWR was requested to complete the sampling on behalf of Haig's Delicacies, the current property owner and occupant. The property is in a light industrial area within the City of Hayward, California. The site is a light industrial office/warehouse property currently occupied by Haig's Delicacies, which produces Hummus and other similar types of dips and spreads.

AWR had previously conducted soil sampling, grab groundwater sampling, and soil vapor sampling at the subject site. Those results were presented in a letter report dated December 2, 2016. During subsequent discussions with the bank regarding the grab groundwater results presented in the December 2, 2016 report, the bank requested indoor air sampling and installation and sampling of a monitoring well at the same location that yielded TCE in the grab groundwater sample to further evaluate site conditions and potential soil vapor intrusion.

PREVIOUS SITE INVESTIGATION

Applied Water Resources, Corp. (AWR) was contracted to complete a Phase II investigation at the above captioned site. The Phase II investigation was recommended by ADR Environmental Group, Inc. in their Phase I ESA dated September 20, 2016. The need for the Phase II investigation is based on the fact that volatile organic compounds (VOCs) had been historically stored outside the building and used inside the building by a former tenant. Based on this condition, ADR recommended that a Phase II investigation be performed.

AWR advanced three borings and one temporary soil gas point across the site in order to identify the presence or absence of petroleum hydrocarbons or solvents in the soil, groundwater and soil vapors within the property. The field investigation included the collection

and analysis of soil samples from three soil borings (SB-1 through SB-3), collection and analysis of grab groundwater samples from SB-1 and SB-2, and collection and analysis of one soil vapor sample adjacent to SB-1 (called SV-1).

The concentrations detected in the soil samples and soil vapor sample collected in November 2016 were all less than environmental screening levels (ESLs) for residential (unrestricted) land use.

The water samples collected from SB-1 and SB-2 were analyzed for TPHg, TPHd, and TPHmo by EPA Method 8015 and VOCs by EPA Method 8260. All concentrations detected in the water sample were at or below screening levels for commercial/industrial groundwater for non-drinking water with the exception of Trichloroethene (TCE), which was detected in SB-2 at a concentration of 64 ug/L. The ESL value for TCE is 5 ug/l for protecting potable groundwater and 49 ug/L for protecting indoor air from soil vapors emanating from groundwater.

During subsequent discussions with the bank regarding the grab groundwater presented in the December 2, 2016 report, the bank requested indoor air sampling and installation and sampling of a monitoring well at the site to further evaluate site conditions.

ADDITIONAL INVESTIGATION

AWR Applied Water Resources, Corp. (AWR) was contracted to complete additional investigation at the subject site. The additional investigation including installing and sampling a groundwater monitoring well near the former hazardous material storage area and collecting three air samples at the subject site.

The scope of work consisted of the following tasks:

- Task 1 - Utility Location, Permitting, and Health and Safety Plan
- Task 2 –Installation and Sampling of Monitoring Well and Indoor Air Assessment

Task 1 - Utility Location, Permitting, and Health and Safety Plan

As described below, investigation activities included installing and sampling a groundwater monitoring well at the Site. A well installation permit was obtained from Alameda County Public Works Agency. A copy of the permit is included with this report.

Underground Services Alert (USA) was notified and the monitoring well installation location was cleared for underground utilities.

As required by the Occupational Health and Safety Administration (OSHA) 29 CFR 1910.120, Hazardous Waste Operations and Emergency Responses, a site Health and Safety Plan (HSP) was prepared for use while conducting proposed field sampling activities.

Task 2 - Installation and Sampling of Monitoring Well and Indoor Air Assessment

Air Sampling

AWR placed three 6-Liter suma canisters at the subject site. The canisters were fitted with a regulator to collect the air sample over a 24-hour period. The canisters were placed at the site on February 3, 2017 and retrieved on February 4, 2017 after the 24-hour sample collection period. One canister was placed in the office area of the building, one canister was in the production area of the building and the third canister was placed outside the front door for an outdoor sample to compare with the indoor sample results.

Monitoring Well Installation

On February 3, 2017, the monitoring well was installed at the site using hollow stem auger drilling operated by a licensed well driller. Grab soil samples were collected by AWR from 2' and 7' in the well installation boring.

The well was installed in a 15-foot deep 6" diameter boring with 2" PVC perforated screen surrounded by #2/12 Monterey sand filter pack from 5 to 15 feet and 2" PVC blank pipe surrounded by neat cement grout for the upper five feet. The well was installed at grade with a permanent well box. Alameda County Public Works was present at the site to observe and approve the installation of the monitoring well.

Monitoring Well Development and Sampling

The well was developed and sampled on February 15, 2017.

Monitoring Well Installation and Sampling and Indoor Air Report

25673 Nickel Place
Hayward, California

Results

Air Sampling

Table 1 – Air Sample Analysis Results

	AS-1 Outside	AS-2 Office	AS-3 Work Area	ESL
Acetone	5.93 ug/m ³	24.7 ug/m ³	44.7 ug/m ³	420 ug/m ³
Chloromethane	1.39 ug/m ³	1.49 ug/m ³	1.54 ug/m ³	94 ug/m ³
cis-1,2-Dichloroethene	ND	ND	ND	8.3 ug/m ³
Ethanol	1.92 ug/m ³	367 ug/m ³	148 ug/m ³	No ESL developed
Trichlorofluoromethane	1.55 ug/m ³	1.56 ug/m ³	1.19 ug/m ³	No ESL developed
Dichlorodifluoromethane	1.86 ug/m ³	1.54 ug/m ³	1.59 ug/m ³	No ESL developed
Heptane	ND	4.86 ug/m ³	2.73 ug/m ³	No ESL developed
Methylene Chloride	ND	1.47 ug/m ³	0.782 ug/m ³	1 ug/m ³
2-Butanone (MEK)	ND	698 ug/m ³	162 ug/m ³	5,200 ug/m ³
2-Propanol	ND	416 ug/m ³	79.3 ug/m ³	3000 ug/m ³
Styrene	ND	ND	0.853 ug/m ³	940 ug/m ³
Toluene	ND	4.24 ug/m ³	1.81 u ug/m ³	310 ug/m ³
Trichloroethene (TCE)	ND	ND	ND	0.48 ug/m ³
Vinyl Acetate	ND	ND	0.818 ug/m ³	No ESL developed
Vinyl Chloride	ND	ND	ND	0.0095 ug/m ³

NOTES:

1. These samples were run for the entire TO-15 Volatile Organic Compounds list - only compounds detected in one or more samples or of particular interest for this site are listed in the table. Please see the laboratory analysis report for a full list of analytes and respective reporting limits.
2. ESL is the Environmental Screening Level for unrestricted (residential) indoor air developed by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and published in February 2016 for commercial/industrial properties.
3. ND is non detect. This compound was not detected in concentrations exceeding the laboratory detection limit in this sample.

Soil Sampling and Analysis

Grab soil samples were collected from 2 feet and 7 feet in the boring advanced for the monitoring wells installation. The soil samples were analyzed for the complete list of volatile organic compounds (VOCs) by EPA Method 8260, and total petroleum hydrocarbons in the C12-C22, C22-C32, and C32-C40 ranges. The test results for the soil can be found in Table 2.

Monitoring Well Installation and Sampling and Indoor Air Report

25673 Nickel Place
Hayward, California

Table 2 – Soil Sample Analysis Results

Sample Location and Depth	Date Sampled	TPH C12-C22	TPH C22-C32	TPH C32-C40	VOCs
MW-1 @ 2'	2/3/17	ND	564 mg/kg	772 mg/kg	All were ND
MW-1 @ 7'	2/3/17	ND	ND	ND	All were ND
ESL		100 mg/kg	5100 mg/kg	5100 mg/kg	various

NOTES:

1. ND is not detected - the compound was not present in concentrations exceeding the laboratory reporting limit.
2. These samples were run for the entire 8260 Volatile Organic Compounds list - only compounds detected in one or more samples are listed in the table. Please see the laboratory analysis report for a full list of analytes and respective reporting limits.
3. ESL is the Environmental Screening Level for unrestricted properties developed by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and published in February 2016 - Summary Table A. Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is Current or Potential Source of Drinking Water

Monitoring Well Sample

The monitoring well was developed, purged, and sampled on February 15, 2017. The samples were collected using a low flow peristaltic pump and placed into new, laboratory supplied VOAs, preserved with HCl, and placed in a cooler for transportation to a certified laboratory for analysis of VOCs by EPA Method 8260. The analysis results are summarized in Table 3 below.

Table 3 – Groundwater Sample Analysis Results

Analyte	MW-1	ESL for drinking water protection	ESL for vapor intrusion commercial/industrial
cis-1,2-Dichloroethene	11.4 ug/L	6 ug/L	950 ug/L
Methyl-t-butyl ether (MTBE)	1.55 ug/L	5 ug/L	11,000 ug/L
Trichloroethene	44.9 ug/L	5 ug/L	49 ug/L

NOTES:

1. These samples were run for the entire 8260 Volatile Organic Compounds list - only compounds detected in one or more samples are listed in the table. Please see the laboratory analysis report for a full list of analytes and respective reporting limits.
2. ESL is the Environmental Screening Level developed by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and published in February 2016.

The ESLs for protection of potable water for TCE and cis-1,2-DCE in water are 5.0 ug/L and 6.0 ug/L, respectively. The shallow water at the site is not currently used for drinking water. The ESLs to protect indoor air from vapor intrusion for commercial/industrial properties are 49ug/L for TCE and 950 ug/L for cis-1,2-DCE.

Sample Preservation and Transport

All samples for laboratory analysis were collected into containers supplied by the laboratory. Following collection, all samples were appropriately labeled with the sample ID, date and time of collection, and sampler's initials. The samples were placed on ice within an ice chest and transported to the laboratory under standard chain-of-custody procedures.

Waste Disposal

All soil cuttings, purge water, and other investigation derived waste were placed in drums, labeled, and tested for appropriate disposal.

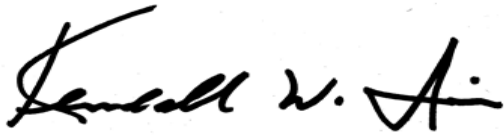
CONCLUSIONS AND RECOMMENDATION

The additional investigation was conducted to further evaluate the potential for vapor intrusion of Trichloroethene (TCE) and cis-1,2-Dichloroethene (cis-1,2-DCE). TCE and cis-1,2-DCE were not detected in any of the air samples collected during this additional investigation. Furthermore, the concentration of TCE and cis-1,2-DCE in the groundwater sample from the monitoring well was less than the ESL for vapor intrusion in a commercial/industrial land use setting.

Based on the results, TCE and cis-1,2-DCE are present in groundwater in concentrations above the ESL for drinking water but below the ESL for protecting commercial and industrial land use from soil vapor intrusion. TCE and cis-1,2-DCE were not present at measurable concentrations in indoor air. Groundwater is not currently used for drinking water and the water needs in the area are met by the public utility. Therefore, TCE and cis-1,2-DCE do not appear to pose a significant risk to human health at the site. No additional investigation is recommended.

