SOIL VAPOR EXTRACTION SYSTEM
FIRST SEMIANNUAL REPORT 2019

KUHLMAN ELECTRIC CORPORATION
CRYSTAL SPRINGS, MISSISSIPPI

Prepared by:

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EMS Project No: KUH0-19-012

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Executive Summary

This Soil Vapor Extraction (SVE) System Semiannual Report summarizes the performance of the SVE system installed by Environmental Management Services, Inc. (EMS) for Kuhlman Electric Company (KEC) located in Crystal Springs, Mississippi (the Site). This report includes a synopsis of the performance data for the first semiannual period of 2019.

The system initially began operations April 21, 2014 with normal operation attained on May 2, 2014. Routine monitoring has been performed according to the schedule described in the *SVE Final Design and Quality Assurance Project Plan* submitted to Mississippi Department of Environmental Quality (MDEQ) on September 13, 2013.

Historical Information Summary

The Site is located at 101 Kuhlman Drive in Crystal Springs, Mississippi, as shown in Figure 1, and has operated as an electrical transformer manufacturing plant since its construction in the 1950's. In April of 2000, Polychlorinated Biphenyl (PCB)-contaminated soil was discovered on-site during subsurface construction activities. This discovery initiated several phases of environmental assessments and remediation projects, some of which are currently ongoing. During these investigations and remediation projects it was discovered that the groundwater on and off KEC property was impacted with Volatile Organic Compounds (VOCs); principally, 1,1-dichloroethene (DCE) and the semi-volatile constituent 1,4-dioxane.

An investigation was performed to determine the source of the groundwater impacts and was documented in the April 30, 2009 *Groundwater Assessment Report, Kuhlman Electric Corporation, Crystal Springs, Mississippi* prepared by Martin & Slagle Geoenvironmental Associates, LLC (Martin & Slagle) for BorgWarner (hereafter referred to as the April 2009 *Groundwater Assessment Report*). These efforts included a soil vapor study, which detected VOCs in the soil vapors from 3 to 12 feet below the plant floor. Soil samples were also collected from beneath the building from 0 to 62 feet below ground surface (bgs) and analyzed for VOCs.

The analytical results indicated that VOCs were present in the subsurface soil under portions of the plant building. This area, near the western portion of the plant building beneath the Winding Department process area, the Break Room, and a former rail pit, was identified as the source area for the groundwater impacts. The source area was first published in the April 2009 Groundwater Assessment Report and is depicted on Figure 2 of this report.

These investigations beneath the building footprint confirmed that commingled plumes of DCE and 1,4-dioxane extend from upgradient of the source area, beneath the plant building, to the

southwest and off-site. The DCE plume extends off-site approximately 3,000 feet to the south and approximately 2,800 feet to the west from the property boundary based on the most recent groundwater sampling data collected in March of 2019.

DCE and 1,4-dioxane have been identified as the primary Constituents of Concern (COC) at this site. The presence of 1,4-dioxane is presumed to be related to its use as a stabilizer in 1,1,1-trichloroethane (TCA), a solvent used in the past at the KEC site. DCE is a breakdown product of TCA.

In connection with the environmental assessments at the site and in accordance with MDEQ requirements, groundwater monitoring has been performed on and off the KEC facility property since 2004. Groundwater monitoring is currently performed on a semiannual schedule. A total of forty-six permanent groundwater monitoring wells are used to monitor the groundwater plume.

As a result of the discovery of the groundwater contamination and subsequent investigations of soil and groundwater, BorgWarner submitted the Corrective Action Plan (CAP) dated March 2011 (Arcadis) to MDEQ. The CAP was approved by MDEQ on March 1, 2012. The CAP targeted an area beneath the building as the source area contributing to the groundwater impact by the COC as shown in Figure 2. It presented three objectives to mitigate impacts to the COC contaminant plume. The three objectives are listed below:

1. Ensure COC concentrations in soil and groundwater in the contaminant source area beneath the KEC manufacturing building are at levels protective of site workers.
2. Reduce COC concentrations in soil in the contaminant source area beneath the KEC manufacturing building to the extent that remaining concentrations no longer contribute to, or exacerbate COC concentrations in off-site groundwater.
3. Reduce COC concentrations in off-site groundwater to levels protective of downgradient groundwater receptors.

A pilot study was performed at the site May 12-13, 2012, to confirm the viability of soil vapor extraction as a remedial strategy. The *Soil Vapor Extraction Pilot Study Report* (revised May 1, 2013) detailing the outcome of the study and proposing the use of Soil Vapor Extraction (SVE) to reduce COC concentrations was approved by MDEQ July 12, 2013. The *Soil Vapor Extraction Final Design and Quality Assurance Project Plan* was approved by MDEQ October 4, 2013. The system was installed as described in the *SVE Installation Report* submitted to MDEQ September 18, 2014.

SVE Operations and Maintenance

Site visits for the first semiannual period of 2019 were completed on the following dates: January 9 and 22; February 19 and 28; March 28; April 28; May 22; and June 20. Activities performed during site visits included visually inspecting the operating components, adjusting various operating parameters if warranted, collecting samples, and collecting operating data. An alarm call out occurred on June 17, 2019 and EMS responded to the site for troubleshooting. It was determined that the phase monitor was no longer functioning and a replacement was ordered. The phase monitor was replaced on June 20, 2019. A carbon change was conducted on June 24, 2019. No other significant maintenance activities during the semiannual period.

Groundwater Results

Groundwater was sampled from the entire network of monitoring wells, which includes the SVE Performance Monitoring Wells MW-10A, MW-10B, MW-10C, MW-30, MW-31, and MW-35, as shown on Figure 1, on March 19, 2019, for the required semiannual sampling event. Analytical results for MW-10A, MW-10B, MW-31, and MW-35 showed concentrations of constituents greater than the MDEQ groundwater target remediation goals (TRG). The constituents with exceedances were 1,4-dioxane, DCE, 1,1,2-trichloroethane, and chloroform. The concentrations of DCE measured in MW-35, which is located within the source area, have decreased since April 2014 when monitoring of the well began. Additional data is necessary to confirm that this trend continues and will be collected during future monitoring events. The analytical results from the March 2019 sampling event for the wells listed are presented in Table 1.

Soil Vapor Results

The observation wells, as shown on Figure 2, are monitored quarterly for relative VOC concentration in the soil vapor. Tubing is placed in the well to a depth within the screened interval, and a photoionization detection (PID) meter and a flame ionization detection (FID) meter are used to purge the wells and measure the relative VOC concentration in the soil vapor within the well. The measured relative concentrations ranged from 0 to 0.9 parts per million (ppm) with the PID and from 0 to 7 ppm with the FID. The FID was not utilized during the June 2019 monitoring event due to the lack of calibration fuel. The observation well soil vapor results from March and June 2019 are summarized in Table 2.

The observation well soil vapor was also sampled and analyzed for VOCs and 1,4-dioxane during the March and June 2019 sampling events using 1-liter SUMMA canisters. The vapor samples were collected by placing tubing within the middle of the screened interval depth and the well opening was covered. A PID meter and FID meter were then used to purge and measure the relative VOC concentration in the soil vapor. After obtaining the PID and FID measurements, the SUMMA canister was connected to the tubing to collect the soil vapors within the screened

interval. The observation well soil vapor analytical results are summarized in Table 3, and the laboratory results are included in Appendix A.

The SVE system exhaust and the vapor exiting each stage of carbon treatment were monitored quarterly utilizing both PID and FID meters to evaluate relative VOC concentrations. The relative VOC concentrations measured by the PID meter and the FID meter in the discharge line from the SVE system prior to carbon treatment are included in Table 4.

The SVE unit exhaust and the vapor exiting each stage of carbon treatment were also sampled and analyzed for VOCs and 1,4-dioxane. Samples were collected during February and May 2019. The results are summarized in Table 5. The concentrations of TCA, DCE, and 1,4-dioxane are used to calculate the cumulative mass removed. Since startup of the SVE unit, approximately 4.0 pounds of TCA, 16.5 pounds of DCE, and 252 pounds of 1,4-dioxane have been removed through the SVE system. Figures 3-5 show the cumulative mass removal of each constituent. Laboratory results along with the cumulative mass removal calculations are included in Appendix B.