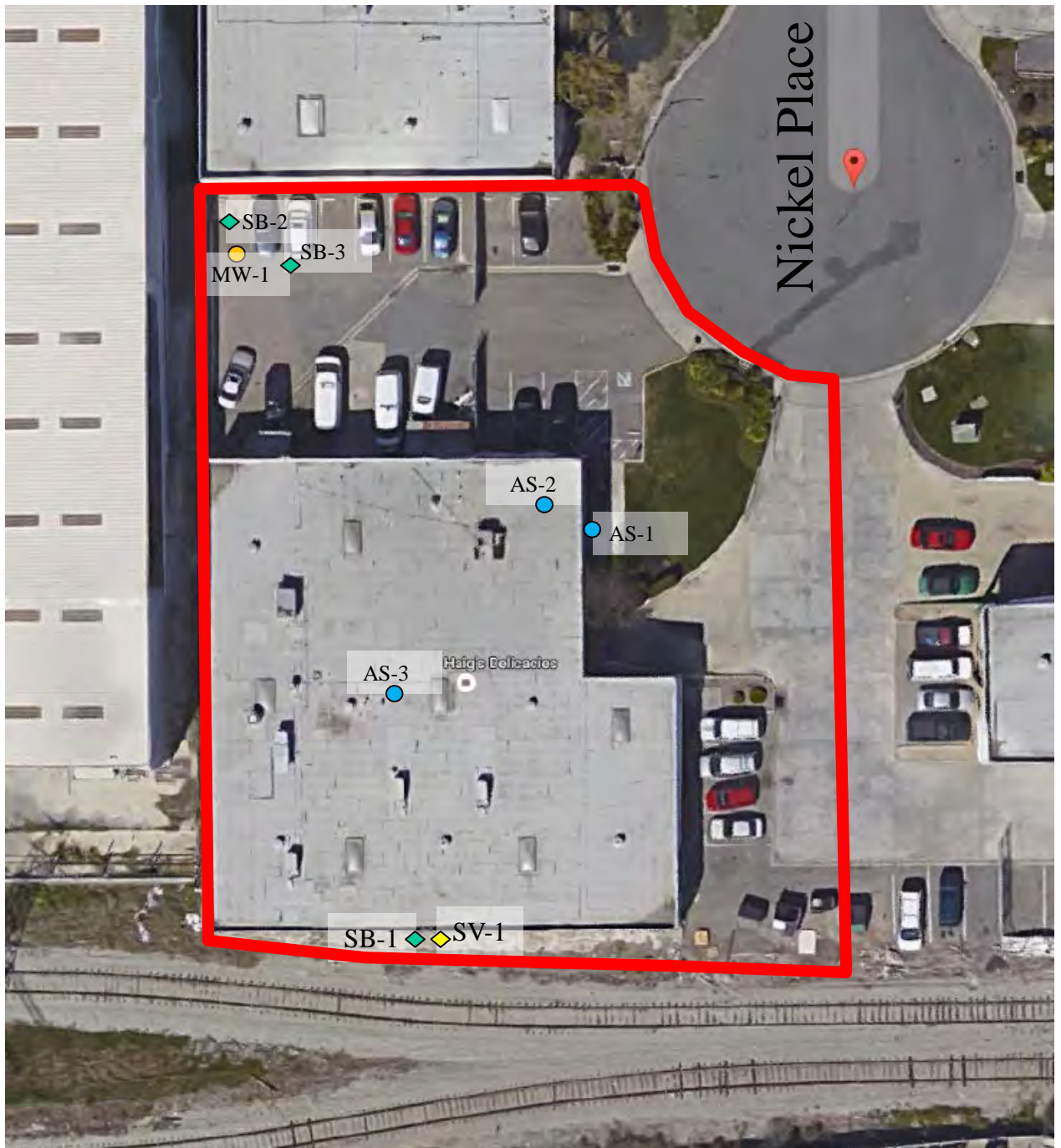
Should you have any questions or require supplemental data, please feel free to contact us at your convenience.

Very truly yours,
APPLIED WATER RESOURCES, CORPORATION

A handwritten signature in black ink, appearing to read "Kendall W. Price". The signature is fluid and cursive, with a prominent initial "K" and a distinct "P" at the end.

Kendall W. Price CEG, REA
Principal Consultant/Regional Manager

Enclosures: Figure 1 – Site Map
Laboratory Analysis Report
Permits



NOTE: Base photo from Google Earth

FIGURE 1 – Site Map

25673 Nickel Place
Hayward, California



Applied Water Resources - Alameda, CA

Sample Delivery Group: L888217
Samples Received: 02/07/2017
Project Number: 25673
Description: #25673/Haigs

Report To: Tyson Fulmer
2363 Mariner Square Dr
Suite 245
Alameda, CA 94501

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



AS-1-OUTSIDE L888217-01 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG950399	1	02/08/17 12:27	02/08/17 12:27	DWR

Collected by K. Price
 Collected date/time 02/04/17 09:10
 Received date/time 02/07/17 09:00

¹ Cp

² Tc

³ Ss

AS-2-OFFICE L888217-02 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG950399	1	02/08/17 13:14	02/08/17 13:14	DWR
Volatile Organic Compounds (MS) by Method TO-15	WG950896	25	02/09/17 15:25	02/09/17 15:25	GCH

Collected by K. Price
 Collected date/time 02/04/17 09:10
 Received date/time 02/07/17 09:00

⁴ Cn

⁵ Sr

⁶ Qc

AS-3-WORK L888217-03 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG950399	1	02/08/17 13:59	02/08/17 13:59	DWR
Volatile Organic Compounds (MS) by Method TO-15	WG950896	10	02/09/17 16:16	02/09/17 16:16	GCH

Collected by K. Price
 Collected date/time 02/04/17 09:10
 Received date/time 02/07/17 09:00

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
Acetone	67-64-1	58.10	1.25	2.97	2.50	5.93		1	WG950399
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG950399
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG950399
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG950399
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG950399
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG950399
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG950399
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG950399
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG950399
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG950399
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG950399
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG950399
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG950399
Chloromethane	74-87-3	50.50	0.200	0.413	0.673	1.39		1	WG950399
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG950399
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG950399
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG950399
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG950399
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG950399
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG950399
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG950399
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG950399
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG950399
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG950399
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG950399
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG950399
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG950399
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG950399
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG950399
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG950399
Ethanol	64-17-5	46.10	0.630	1.19	1.02	1.92		1	WG950399
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG950399
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG950399
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.276	1.55		1	WG950399
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.377	1.86		1	WG950399
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG950399
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG950399
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG950399
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG950399
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG950399
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG950399
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG950399
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG950399
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG950399
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG950399
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG950399
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG950399
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG950399
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG950399
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG950399
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG950399
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG950399
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG950399
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG950399
Toluene	108-88-3	92.10	0.200	0.753	ND	ND		1	WG950399
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG950399

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG950399
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG950399
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG950399
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG950399
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG950399
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG950399
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG950399
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG950399
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG950399
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG950399
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG950399
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.7				WG950399

1 Cp

2 Tc

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8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	10.4	24.7		1	WG950399
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG950399
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG950399
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG950399
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG950399
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG950399
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG950399
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG950399
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG950399
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG950399
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG950399
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG950399
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG950399
Chloromethane	74-87-3	50.50	0.200	0.413	0.719	1.49		1	WG950399
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG950399
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG950399
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG950399
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG950399
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG950399
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG950399
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG950399
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG950399
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG950399
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG950399
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG950399
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG950399
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG950399
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG950399
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG950399
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG950399
Ethanol	64-17-5	46.10	15.8	29.8	195	367		25	WG950896
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG950399
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG950399
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.278	1.56		1	WG950399
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.312	1.54		1	WG950399
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG950399
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG950399
Heptane	142-82-5	100	0.200	0.818	1.19	4.86		1	WG950399
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG950399
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG950399
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG950399
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.422	1.47		1	WG950399
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG950399
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	237	698		25	WG950896
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG950399
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG950399
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG950399
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG950399
2-Propanol	67-63-0	60.10	31.2	76.7	169	416		25	WG950896
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG950399
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG950399
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG950399
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG950399
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG950399
Toluene	108-88-3	92.10	0.200	0.753	1.12	4.24		1	WG950399
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG950399

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG950399
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG950399
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG950399
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG950399
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG950399
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG950399
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG950399
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG950399
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG950399
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG950399
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG950399
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.6				WG950896
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.9				WG950399

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 02/04/17 09:10

L888217

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	18.8	44.7		1	WG950399
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG950399
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG950399
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG950399
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG950399
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG950399
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG950399
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG950399
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG950399
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG950399
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG950399
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG950399
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG950399
Chloromethane	74-87-3	50.50	0.200	0.413	0.746	1.54		1	WG950399
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG950399
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG950399
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG950399
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG950399
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG950399
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG950399
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG950399
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG950399
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG950399
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG950399
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG950399
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG950399
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG950399
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG950399
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG950399
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG950399
Ethanol	64-17-5	46.10	6.30	11.9	78.2	148		10	WG950896
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG950399
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG950399
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.212	1.19		1	WG950399
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.321	1.59		1	WG950399
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG950399
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG950399
Heptane	142-82-5	100	0.200	0.818	0.668	2.73		1	WG950399
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG950399
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG950399
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG950399
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.225	0.782		1	WG950399
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG950399
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	54.8	162		10	WG950896
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG950399
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG950399
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG950399
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG950399
2-Propanol	67-63-0	60.10	1.25	3.07	32.3	79.3		1	WG950399
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG950399
Styrene	100-42-5	104	0.200	0.851	0.201	0.853		1	WG950399
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG950399
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG950399
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG950399
Toluene	108-88-3	92.10	0.200	0.753	0.482	1.81		1	WG950399
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG950399

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG950399
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG950399
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG950399
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG950399
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG950399
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG950399
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG950399
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG950399
Vinyl acetate	108-05-4	86.10	0.200	0.704	0.232	0.818		1	WG950399
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG950399
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG950399
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.7				WG950896
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.3				WG950399

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3195758-3 02/08/17 10:26

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3195758-3 02/08/17 10:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	0.178	J	0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	95.1			60.0-140

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195758-1 02/08/17 09:04 • (LCSD) R3195758-2 02/08/17 09:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.61	3.78	96.2	101	52.0-158			4.52	25
Propene	3.75	4.35	4.42	116	118	54.0-155			1.63	25
Dichlorodifluoromethane	3.75	4.20	4.30	112	115	69.0-143			2.33	25
1,2-Dichlorotetrafluoroethane	3.75	4.32	4.37	115	117	70.0-130			1.17	25
Chloromethane	3.75	4.41	4.37	118	116	70.0-130			1.07	25



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195758-1 02/08/17 09:04 • (LCSD) R3195758-2 02/08/17 09:44

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.66	4.70	124	125	70.0-130			0.880	25
1,3-Butadiene	3.75	4.57	4.53	122	121	70.0-130			0.810	25
Bromomethane	3.75	4.45	4.55	119	121	70.0-130			2.10	25
Chloroethane	3.75	4.54	4.60	121	123	70.0-130			1.29	25
Trichlorofluoromethane	3.75	4.39	4.52	117	120	70.0-130			2.76	25
1,1,2-Trichlorotrifluoroethane	3.75	4.05	4.11	108	110	70.0-130			1.45	25
1,1-Dichloroethene	3.75	4.14	4.14	110	110	70.0-130			0.0300	25
1,1-Dichloroethane	3.75	4.15	4.20	111	112	70.0-130			1.21	25
Acetone	3.75	4.38	4.48	117	119	70.0-130			2.38	25
2-Propanol	3.75	4.08	4.13	109	110	66.0-150			1.19	25
Carbon disulfide	3.75	4.16	4.22	111	113	70.0-130			1.40	25
Methylene Chloride	3.75	4.14	4.18	110	112	70.0-130			1.14	25
MTBE	3.75	3.96	4.07	105	108	70.0-130			2.81	25
trans-1,2-Dichloroethene	3.75	4.19	4.21	112	112	70.0-130			0.310	25
n-Hexane	3.75	4.14	4.29	110	114	70.0-130			3.59	25
Vinyl acetate	3.75	4.18	4.22	111	112	70.0-130			0.930	25
Methyl Ethyl Ketone	3.75	4.09	4.13	109	110	70.0-130			1.02	25
cis-1,2-Dichloroethene	3.75	4.06	4.11	108	110	70.0-130			1.12	25
Chloroform	3.75	4.06	4.09	108	109	70.0-130			0.740	25
Cyclohexane	3.75	4.05	4.21	108	112	70.0-130			3.83	25
1,1,1-Trichloroethane	3.75	3.97	3.99	106	106	70.0-130			0.650	25
Carbon tetrachloride	3.75	4.02	4.05	107	108	70.0-130			0.900	25
Benzene	3.75	3.94	3.95	105	105	70.0-130			0.230	25
1,2-Dichloroethane	3.75	3.89	3.96	104	105	70.0-130			1.57	25
Heptane	3.75	4.10	4.05	109	108	70.0-130			1.29	25
Trichloroethylene	3.75	3.76	3.87	100	103	70.0-130			2.84	25
1,2-Dichloropropane	3.75	3.99	4.00	106	107	70.0-130			0.200	25
1,4-Dioxane	3.75	3.86	4.05	103	108	70.0-152			4.75	25
Bromodichloromethane	3.75	3.97	3.95	106	105	70.0-130			0.580	25
cis-1,3-Dichloropropene	3.75	3.82	3.92	102	105	70.0-130			2.66	25
4-Methyl-2-pentanone (MIBK)	3.75	4.02	4.02	107	107	70.0-142			0.0400	25
Toluene	3.75	3.88	3.91	104	104	70.0-130			0.770	25
trans-1,3-Dichloropropene	3.75	3.85	3.89	103	104	70.0-130			0.950	25
1,1,2-Trichloroethane	3.75	3.82	3.95	102	105	70.0-130			3.47	25
Tetrachloroethylene	3.75	3.71	3.74	98.9	99.7	70.0-130			0.810	25
Methyl Butyl Ketone	3.75	4.05	4.12	108	110	70.0-150			1.60	25
Dibromochloromethane	3.75	3.70	3.72	98.7	99.2	70.0-130			0.520	25
1,2-Dibromoethane	3.75	3.82	3.83	102	102	70.0-130			0.350	25
Chlorobenzene	3.75	3.77	3.81	100	102	70.0-130			1.18	25
Ethylbenzene	3.75	3.89	3.88	104	104	70.0-130			0.290	25

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195758-1 02/08/17 09:04 • (LCSD) R3195758-2 02/08/17 09:44

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	7.60	7.54	101	101	70.0-130			0.710	25
o-Xylene	3.75	3.77	3.75	101	100	70.0-130			0.490	25
Styrene	3.75	3.79	3.75	101	99.9	70.0-130			1.29	25
Bromoform	3.75	3.64	3.60	96.9	96.1	70.0-130			0.890	25
1,1,2,2-Tetrachloroethane	3.75	3.98	3.95	106	105	70.0-130			0.910	25
4-Ethyltoluene	3.75	3.93	3.90	105	104	70.0-130			0.710	25
1,3,5-Trimethylbenzene	3.75	4.00	3.99	107	106	70.0-130			0.170	25
1,2,4-Trimethylbenzene	3.75	3.97	3.96	106	105	70.0-130			0.320	25
1,3-Dichlorobenzene	3.75	3.94	3.90	105	104	70.0-130			0.960	25
1,4-Dichlorobenzene	3.75	4.22	4.20	112	112	70.0-130			0.330	25
Benzyl Chloride	3.75	3.90	3.90	104	104	70.0-144			0.0300	25
1,2-Dichlorobenzene	3.75	3.93	3.92	105	104	70.0-130			0.460	25
1,2,4-Trichlorobenzene	3.75	3.84	3.84	102	102	70.0-155			0.0800	25
Hexachloro-1,3-butadiene	3.75	3.80	3.79	101	101	70.0-145			0.240	25
Naphthalene	3.75	3.83	3.81	102	101	70.0-155			0.550	25
Allyl Chloride	3.75	4.24	4.29	113	114	70.0-130			1.16	25
2-Chlorotoluene	3.75	3.99	4.01	106	107	70.0-130			0.360	25
Methyl Methacrylate	3.75	3.82	3.86	102	103	70.0-130			1.07	25
Tetrahydrofuran	3.75	4.03	4.14	107	110	70.0-140			2.74	25
2,2,4-Trimethylpentane	3.75	4.13	4.26	110	114	70.0-130			2.96	25
Vinyl Bromide	3.75	4.44	4.46	118	119	70.0-130			0.470	25
Isopropylbenzene	3.75	3.83	3.79	102	101	70.0-130			0.960	25
<i>(S) 1,4-Bromofluorobenzene</i>				101	101	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3196089-3 02/09/17 13:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
2-Butanone (MEK)	U		0.0493	1.25
2-Propanol	U		0.0882	1.25
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	97.5			60.0-140

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3196089-1 02/09/17 12:19 • (LCSD) R3196089-2 02/09/17 13:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.35	3.38	89.2	90.1	52.0-158			0.970	25
2-Propanol	3.75	3.92	4.00	105	107	66.0-150			2.11	25
Methyl Ethyl Ketone	3.75	4.08	4.14	109	110	70.0-130			1.56	25
(S) 1,4-Bromofluorobenzene				100	102	60.0-140				

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.
 * Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

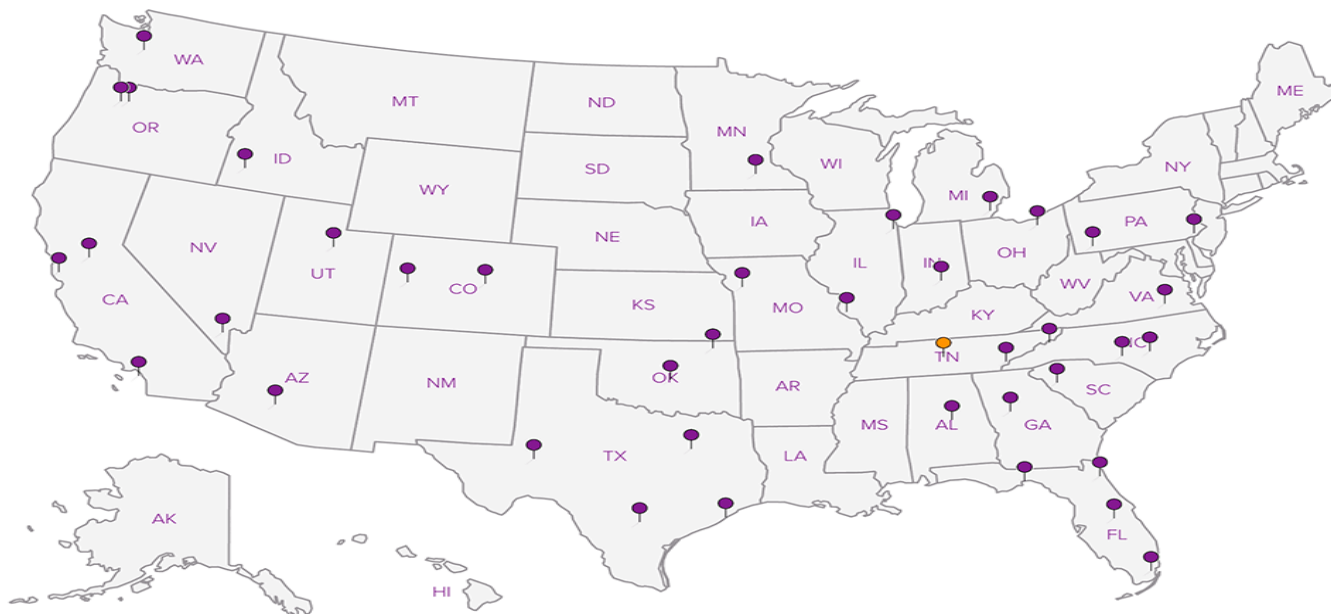
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Applied Water Resources - Alameda, CA

2363 Mariner Square Dr

Billing Information:
 Tyson Fulmer
 2363 Mariner Square Dr, Ste. 245
 Alameda, CA 94501

Pres
 Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L# L888 217

Ta **L007**

Acctnum: APPWATACA
 Template: T119836
 Prelogin: P585981
 TSR: 110 - Brian Ford
 PB: AK 1-26-17
 Shipped Via: FedEX Ground
 Rem./Contaminant | Sample # (lab only)

Report to:
Tyson Fulmer

Email To: tfulmer@awrcorp.net
KPRICE@AWRCORP.NET

Project Description: **# 25673 / HAIGS**

City/State Collected: **HAYWARD, CA**

Phone: **510-671-2087**
 Fax:

Client Project #
25673

Lab Project #
APPWATACA-FULMER

Collected by (print):
K. PRICE

Site/Facility ID #

P.O. #

Collected by (signature):
K. PRICE

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Quote #
 Date Results Needed
NORMAL - 5day TAT
 No. of
 Cntrs

TO-15 Summa

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
<u>AS-1-OUTSIDE</u>		<u>Air</u>		<u>2-4-17</u>	<u>9:10A</u>	<u>1</u>	<u>X</u>
<u>AS-2-OFFICE</u>		<u>Air</u>		<u>2-4-17</u>	<u>9:10A</u>	<u>1</u>	<u>X</u>
<u>AS-3-WORK</u>		<u>Air</u>		<u>2-4-17</u>	<u>9:10A</u>	<u>1</u>	<u>X</u>

-01
 -02
 -03

* Matrix:
 SS - Soil AIR - Air
 GW - Groundwater
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: **(3) 6 Liter summas, (3) 24 hour flow controllers**