The flow rates from each individual well are also calculated and recorded during routine visits to the SVE system. The calculated flow rates from each well for the period from January through June 2019 are contained in Table 6.

Ambient Air Results

Ambient air sampling was performed in February and May 2019 utilizing 1-liter SUMMA canisters equipped with 8-hour flow valves. The air sampling locations are shown on Figure 2. The canisters are placed in the sampling location to collect samples to be analyzed for VOCs and 1,4-dioxane. Concentrations of all analytes detected were well below any published regulatory limit. The analytical results of the ambient air monitoring for the semiannual period are shown in Table 7. The analytical laboratory reports for the ambient air monitoring are contained in Appendix C.

Vacuum Measurements

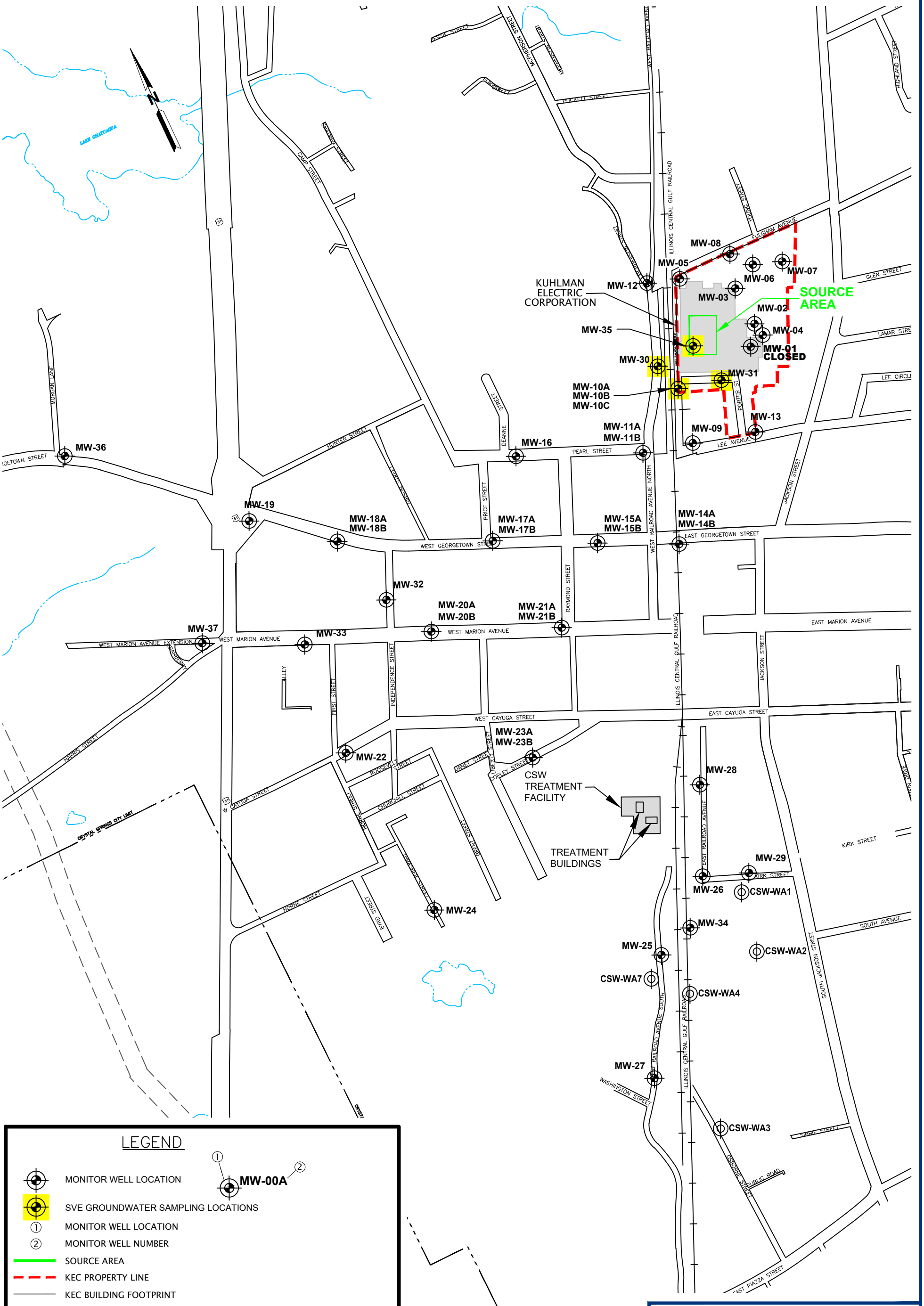
The vacuum response at each observation well is measured quarterly. At 80 feet from the nearest extraction well, the vacuum response averaged 3.1 inches of water. The vacuum response measurements for the first semiannual period in 2019 are shown in Table 8.