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS / FedEx Courier _____

Tracking # 7215 4515 2018

Sample Receipt Checklist
 COC Seal Present/Intact: NP Y N
 COC Signed/Accurate: Y Y N
 Bottles arrive intact: Y Y N
 Correct bottles used: Y Y N
 Sufficient volume sent: Y Y N
 If Applicable
 VOA Zero Headspace: Y Y N
 Preservation Correct/Checked: Y Y N

Relinquished by: (Signature) K. PRICE
 Date: 2-6-17
 Time: 11:10
 Relinquished by: (Signature) K. PRICE
 Date: _____
 Time: _____
 Relinquished by: (Signature) _____
 Date: _____
 Time: _____

Received by: (Signature) [Signature]
 Date: _____
 Time: _____
 Received by: (Signature) _____
 Date: _____
 Time: _____
 Received for lab by: (Signature) [Signature]
 Date: 2/7/17
 Time: 9W

Trip Blank Received: Yes/NO
 HCL/ MeOH
 TBR
 Temp: Amb °C
 Bottles Received: 3 + 35F
 Date: _____
 Time: _____

If preservation required by LogIn: Date/Time
 Hold: _____
 Condition: NCF / OK

Applied Water Resources - Alameda, CA

Sample Delivery Group: L890743
Samples Received: 02/16/2017
Project Number:
Description: Nickel Place

Report To: Tyson Fulmer
2363 Mariner Square Dr
Suite 245
Alameda, CA 94501

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1	
²Tc: Table of Contents	2	
³Ss: Sample Summary	3	
⁴Cn: Case Narrative	4	
⁵Sr: Sample Results	5	
MW-1 L890743-01	5	
⁶Qc: Quality Control Summary	7	
Volatile Organic Compounds (GC/MS) by Method 8260B	7	
⁷Gl: Glossary of Terms	11	
⁸Al: Accreditations & Locations	12	
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SAMPLE SUMMARY



MW-1 L890743-01 GW

Collected by
Cheryl Cary

Collected date/time
02/15/17 13:10

Received date/time
02/16/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG951685	1	02/17/17 11:55	02/17/17 11:55	ACG

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	02/17/2017 11:55	WG951685
Acrolein	ND	J4	50.0	1	02/17/2017 11:55	WG951685
Acrylonitrile	ND		10.0	1	02/17/2017 11:55	WG951685
Benzene	ND		1.00	1	02/17/2017 11:55	WG951685
Bromobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Bromodichloromethane	ND		1.00	1	02/17/2017 11:55	WG951685
Bromoform	ND		1.00	1	02/17/2017 11:55	WG951685
Bromomethane	ND		5.00	1	02/17/2017 11:55	WG951685
n-Butylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
sec-Butylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
tert-Butylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Carbon tetrachloride	ND		1.00	1	02/17/2017 11:55	WG951685
Chlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Chlorodibromomethane	ND		1.00	1	02/17/2017 11:55	WG951685
Chloroethane	ND		5.00	1	02/17/2017 11:55	WG951685
Chloroform	ND		5.00	1	02/17/2017 11:55	WG951685
Chloromethane	ND		2.50	1	02/17/2017 11:55	WG951685
2-Chlorotoluene	ND		1.00	1	02/17/2017 11:55	WG951685
4-Chlorotoluene	ND		1.00	1	02/17/2017 11:55	WG951685
1,2-Dibromo-3-Chloropropane	ND		5.00	1	02/17/2017 11:55	WG951685
1,2-Dibromoethane	ND		1.00	1	02/17/2017 11:55	WG951685
Dibromomethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,2-Dichlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
1,3-Dichlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
1,4-Dichlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Dichlorodifluoromethane	ND		5.00	1	02/17/2017 11:55	WG951685
1,1-Dichloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,2-Dichloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,1-Dichloroethene	ND		1.00	1	02/17/2017 11:55	WG951685
cis-1,2-Dichloroethene	11.4		1.00	1	02/17/2017 11:55	WG951685
trans-1,2-Dichloroethene	ND		1.00	1	02/17/2017 11:55	WG951685
1,2-Dichloropropane	ND		1.00	1	02/17/2017 11:55	WG951685
1,1-Dichloropropene	ND		1.00	1	02/17/2017 11:55	WG951685
1,3-Dichloropropane	ND		1.00	1	02/17/2017 11:55	WG951685
cis-1,3-Dichloropropene	ND		1.00	1	02/17/2017 11:55	WG951685
trans-1,3-Dichloropropene	ND		1.00	1	02/17/2017 11:55	WG951685
2,2-Dichloropropane	ND		1.00	1	02/17/2017 11:55	WG951685
Di-isopropyl ether	ND		1.00	1	02/17/2017 11:55	WG951685
Ethylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Hexachloro-1,3-butadiene	ND		1.00	1	02/17/2017 11:55	WG951685
Isopropylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
p-Isopropyltoluene	ND		1.00	1	02/17/2017 11:55	WG951685
2-Butanone (MEK)	ND		10.0	1	02/17/2017 11:55	WG951685
Methylene Chloride	ND		5.00	1	02/17/2017 11:55	WG951685
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	02/17/2017 11:55	WG951685
Methyl tert-butyl ether	1.55		1.00	1	02/17/2017 11:55	WG951685
Naphthalene	ND		5.00	1	02/17/2017 11:55	WG951685
n-Propylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Styrene	ND		1.00	1	02/17/2017 11:55	WG951685
1,1,1,2-Tetrachloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,1,2,2-Tetrachloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	02/17/2017 11:55	WG951685
Tetrachloroethene	ND		1.00	1	02/17/2017 11:55	WG951685
Toluene	ND		1.00	1	02/17/2017 11:55	WG951685
1,2,3-Trichlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685
1,2,4-Trichlorobenzene	ND		1.00	1	02/17/2017 11:55	WG951685

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1-Trichloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
1,1,2-Trichloroethane	ND		1.00	1	02/17/2017 11:55	WG951685
Trichloroethene	44.9		1.00	1	02/17/2017 11:55	WG951685
Trichlorofluoromethane	ND		5.00	1	02/17/2017 11:55	WG951685
1,2,3-Trichloropropane	ND		2.50	1	02/17/2017 11:55	WG951685
1,2,4-Trimethylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
1,2,3-Trimethylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
1,3,5-Trimethylbenzene	ND		1.00	1	02/17/2017 11:55	WG951685
Vinyl chloride	ND		1.00	1	02/17/2017 11:55	WG951685
Xylenes, Total	ND		3.00	1	02/17/2017 11:55	WG951685
(S) Toluene-d8	102		80.0-120		02/17/2017 11:55	WG951685
(S) Dibromofluoromethane	104		76.0-123		02/17/2017 11:55	WG951685
(S) 4-Bromofluorobenzene	99.2		80.0-120		02/17/2017 11:55	WG951685

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3197575-3 02/17/17 09:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U		0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
2-Chlorotoluene	U		0.375	1.00
4-Chlorotoluene	U		0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3197575-3 02/17/17 09:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	104			80.0-120
(S) Dibromofluoromethane	102			76.0-123
(S) 4-Bromofluorobenzene	99.9			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3197575-1 02/17/17 08:51 • (LCSD) R3197575-2 02/17/17 09:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Acetone	125	179	172	143	137	10.0-160			4.24	23
Acrolein	125	2960	2580	2370	2070	10.0-160	E J4	E J4	13.7	20
Acrylonitrile	125	138	136	110	109	60.0-142			1.35	20
Benzene	25.0	24.0	23.6	95.9	94.6	69.0-123			1.37	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3197575-1 02/17/17 08:51 • (LCSD) R3197575-2 02/17/17 09:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	25.0	22.0	21.9	88.1	87.5	79.0-120			0.700	20
Bromodichloromethane	25.0	23.1	23.4	92.3	93.6	76.0-120			1.47	20
Bromoform	25.0	21.9	22.1	87.7	88.4	67.0-132			0.850	20
Bromomethane	25.0	18.5	18.9	73.9	75.6	18.0-160			2.15	20
n-Butylbenzene	25.0	23.2	23.0	93.0	92.0	72.0-126			1.10	20
sec-Butylbenzene	25.0	21.9	21.6	87.4	86.3	74.0-121			1.33	20
tert-Butylbenzene	25.0	21.8	21.7	87.1	86.8	75.0-122			0.350	20
Carbon tetrachloride	25.0	21.7	21.8	86.9	87.2	63.0-122			0.350	20
Chlorobenzene	25.0	22.6	23.4	90.4	93.6	79.0-121			3.56	20
Chlorodibromomethane	25.0	22.9	23.5	91.7	94.2	75.0-125			2.66	20
Chloroethane	25.0	22.4	20.9	89.7	83.6	47.0-152			7.06	20
Chloroform	25.0	23.4	23.2	93.5	92.7	72.0-121			0.820	20
Chloromethane	25.0	19.9	19.4	79.8	77.5	48.0-139			2.85	20
2-Chlorotoluene	25.0	22.9	23.2	91.7	92.8	74.0-122			1.24	20
4-Chlorotoluene	25.0	22.9	22.7	91.5	90.6	79.0-120			1.02	20
1,2-Dibromo-3-Chloropropane	25.0	25.3	24.9	101	99.6	64.0-127			1.47	20
1,2-Dibromoethane	25.0	23.6	24.7	94.6	98.8	77.0-123			4.32	20
Dibromomethane	25.0	23.2	23.5	93.0	94.1	78.0-120			1.18	20
1,2-Dichlorobenzene	25.0	23.6	23.7	94.4	94.7	80.0-120			0.350	20
1,3-Dichlorobenzene	25.0	21.5	21.5	85.9	86.2	72.0-123			0.250	20
1,4-Dichlorobenzene	25.0	21.5	21.9	86.0	87.8	77.0-120			2.00	20
Dichlorodifluoromethane	25.0	18.8	18.1	75.3	72.5	49.0-155			3.87	20
1,1-Dichloroethane	25.0	23.7	23.5	95.0	94.2	70.0-126			0.850	20
1,2-Dichloroethane	25.0	23.4	23.8	93.7	95.2	67.0-126			1.52	20
1,1-Dichloroethene	25.0	22.2	21.7	88.8	86.6	64.0-129			2.44	20
cis-1,2-Dichloroethene	25.0	23.4	22.9	93.6	91.7	73.0-120			2.05	20
trans-1,2-Dichloroethene	25.0	22.7	22.4	90.8	89.4	71.0-121			1.52	20
1,2-Dichloropropane	25.0	24.5	24.3	98.0	97.3	75.0-125			0.750	20
1,1-Dichloropropene	25.0	24.6	24.5	98.5	98.1	71.0-129			0.420	20
1,3-Dichloropropane	25.0	24.7	25.8	99.0	103	80.0-121			4.06	20
cis-1,3-Dichloropropene	25.0	26.2	26.3	105	105	79.0-123			0.370	20
trans-1,3-Dichloropropene	25.0	24.4	24.8	97.5	99.1	74.0-127			1.66	20
2,2-Dichloropropane	25.0	18.9	18.4	75.7	73.8	60.0-125			2.61	20
Di-isopropyl ether	25.0	23.0	22.7	91.9	90.9	59.0-133			1.06	20
Ethylbenzene	25.0	22.4	23.2	89.5	92.7	77.0-120			3.45	20
Hexachloro-1,3-butadiene	25.0	21.4	21.6	85.4	86.3	64.0-131			1.03	20
Isopropylbenzene	25.0	22.3	22.0	89.2	87.9	75.0-120			1.49	20
p-Isopropyltoluene	25.0	22.0	21.8	88.1	87.1	74.0-126			1.06	20
2-Butanone (MEK)	125	119	120	94.9	96.3	37.0-158			1.45	20
Methylene Chloride	25.0	22.7	22.0	91.0	88.0	66.0-121			3.30	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3197575-1 02/17/17 08:51 • (LCSD) R3197575-2 02/17/17 09:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	125	148	149	118	119	59.0-143			1.02	20
Methyl tert-butyl ether	25.0	22.3	22.2	89.4	88.8	64.0-123			0.650	20
Naphthalene	25.0	22.9	23.7	91.8	94.7	62.0-128			3.15	20
n-Propylbenzene	25.0	23.1	22.8	92.5	91.3	79.0-120			1.25	20
Styrene	25.0	24.0	24.3	96.1	97.1	78.0-124			0.990	20
1,1,1,2-Tetrachloroethane	25.0	22.5	22.6	90.0	90.4	75.0-122			0.460	20
1,1,2,2-Tetrachloroethane	25.0	24.4	24.6	97.6	98.5	71.0-122			0.950	20
Tetrachloroethene	25.0	21.9	22.3	87.7	89.2	70.0-127			1.71	20
Toluene	25.0	23.3	22.9	93.1	91.7	77.0-120			1.55	20
1,1,2-Trichlorotrifluoroethane	25.0	22.3	21.8	89.1	87.4	61.0-136			1.92	20
1,2,3-Trichlorobenzene	25.0	24.5	24.4	97.9	97.5	61.0-133			0.460	20
1,2,4-Trichlorobenzene	25.0	24.6	24.9	98.2	99.6	69.0-129			1.35	20
1,1,1-Trichloroethane	25.0	22.8	22.3	91.2	89.1	68.0-122			2.40	20
1,1,2-Trichloroethane	25.0	23.5	24.9	93.9	99.7	78.0-120			5.95	20
Trichloroethene	25.0	22.3	22.2	89.1	88.8	78.0-120			0.360	20
Trichlorofluoromethane	25.0	21.4	20.3	85.8	81.0	56.0-137			5.70	20
1,2,3-Trichloropropane	25.0	24.0	24.7	96.1	99.0	72.0-124			2.89	20
1,2,3-Trimethylbenzene	25.0	22.6	22.6	90.2	90.2	75.0-120			0.0100	20
1,2,4-Trimethylbenzene	25.0	22.3	22.2	89.2	88.7	75.0-120			0.550	20
1,3,5-Trimethylbenzene	25.0	22.0	22.0	88.0	88.0	75.0-120			0.0200	20
Vinyl chloride	25.0	23.6	22.8	94.6	91.2	64.0-133			3.65	20
Xylenes, Total	75.0	68.4	69.2	91.2	92.3	77.0-120			1.16	20
(S) Toluene-d8				102	103	80.0-120				
(S) Dibromofluoromethane				102	100	76.0-123				
(S) 4-Bromofluorobenzene				98.0	99.0	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J4	The associated batch QC was outside the established quality control range for accuracy.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.
 * Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

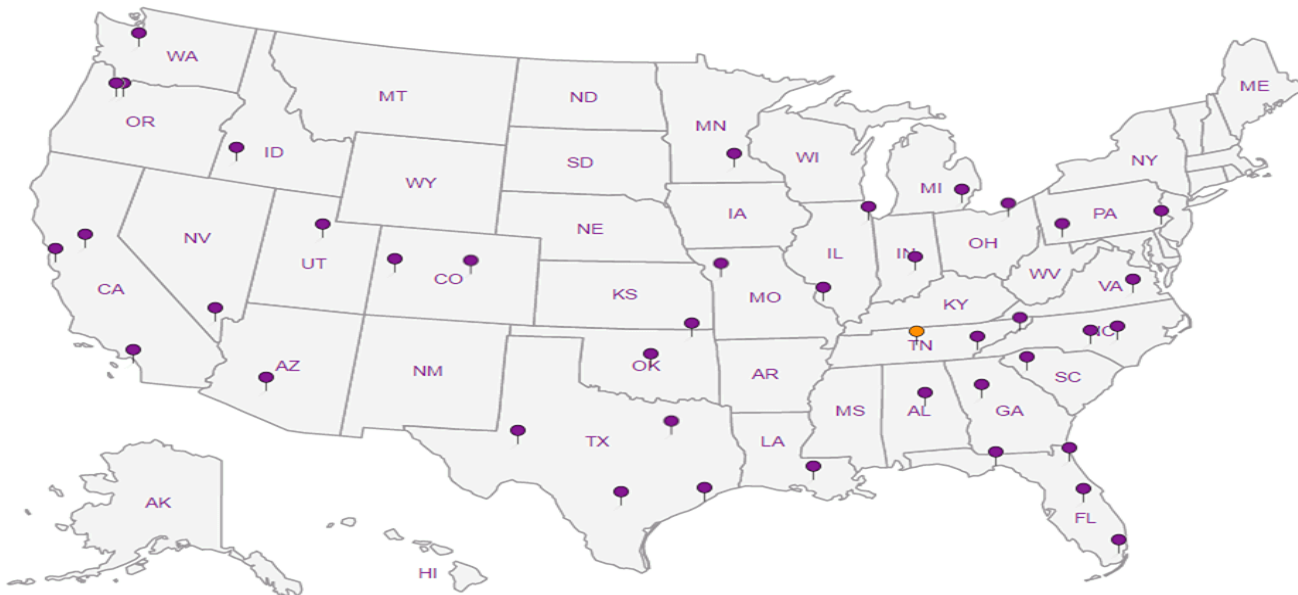
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# 1890743
B191

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative																			
							VOCs																			
MW-1	Grab	GW		Feb 15, 2017	1310	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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Applied Water Resources

Report to: Ken Price

Project Description: Nickel Place

Phone: 510 671 2090

Collected by (print): Cheryl Cary

Collected by (signature):

Immediately Packed on Ice N Y

Billing Information:

2363 Mariner Square Dr
Alameda, CA 94501

Email To: kprice@awrcorp.net

City/State Collected: Hayward, CA

Client Project #

Lab Project #

Site/Facility ID #

P.O. #

Quote #

Date Results Needed

Rush? (Lab MUST Be Notified)

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-1	Grab	GW		Feb 15, 2017	1310	3

* Matrix:

IS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 NW - WasteWater
 JW - Drinking Water
 JT - Other

Remarks:

Samples returned via:
 UPS FedEx Courier

Relinquished by: (Signature) Tysan Fulmer
 Date: 2/15/17 Time: 1600

Received by: (Signature) [Signature]
 Date: [Blank] Time: [Blank]

Received by: (Signature) [Signature]
 Date: [Blank] Time: [Blank]

Received for Job by: (Signature) [Signature]
 Date: [Blank] Time: [Blank]

pH [] Temp []

Flow [] Other []

Tracking # 7176 9002 7613

Trip Blank Received: Yes / No HCL / MeOH TBR

Bottles Received: 3

Temp: 21°C

Date: 2/16/17 Time: 0900

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N

IF APPLICABLE

VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

If preservation required by Login: Date/Time

Hold: [] Condition: NCF / OK

01

Applied Water Resources - Alameda, CA

Sample Delivery Group: L888198
Samples Received: 02/07/2017
Project Number: 25673 NICKEL
Description: 25673 Nickel Place

Report To: Janelle Amendola
2363 Mariner Square Dr
Suite 245
Alameda, CA 94501

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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MW-1 @2' L888198-01 Solid

Collected by: Janelle Amendola
 Collected date/time: 02/03/17 09:00
 Received date/time: 02/07/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG950284	50	02/08/17 21:17	02/09/17 12:25	DMG
Total Solids by Method 2540 G-2011	WG950568	1	02/09/17 10:51	02/09/17 11:01	KDW
Volatile Organic Compounds (GC/MS) by Method 8260B	WG950416	1	02/07/17 15:59	02/09/17 03:31	ACG

1 Cp

2 Tc

3 Ss

MW-1 @7' L888198-02 Solid

Collected by: Janelle Amendola
 Collected date/time: 02/03/17 09:15
 Received date/time: 02/07/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG950284	1	02/08/17 21:17	02/09/17 10:09	DMG
Total Solids by Method 2540 G-2011	WG950568	1	02/09/17 10:51	02/09/17 11:01	KDW
Volatile Organic Compounds (GC/MS) by Method 8260B	WG950416	1	02/07/17 15:59	02/09/17 03:54	ACG

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.4		1	02/09/2017 11:01	WG950568