In addition, vacuum gauges were placed in the interstitial space on each dual-walled HDPE piping run near the extraction wells. The vacuum gauges are used to measure the vacuum or pressure of the interstitial space between the inner carrier pipe and the outer containment pipe during monthly site visits for leak detection. The gauges have shown no measureable vacuum or pressure within the interstitial space indicating no leaks within the carrier pipe.

Conclusion

The results from this monitoring period indicate that contaminants are being removed from the soil beneath the facility. The remediation activities will continue to remove contaminant mass from the soil through vapor extraction in order to remediate the defined source area. Monitoring as described in this report will continue, and monitoring events will be documented and reported semiannually.

Figures



LEGEND

- MONITOR WELL LOCATION (① MW-00A ②)
- SVE GROUNDWATER SAMPLING LOCATIONS
- ① MONITOR WELL LOCATION
- ② MONITOR WELL NUMBER
- SOURCE AREA
- KEC PROPERTY LINE
- KEC BUILDING FOOTPRINT
- GROUNDWATER ELEVATION CONTOUR
- MUNICIPAL WATER WELL

NOTE: SURVEY DATA SUPPLIED BY ARCADIS

0 500’ 1000’

GRAPHIC SCALE

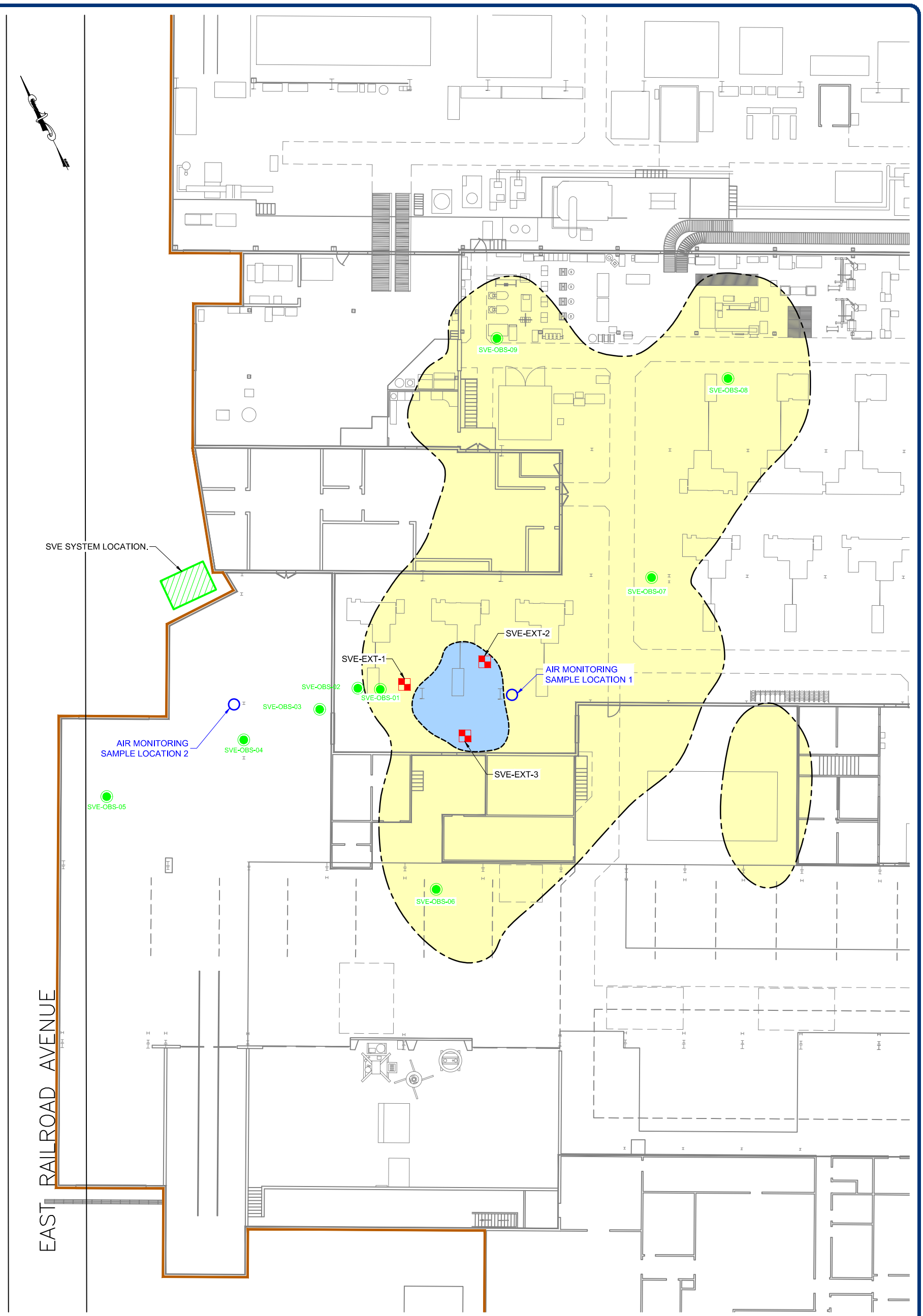
MONITOR WELL LOCATIONS WELL LAYOUT

KUHLMAN ELECTRIC
KEC FACILITY
CRYSTAL SPRINGS, MS

DATE: 07/29/2019	APPROVED: BY: DATE:	DRAWN BY: PDM
SCALE: AS SHOWN		PROJECT NO. KUH0-19-012

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 1



LEGEND

- KEC BUILDING FOOTPRINT
- SVE OBSERVATION WELLS
- SVE EXTRACTION WELLS
- AMBIENT AIR SAMPLE LOCATIONS
- 1,1-DICHLOROETHENE IN SOIL EXCEEDING UNRESTRICTED TIER 1 TRG (0.0772 mg/kg)
- 1,4-DIOXANE IN SOIL EXCEEDING UNRESTRICTED TIER 1 TRG (58.1 mg/kg)

SCALE 1 INCH = 25 FEET

5 10 25

0 5 10 15 20 25 50

NOTES:
1) SOIL CONCENTRATIONS ARE BASED ON EXTENT AS DEFINED IN CORRECTIVE ACTION PLAN, ARCADIS, MARCH 2010.