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0600	1	02/09/2017 03:31	WG950416
Acrylonitrile	ND		0.0120	1	02/09/2017 03:31	WG950416
Benzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Bromobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Bromodichloromethane	ND		0.00120	1	02/09/2017 03:31	WG950416
Bromoform	ND		0.00120	1	02/09/2017 03:31	WG950416
Bromomethane	ND		0.00600	1	02/09/2017 03:31	WG950416
n-Butylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
sec-Butylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
tert-Butylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Carbon tetrachloride	ND		0.00120	1	02/09/2017 03:31	WG950416
Chlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Chlorodibromomethane	ND		0.00120	1	02/09/2017 03:31	WG950416
Chloroethane	ND		0.00600	1	02/09/2017 03:31	WG950416
Chloroform	ND		0.00600	1	02/09/2017 03:31	WG950416
Chloromethane	ND		0.00300	1	02/09/2017 03:31	WG950416
2-Chlorotoluene	ND		0.00120	1	02/09/2017 03:31	WG950416
4-Chlorotoluene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2-Dibromo-3-Chloropropane	ND		0.00600	1	02/09/2017 03:31	WG950416
1,2-Dibromoethane	ND		0.00120	1	02/09/2017 03:31	WG950416
Dibromomethane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2-Dichlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,3-Dichlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,4-Dichlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Dichlorodifluoromethane	ND		0.00600	1	02/09/2017 03:31	WG950416
1,1-Dichloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2-Dichloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1-Dichloroethene	ND		0.00120	1	02/09/2017 03:31	WG950416
cis-1,2-Dichloroethene	ND		0.00120	1	02/09/2017 03:31	WG950416
trans-1,2-Dichloroethene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2-Dichloropropane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1-Dichloropropene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,3-Dichloropropane	ND		0.00120	1	02/09/2017 03:31	WG950416
cis-1,3-Dichloropropene	ND		0.00120	1	02/09/2017 03:31	WG950416
trans-1,3-Dichloropropene	ND		0.00120	1	02/09/2017 03:31	WG950416
2,2-Dichloropropane	ND		0.00120	1	02/09/2017 03:31	WG950416
Di-isopropyl ether	ND		0.00120	1	02/09/2017 03:31	WG950416
Ethylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Hexachloro-1,3-butadiene	ND		0.00120	1	02/09/2017 03:31	WG950416
Isopropylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
p-Isopropyltoluene	ND		0.00120	1	02/09/2017 03:31	WG950416
2-Butanone (MEK)	ND		0.0120	1	02/09/2017 03:31	WG950416
Methylene Chloride	ND		0.00600	1	02/09/2017 03:31	WG950416
4-Methyl-2-pentanone (MIBK)	ND		0.0120	1	02/09/2017 03:31	WG950416
Methyl tert-butyl ether	ND		0.00120	1	02/09/2017 03:31	WG950416
Naphthalene	ND		0.00600	1	02/09/2017 03:31	WG950416
n-Propylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Styrene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1,1,2-Tetrachloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1,2,2-Tetrachloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
Tetrachloroethene	ND		0.00120	1	02/09/2017 03:31	WG950416
Toluene	ND		0.00600	1	02/09/2017 03:31	WG950416
1,2,3-Trichlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2,4-Trichlorobenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1,1-Trichloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
1,1,2-Trichloroethane	ND		0.00120	1	02/09/2017 03:31	WG950416
Trichloroethene	ND		0.00120	1	02/09/2017 03:31	WG950416
Trichlorofluoromethane	ND		0.00600	1	02/09/2017 03:31	WG950416
1,2,3-Trichloropropane	ND		0.00300	1	02/09/2017 03:31	WG950416
1,2,4-Trimethylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,2,3-Trimethylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
1,3,5-Trimethylbenzene	ND		0.00120	1	02/09/2017 03:31	WG950416
Vinyl chloride	ND		0.00120	1	02/09/2017 03:31	WG950416
Xylenes, Total	ND		0.00360	1	02/09/2017 03:31	WG950416
(S) Toluene-d8	107		80.0-120		02/09/2017 03:31	WG950416
(S) Dibromofluoromethane	108		74.0-131		02/09/2017 03:31	WG950416
(S) 4-Bromofluorobenzene	89.6		64.0-132		02/09/2017 03:31	WG950416

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		240	50	02/09/2017 12:25	WG950284
C22-C32 Hydrocarbons	564		240	50	02/09/2017 12:25	WG950284
C32-C40 Hydrocarbons	772		240	50	02/09/2017 12:25	WG950284
(S) o-Terphenyl	0.000	J7	18.0-148		02/09/2017 12:25	WG950284

Sample Narrative:

8015 L888198-01 WG950284: Cannot run at lower dilution due to viscosity of extract



Collected date/time: 02/03/17 09:15

L888198

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.1		1	02/09/2017 11:01	WG950568

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0617	1	02/09/2017 03:54	WG950416
Acrylonitrile	ND		0.0123	1	02/09/2017 03:54	WG950416
Benzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Bromobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Bromodichloromethane	ND		0.00123	1	02/09/2017 03:54	WG950416
Bromoform	ND		0.00123	1	02/09/2017 03:54	WG950416
Bromomethane	ND		0.00617	1	02/09/2017 03:54	WG950416
n-Butylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
sec-Butylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
tert-Butylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Carbon tetrachloride	ND		0.00123	1	02/09/2017 03:54	WG950416
Chlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Chlorodibromomethane	ND		0.00123	1	02/09/2017 03:54	WG950416
Chloroethane	ND		0.00617	1	02/09/2017 03:54	WG950416
Chloroform	ND		0.00617	1	02/09/2017 03:54	WG950416
Chloromethane	ND		0.00308	1	02/09/2017 03:54	WG950416
2-Chlorotoluene	ND		0.00123	1	02/09/2017 03:54	WG950416
4-Chlorotoluene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2-Dibromo-3-Chloropropane	ND		0.00617	1	02/09/2017 03:54	WG950416
1,2-Dibromoethane	ND		0.00123	1	02/09/2017 03:54	WG950416
Dibromomethane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2-Dichlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,3-Dichlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,4-Dichlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Dichlorodifluoromethane	ND		0.00617	1	02/09/2017 03:54	WG950416
1,1-Dichloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2-Dichloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1-Dichloroethene	ND		0.00123	1	02/09/2017 03:54	WG950416
cis-1,2-Dichloroethene	ND		0.00123	1	02/09/2017 03:54	WG950416
trans-1,2-Dichloroethene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2-Dichloropropane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1-Dichloropropene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,3-Dichloropropane	ND		0.00123	1	02/09/2017 03:54	WG950416
cis-1,3-Dichloropropene	ND		0.00123	1	02/09/2017 03:54	WG950416
trans-1,3-Dichloropropene	ND		0.00123	1	02/09/2017 03:54	WG950416
2,2-Dichloropropane	ND		0.00123	1	02/09/2017 03:54	WG950416
Di-isopropyl ether	ND		0.00123	1	02/09/2017 03:54	WG950416
Ethylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Hexachloro-1,3-butadiene	ND		0.00123	1	02/09/2017 03:54	WG950416
Isopropylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
p-Isopropyltoluene	ND		0.00123	1	02/09/2017 03:54	WG950416
2-Butanone (MEK)	ND		0.0123	1	02/09/2017 03:54	WG950416
Methylene Chloride	ND		0.00617	1	02/09/2017 03:54	WG950416
4-Methyl-2-pentanone (MIBK)	ND		0.0123	1	02/09/2017 03:54	WG950416
Methyl tert-butyl ether	ND		0.00123	1	02/09/2017 03:54	WG950416
Naphthalene	ND		0.00617	1	02/09/2017 03:54	WG950416
n-Propylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Styrene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1,1,2-Tetrachloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1,2,2-Tetrachloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 02/03/17 09:15

L888198

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
Tetrachloroethene	ND		0.00123	1	02/09/2017 03:54	WG950416
Toluene	ND		0.00617	1	02/09/2017 03:54	WG950416
1,2,3-Trichlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2,4-Trichlorobenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1,1-Trichloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
1,1,2-Trichloroethane	ND		0.00123	1	02/09/2017 03:54	WG950416
Trichloroethene	ND		0.00123	1	02/09/2017 03:54	WG950416
Trichlorofluoromethane	ND		0.00617	1	02/09/2017 03:54	WG950416
1,2,3-Trichloropropane	ND		0.00308	1	02/09/2017 03:54	WG950416
1,2,4-Trimethylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,2,3-Trimethylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
1,3,5-Trimethylbenzene	ND		0.00123	1	02/09/2017 03:54	WG950416
Vinyl chloride	ND		0.00123	1	02/09/2017 03:54	WG950416
Xylenes, Total	ND		0.00370	1	02/09/2017 03:54	WG950416
(S) Toluene-d8	107		80.0-120		02/09/2017 03:54	WG950416
(S) Dibromofluoromethane	108		74.0-131		02/09/2017 03:54	WG950416
(S) 4-Bromofluorobenzene	95.2		64.0-132		02/09/2017 03:54	WG950416

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		4.93	1	02/09/2017 10:09	WG950284
C22-C32 Hydrocarbons	ND		4.93	1	02/09/2017 10:09	WG950284
C32-C40 Hydrocarbons	ND		4.93	1	02/09/2017 10:09	WG950284
(S) o-Terphenyl	114		18.0-148		02/09/2017 10:09	WG950284



Method Blank (MB)

(MB) R3195968-1 02/09/17 11:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.00130			

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L888198-02 Original Sample (OS) • Duplicate (DUP)

(OS) L888198-02 02/09/17 11:01 • (DUP) R3195968-3 02/09/17 11:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	81.1	81.2	1	0.176		5

⁷ Gl

⁸ Al

Laboratory Control Sample (LCS)

(LCS) R3195968-2 02/09/17 11:01

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

⁹ Sc



Method Blank (MB)

(MB) R3195899-4 02/08/17 20:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Hexachloro-1,3-butadiene	U		0.000342	0.00100
Isopropylbenzene	U		0.000243	0.00100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3195899-4 02/08/17 20:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	104			80.0-120
(S) Dibromofluoromethane	105			74.0-131
(S) 4-Bromofluorobenzene	96.8			64.0-132

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195899-1 02/08/17 18:35 • (LCSD) R3195899-2 02/08/17 18:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.112	0.113	89.6	90.7	11.0-160			1.22	23
Acrylonitrile	0.125	0.122	0.119	97.7	95.0	61.0-143			2.81	20
Benzene	0.0250	0.0260	0.0265	104	106	71.0-124			2.00	20
Bromobenzene	0.0250	0.0239	0.0234	95.5	93.4	78.0-120			2.20	20
Bromodichloromethane	0.0250	0.0238	0.0238	95.1	95.2	75.0-120			0.0600	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195899-1 02/08/17 18:35 • (LCSD) R3195899-2 02/08/17 18:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.0250	0.0204	0.0206	81.7	82.5	65.0-133			1.00	20
Bromomethane	0.0250	0.0244	0.0241	97.4	96.4	26.0-160			1.07	20
n-Butylbenzene	0.0250	0.0265	0.0267	106	107	73.0-126			1.05	20
sec-Butylbenzene	0.0250	0.0237	0.0233	94.8	93.1	75.0-121			1.77	20
tert-Butylbenzene	0.0250	0.0233	0.0231	93.4	92.3	74.0-122			1.14	20
Carbon tetrachloride	0.0250	0.0241	0.0252	96.5	101	66.0-123			4.42	20
Chlorobenzene	0.0250	0.0237	0.0237	94.7	94.8	79.0-121			0.0100	20
Chlorodibromomethane	0.0250	0.0231	0.0225	92.6	89.9	74.0-128			2.94	20
Chloroethane	0.0250	0.0271	0.0269	108	108	51.0-147			0.640	20
Chloroform	0.0250	0.0261	0.0266	104	106	73.0-123			1.84	20
Chloromethane	0.0250	0.0255	0.0257	102	103	51.0-138			0.520	20
2-Chlorotoluene	0.0250	0.0257	0.0252	103	101	72.0-124			2.21	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0176	0.0183	70.4	73.0	65.0-126			3.63	20
4-Chlorotoluene	0.0250	0.0237	0.0233	94.9	93.1	78.0-120			1.91	20
1,2-Dibromoethane	0.0250	0.0233	0.0234	93.4	93.4	78.0-122			0.0400	20
1,2-Dichlorobenzene	0.0250	0.0255	0.0250	102	100	80.0-120			1.96	20
Dibromomethane	0.0250	0.0245	0.0240	98.2	95.9	79.0-120			2.34	20
1,3-Dichlorobenzene	0.0250	0.0236	0.0235	94.2	94.0	72.0-123			0.200	20
1,4-Dichlorobenzene	0.0250	0.0240	0.0242	95.8	96.7	77.0-120			0.910	20
Dichlorodifluoromethane	0.0250	0.0261	0.0254	105	102	49.0-155			2.96	20
1,1-Dichloroethane	0.0250	0.0269	0.0269	108	108	70.0-128			0.100	20
1,2-Dichloroethane	0.0250	0.0254	0.0258	102	103	69.0-128			1.25	20
1,1-Dichloroethene	0.0250	0.0258	0.0260	103	104	63.0-131			0.740	20
cis-1,2-Dichloroethene	0.0250	0.0256	0.0258	103	103	74.0-123			0.470	20
trans-1,2-Dichloroethene	0.0250	0.0272	0.0272	109	109	72.0-122			0.0900	20
1,2-Dichloropropane	0.0250	0.0261	0.0259	105	103	75.0-126			1.07	20
1,1-Dichloropropene	0.0250	0.0263	0.0267	105	107	72.0-130			1.49	20
1,3-Dichloropropane	0.0250	0.0245	0.0244	98.2	97.6	80.0-121			0.570	20
cis-1,3-Dichloropropene	0.0250	0.0238	0.0235	95.1	94.0	80.0-125			1.09	20
trans-1,3-Dichloropropene	0.0250	0.0246	0.0239	98.4	95.7	75.0-129			2.70	20
2,2-Dichloropropane	0.0250	0.0246	0.0254	98.5	102	60.0-129			3.23	20
Di-isopropyl ether	0.0250	0.0273	0.0276	109	110	62.0-133			0.940	20
Ethylbenzene	0.0250	0.0231	0.0230	92.3	92.2	77.0-120			0.120	20
Hexachloro-1,3-butadiene	0.0250	0.0243	0.0246	97.4	98.6	68.0-128			1.25	20
Isopropylbenzene	0.0250	0.0239	0.0235	95.7	94.0	75.0-120			1.79	20
2-Butanone (MEK)	0.125	0.133	0.134	107	107	37.0-159			0.540	20
p-Isopropyltoluene	0.0250	0.0237	0.0232	94.6	92.7	74.0-125			2.03	20
Methylene Chloride	0.0250	0.0246	0.0237	98.5	95.0	67.0-123			3.69	20
4-Methyl-2-pentanone (MIBK)	0.125	0.117	0.119	93.8	95.1	60.0-144			1.44	20
Methyl tert-butyl ether	0.0250	0.0246	0.0244	98.5	97.7	66.0-125			0.850	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195899-1 02/08/17 18:35 • (LCSD) R3195899-2 02/08/17 18:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.0250	0.0225	0.0228	90.0	91.1	64.0-125			1.21	20
n-Propylbenzene	0.0250	0.0239	0.0237	95.6	94.6	78.0-120			1.00	20
Styrene	0.0250	0.0240	0.0237	96.0	94.9	78.0-124			1.25	20
1,1,1,2-Tetrachloroethane	0.0250	0.0231	0.0231	92.6	92.3	74.0-124			0.350	20
1,1,2,2-Tetrachloroethane	0.0250	0.0228	0.0228	91.3	91.3	73.0-120			0.0200	20
Tetrachloroethene	0.0250	0.0243	0.0239	97.2	95.7	70.0-127			1.52	20
Toluene	0.0250	0.0244	0.0240	97.6	96.2	77.0-120			1.52	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0281	0.0277	113	111	64.0-135			1.50	20
1,2,3-Trichlorobenzene	0.0250	0.0247	0.0251	98.6	100	68.0-126			1.61	20
1,1,1-Trichloroethane	0.0250	0.0252	0.0254	101	102	69.0-125			0.890	20
1,2,4-Trichlorobenzene	0.0250	0.0251	0.0248	101	99.2	70.0-127			1.32	20
1,1,2-Trichloroethane	0.0250	0.0236	0.0230	94.5	91.8	78.0-120			2.88	20
Trichloroethene	0.0250	0.0239	0.0239	95.4	95.5	79.0-120			0.0600	20
Trichlorofluoromethane	0.0250	0.0271	0.0267	108	107	59.0-136			1.52	20
1,2,3-Trichloropropane	0.0250	0.0222	0.0217	88.9	86.9	73.0-124			2.21	20
1,2,3-Trimethylbenzene	0.0250	0.0250	0.0250	99.9	99.8	76.0-120			0.100	20
1,2,4-Trimethylbenzene	0.0250	0.0233	0.0229	93.2	91.6	75.0-120			1.73	20
1,3,5-Trimethylbenzene	0.0250	0.0238	0.0232	95.0	92.8	75.0-120			2.30	20
Vinyl chloride	0.0250	0.0262	0.0267	105	107	63.0-134			1.97	20
Xylenes, Total	0.0750	0.0702	0.0686	93.6	91.5	77.0-120			2.31	20
(S) Toluene-d8				106	105	80.0-120				
(S) Dibromofluoromethane				106	107	74.0-131				
(S) 4-Bromofluorobenzene				101	95.4	64.0-132				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

L888190-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888190-01 02/08/17 23:03 • (MS) R3195899-5 02/08/17 21:11 • (MSD) R3195899-6 02/08/17 21:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.182	ND	0.0753	0.0874	41.4	48.0	1	10.0-160			14.9	36
Benzene	0.0364	0.185	0.0633	0.0476	0.000	0.000	1	13.0-146	V	J3 V	28.3	27
Acrylonitrile	0.182	ND	0.172	0.192	94.7	105	1	14.0-160			10.6	33
Bromobenzene	0.0364	ND	0.0287	0.0272	78.9	74.9	1	10.0-149			5.18	33
Bromodichloromethane	0.0364	ND	0.0310	0.0299	85.1	82.2	1	15.0-142			3.48	28
Bromoform	0.0364	ND	0.0271	0.0275	74.6	75.7	1	10.0-147			1.51	31
Bromomethane	0.0364	ND	0.0244	0.0231	67.0	63.6	1	10.0-160			5.25	32
n-Butylbenzene	0.0364	ND	0.0311	0.0288	85.5	79.2	1	10.0-154			7.56	37
sec-Butylbenzene	0.0364	ND	0.0272	0.0261	74.8	71.7	1	10.0-151			4.23	36
Carbon tetrachloride	0.0364	ND	0.0311	0.0290	85.3	79.6	1	13.0-140			6.91	30



L888190-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888190-01 02/08/17 23:03 • (MS) R3195899-5 02/08/17 21:11 • (MSD) R3195899-6 02/08/17 21:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
tert-Butylbenzene	0.0364	ND	0.0278	0.0266	76.5	73.0	1	10.0-152			4.63	35
Chlorobenzene	0.0364	ND	0.0286	0.0270	78.6	74.3	1	10.0-149			5.55	31
Chlorodibromomethane	0.0364	ND	0.0283	0.0274	77.9	75.4	1	12.0-147			3.21	29
Chloroethane	0.0364	ND	0.0301	0.0282	82.7	77.6	1	10.0-159			6.36	33
Chloroform	0.0364	ND	0.0328	0.0320	90.1	88.0	1	18.0-148			2.34	28
Chloromethane	0.0364	ND	0.0259	0.0242	71.0	66.4	1	10.0-146			6.72	29
1,2-Dibromo-3-Chloropropane	0.0364	ND	0.0307	0.0326	84.4	89.7	1	10.0-149			6.06	34
2-Chlorotoluene	0.0364	ND	0.0300	0.0287	82.4	78.8	1	10.0-151			4.52	35
1,2-Dibromoethane	0.0364	ND	0.0309	0.0305	84.9	84.0	1	14.0-145			1.09	28
4-Chlorotoluene	0.0364	ND	0.0286	0.0268	78.5	73.7	1	10.0-150			6.32	35
1,2-Dichlorobenzene	0.0364	ND	0.0310	0.0293	85.3	80.6	1	10.0-153			5.64	34
1,3-Dichlorobenzene	0.0364	ND	0.0280	0.0268	76.9	73.6	1	10.0-150			4.40	35
Dibromomethane	0.0364	ND	0.0317	0.0316	87.0	86.8	1	18.0-144			0.270	27
1,4-Dichlorobenzene	0.0364	ND	0.0296	0.0272	81.4	74.8	1	10.0-148			8.41	34
1,1-Dichloroethane	0.0364	ND	0.0333	0.0321	91.6	88.4	1	19.0-148			3.57	28
Dichlorodifluoromethane	0.0364	ND	0.0309	0.0281	84.9	77.2	1	10.0-160			9.39	30
1,2-Dichloroethane	0.0364	ND	0.0330	0.0332	90.6	91.4	1	17.0-147			0.850	27
1,1-Dichloroethene	0.0364	ND	0.0295	0.0278	81.0	76.5	1	10.0-150			5.68	31
cis-1,2-Dichloroethene	0.0364	ND	0.0316	0.0302	86.8	83.0	1	16.0-145			4.46	28
trans-1,2-Dichloroethene	0.0364	ND	0.0297	0.0281	81.7	77.3	1	11.0-142			5.47	29
1,2-Dichloropropane	0.0364	ND	0.0338	0.0320	93.0	87.9	1	17.0-148			5.62	28
1,1-Dichloropropene	0.0364	ND	0.0316	0.0291	87.0	79.9	1	10.0-150			8.42	30
cis-1,3-Dichloropropene	0.0364	ND	0.0298	0.0291	81.9	79.9	1	13.0-150			2.45	28
1,3-Dichloropropane	0.0364	ND	0.0313	0.0314	85.9	86.3	1	16.0-148			0.400	27
trans-1,3-Dichloropropene	0.0364	ND	0.0323	0.0314	88.9	86.4	1	10.0-152			2.81	29
2,2-Dichloropropane	0.0364	ND	0.0318	0.0318	87.5	87.5	1	16.0-143			0.0600	30
Di-isopropyl ether	0.0364	0.0410	0.0452	0.0412	11.4	0.367	1	16.0-149	J6	J6	9.27	28
Ethylbenzene	0.0364	ND	0.0279	0.0255	74.2	67.7	1	10.0-147			8.92	31
Hexachloro-1,3-butadiene	0.0364	ND	0.0277	0.0256	76.0	70.3	1	10.0-154			7.80	40
2-Butanone (MEK)	0.182	ND	0.131	0.140	67.1	72.2	1	10.0-160			6.88	33
Isopropylbenzene	0.0364	ND	0.0281	0.0268	77.2	73.6	1	10.0-147			4.74	33
Methylene Chloride	0.0364	ND	0.0289	0.0288	79.3	79.2	1	16.0-139			0.150	29
p-Isopropyltoluene	0.0364	ND	0.0276	0.0259	73.0	68.4	1	10.0-156			6.21	37
4-Methyl-2-pentanone (MIBK)	0.182	ND	0.200	0.209	110	115	1	12.0-160			4.61	32
Methyl tert-butyl ether	0.0364	0.158	0.0833	0.0743	0.000	0.000	1	21.0-145	V	V	11.5	29
Naphthalene	0.0364	ND	0.0422	0.0405	104	99.9	1	10.0-153			3.98	36
n-Propylbenzene	0.0364	ND	0.0280	0.0266	77.0	73.0	1	10.0-151			5.34	34
Styrene	0.0364	ND	0.0122	0.0111	33.6	30.5	1	10.0-155			9.70	34
1,1,2,2-Tetrachloroethane	0.0364	ND	0.0347	0.0353	95.4	96.9	1	10.0-155			1.65	31

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



L888190-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888190-01 02/08/17 23:03 • (MS) R3195899-5 02/08/17 21:11 • (MSD) R3195899-6 02/08/17 21:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	0.0364	ND	0.0287	0.0276	78.9	76.0	1	10.0-147			3.75	30
Tetrachloroethene	0.0364	ND	0.0268	0.0251	73.6	69.0	1	10.0-144			6.43	32
Toluene	0.0364	ND	0.0306	0.0286	71.4	65.8	1	10.0-144			6.93	28
1,1,2-Trichlorotrifluoroethane	0.0364	ND	0.0340	0.0331	93.6	90.9	1	10.0-153			2.93	33
1,1,1-Trichloroethane	0.0364	ND	0.0325	0.0307	89.3	84.4	1	18.0-145			5.68	29
1,2,3-Trichlorobenzene	0.0364	ND	0.0323	0.0312	88.6	85.7	1	10.0-153			3.43	40
1,1,2-Trichloroethane	0.0364	ND	0.0307	0.0301	84.5	82.8	1	12.0-151			1.98	28
1,2,4-Trichlorobenzene	0.0364	ND	0.0311	0.0280	85.5	77.0	1	10.0-156			10.5	40
Trichloroethene	0.0364	ND	0.0283	0.0273	77.8	74.9	1	11.0-148			3.73	29
1,2,3-Trimethylbenzene	0.0364	0.00887	0.0348	0.0309	71.2	60.4	1	10.0-150			12.0	33
Trichlorofluoromethane	0.0364	ND	0.0308	0.0302	84.7	83.0	1	10.0-157			2.01	34
1,2,3-Trichloropropane	0.0364	ND	0.0345	0.0350	94.9	96.1	1	10.0-154			1.20	32
1,2,4-Trimethylbenzene	0.0364	0.00330	0.0297	0.0268	72.4	64.5	1	10.0-151			10.2	34
1,3,5-Trimethylbenzene	0.0364	ND	0.0280	0.0260	77.1	71.4	1	10.0-150			7.58	33
Vinyl chloride	0.0364	ND	0.0280	0.0259	77.1	71.2	1	10.0-150			7.97	29
Xylenes, Total	0.109	0.0745	0.0991	0.0857	22.5	10.3	1	10.0-150	<u>J6</u>	<u>J6</u>	14.5	31
(S) Toluene-d8					109	108		80.0-120				
(S) Dibromofluoromethane					113	112		74.0-131				
(S) 4-Bromofluorobenzene					96.9	96.0		64.0-132				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3195993-1 02/09/17 09:19

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
C22-C32 Hydrocarbons	U		1.33	4.00
C32-C40 Hydrocarbons	U		1.33	4.00
(S) o-Terphenyl	113			18.0-148

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3195993-2 02/09/17 09:42 • (LCSD) R3195993-3 02/09/17 09:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C22-C32 Hydrocarbons	30.0	25.7	24.1	85.7	80.4	50.0-150			6.45	20
C12-C22 Hydrocarbons	30.0	26.2	27.2	87.2	90.7	50.0-150			3.94	20
(S) o-Terphenyl				120	110	18.0-148				

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.
 * Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

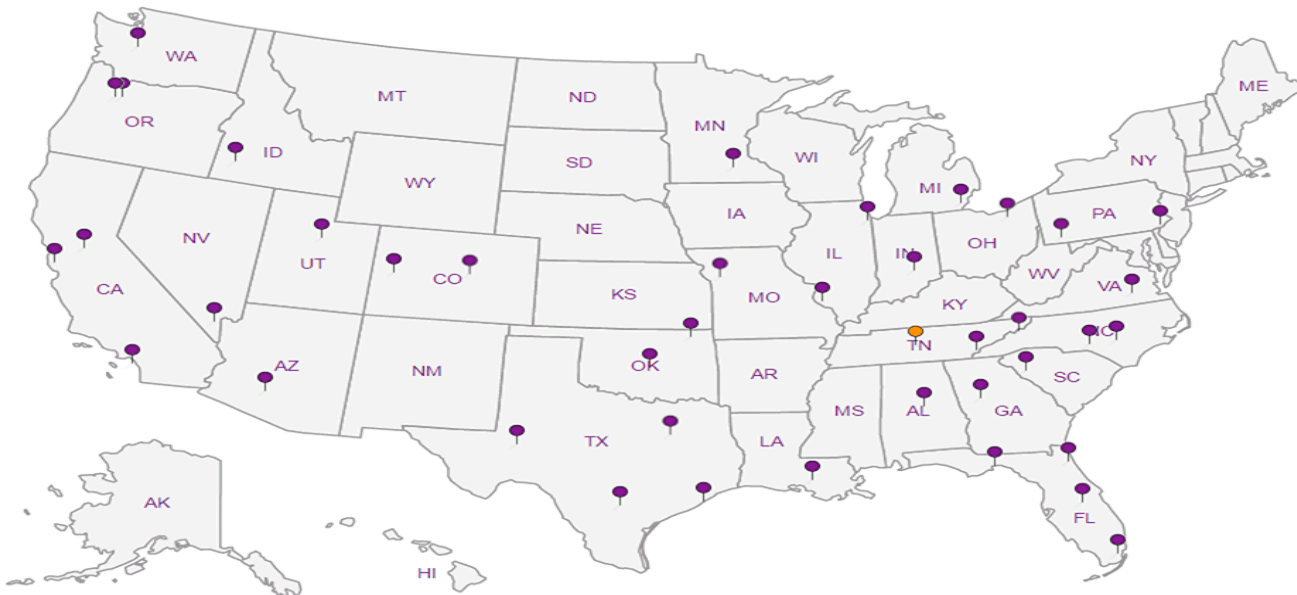
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Billing Information: Applied Water Resources
 2363 Mariner Square Dr.
 Suite 245
 Alameda, CA 94501
 Email To: ~~Gene~~ kprice@awrcorp.net
 jamendola@awrcorp.net
 City/State Collected: Hayward, CA
 Client Project #: 25673 Nickel
 Site/Facility ID #
 Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%
 Date Results Needed
 No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
MW-1@2'	G	S	2ft	2/3/17	9:00	1	VOLs - 8260 TPH Diesel TPH Motor Oil
MW-1@7'	G	S	7ft	2/3/17	9:15	1	

Chain of Custody Page 1 of 1



L.A.B S.C.I.E.N.C.E.S
 YOUR LAB OF CHOICE
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

L# 888198
F228
 Acctnum:
 Template:
 Prelogin:
 TSR:
 PB:
 Shipped Via:
 Rem./Contaminant Sample # (lab only)

- * Matrix:
- SS - Soil AIR - Air
- GW - Groundwater
- WW - WasteWater
- DW - Drinking Water
- OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: ___ UPS ___ FedEx ___ Courier ___ Tracking # 785525267343
 Trip Blank Received: Yes / No
 HCL / MeOH
 TBR
 Bottles Received: 2

Sample Receipt Checklist
 COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 IF Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

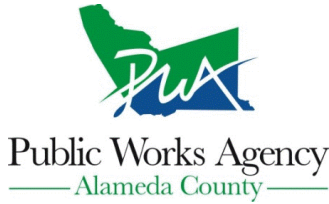
Relinquished by: (Signature) <i>Janelle Amendola</i>	Date: 2/6/17	Time: 11:00	Received by: (Signature) <i>[Signature]</i>	Temp: 3.2 °C	Bottles Received: 2	Hold:	Condition: NCF / OK
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature)	Temp:	Bottles Received:	Hold:	Condition:
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>nchubbs</i>	Date: 2-7-17	Time: 9w	Hold:	Condition:

Report to: J. Amendola / K. Price		Billing Information: Applied Water Resources 2363 Mariner Square Dr. Suite 245 Alameda, CA 94501		Email To: same kprice@awrcorp.net jamendola@awrcorp.net		Chain of Custody Page 1 of 1	
Project Description: 25673 Nickel Place		City/State Collected: Hayward, CA		Pres Chk			
Phone: (408)402-2238 Fax:		Client Project # 25673 Nickel		Lab Project #		L# 888198 F228	
Collected by (print): Janelle Amendola		Site/Facility ID #		P.O. #		Acctnum:	
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day200% <input type="checkbox"/> Next Day100% <input type="checkbox"/> Two Day50% <input type="checkbox"/> Three Day25%		Quote #		Template:	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed		No. of Cntrs		Prelogin:	
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-1@2'		G	S	2ft	2/3/17	9:00	1
MW-1@7'		G	S	7ft	2/3/17	9:15	1
* Matrix: SS - Soil AIR - Air GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other		Remarks:		Tracking # 785525267343		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Relinquished by: (Signature) 		Date: 2/6/17	Time: 11:00	Received by: (Signature) 		Trip Blank Received: Yes / No HCL / MeOH TAR	
Relinquished by: (Signature) 		Date:	Time:	Received by: (Signature)		Temp: 3.2 °C Bottles Received: 2	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 		Date: 2-7-17 Time: 9w	
Hold:		Condition: NCF / <input checked="" type="checkbox"/> OK					

VOLS - 8260
 TPH Diesel
 TPH Motor Oil

F228

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 01/20/2017 By jamesy

Permit Numbers: W2017-0069
Permits Valid from 02/03/2017 to 02/03/2017

Application Id: 1484685365719
Site Location: 25673 Nickel Place
Project Start Date: 02/03/2017
Assigned Inspector: Contact Marcelino Vialpando at (510) 670-5760 or Marcelino@acpwa.org

City of Project Site: Hayward

Completion Date: 02/03/2017

Applicant: AWR, Corp - Ken Price
10460 West Taylor St., Ste. 209, San Jose, CA 95126
Property Owner: Steve Cherezian
25673 Nickel Street, Hayward, CA 98454
Client: Steve Cherezian
25673 Nickel Street, hayward, CA 94545
Contact: Ken Price

Phone: 408-220-4876
Phone: 510-782-6285 x104
Phone: 510-782-6285 x104
Phone: 408-220-4876
Cell: 408-220-4876

Receipt Number: WR2017-0043	Total Due:	\$397.00
Payer Name : Kendall price	Total Amount Paid:	\$397.00
	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 1 Wells
 Driller: Exploration Geo Services - Lic #: 484288 - Method: hstem

Work Total: \$397.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2017-0069	01/20/2017	05/04/2017	MW-1	8.00 in.	2.00 in.	5.00 ft	15.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755

Alameda County Public Works Agency - Water Resources Well Permit

(Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 30 days. Include permit number and site map.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
 7. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 8. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
 9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
 10. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.
-