SVE SYSTEM LAYOUT

KUHLMAN ELECTRIC
KEC FACILITY
CRYSTAL SPRINGS, MS

DATE: 07/29/2019	APPROVED: BY: _____ DATE: _____	DRAWN BY: PDM
SCALE: AS SHOWN		CAD NO. KUH0-19-012

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2

Figure 3
1,1,1-Trichloroethane Cumulative Mass Removal Through June 2019

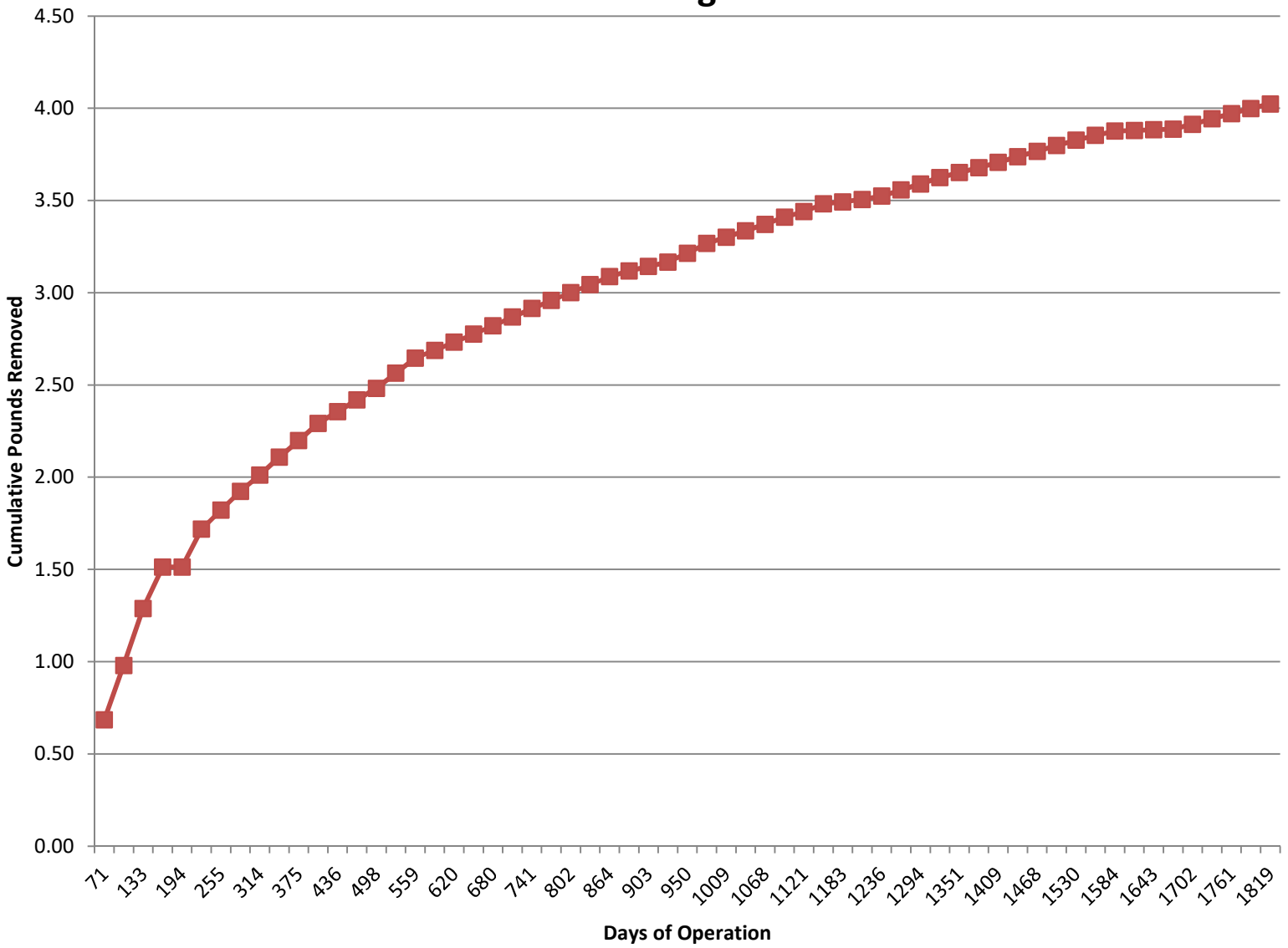


Figure 4
1,1-Dichloroethene Cumulative Mass Removal
Through June 2019

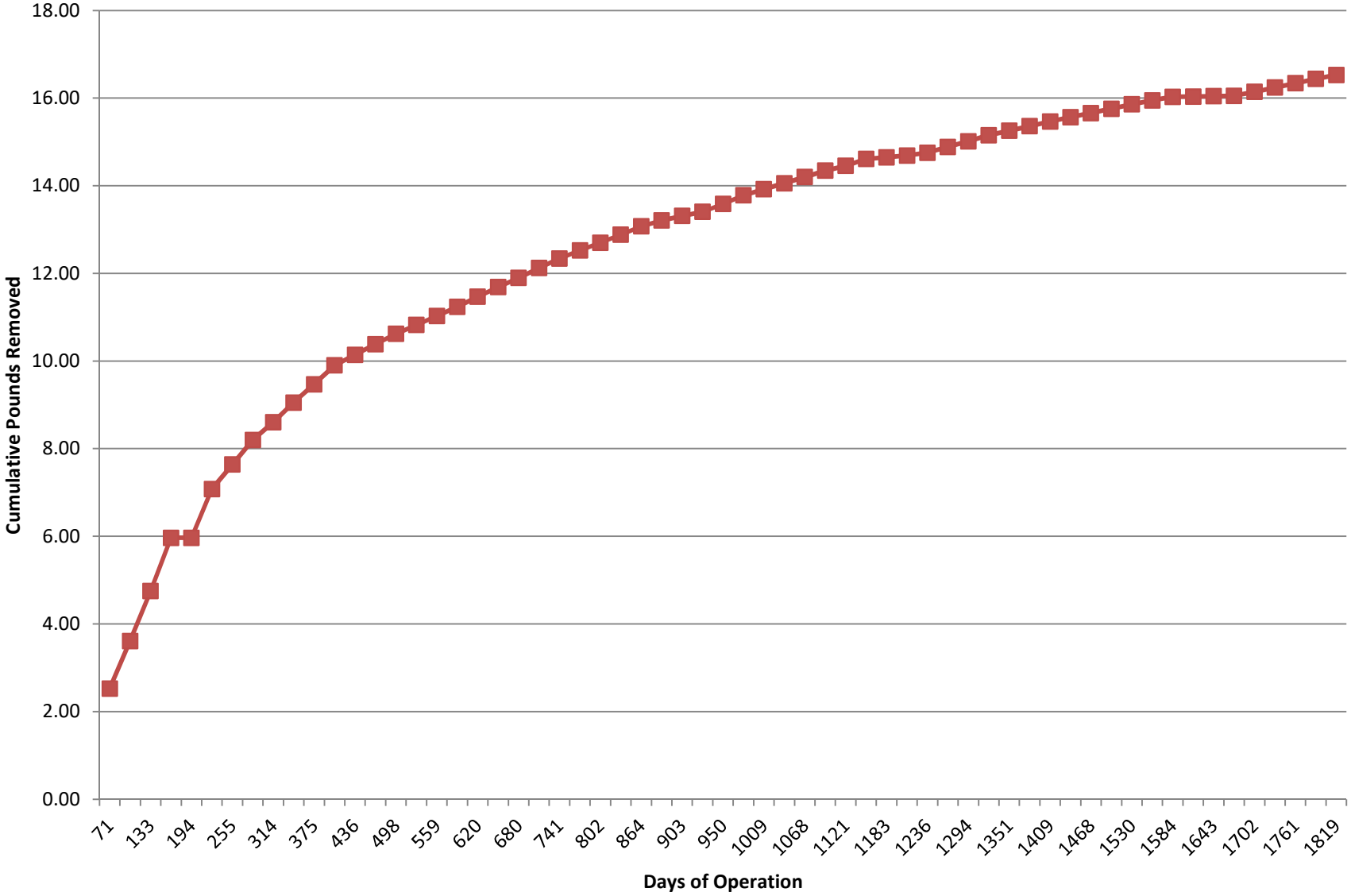
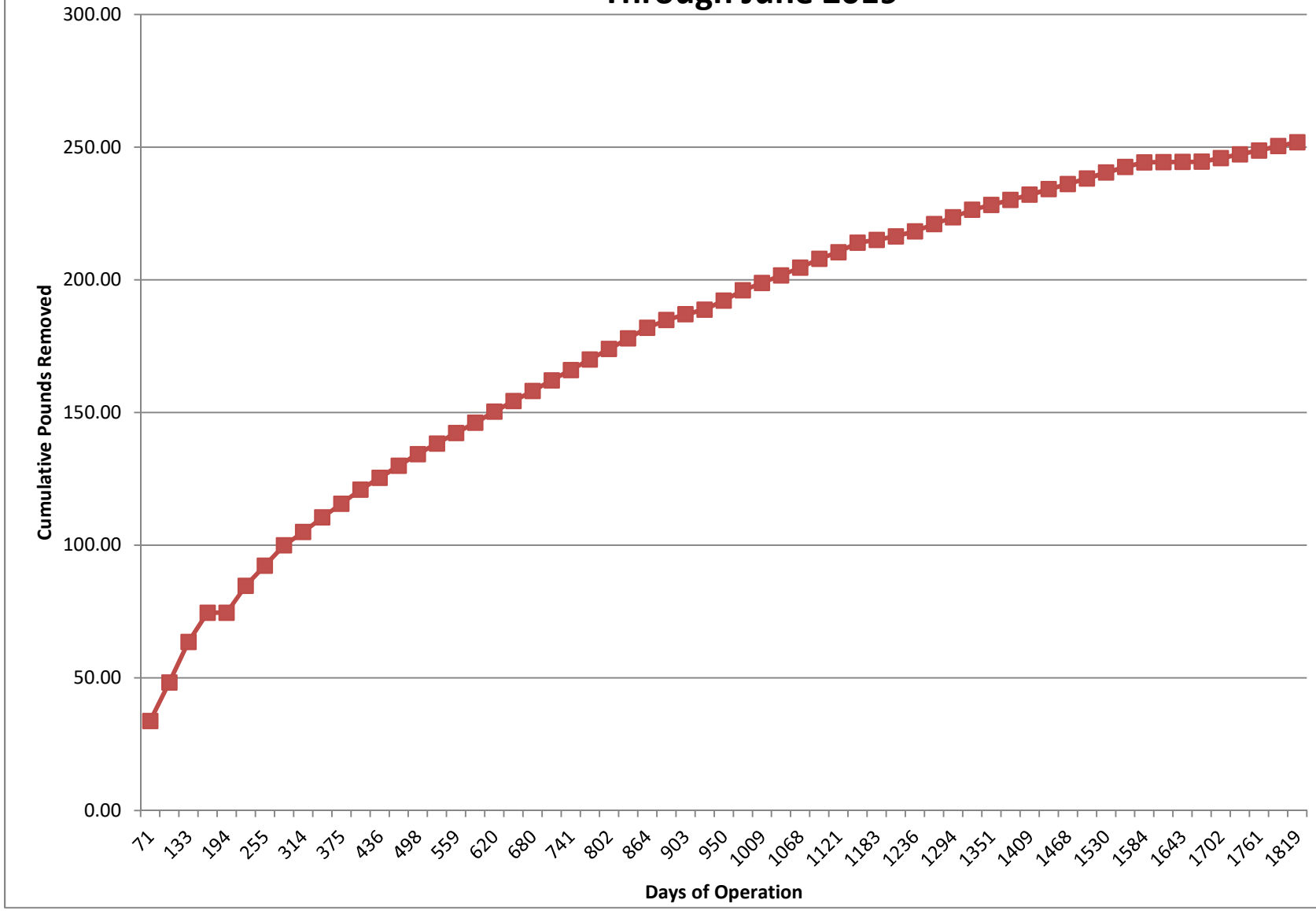


Figure 5
1,4-Dioxane Cumulative Mass Removal
Through June 2019



Tables

TABLE 1
GROUNDWATER ANALYTICAL RESULTS SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

		MW-35	MW-10A	MW-10B		MW-10C	MW-30	MW-31
Constituent	**MDEQ Tier I TRG ***	**KEP-GW-035-014**	**KEP-GW-010A-034**	**KEP-GW-010B-034**	**KEP-GW-BD4-319**	**KEP-GW-010C-034**	**KEP-GW-030-020**	**KEP-GW-031-020**
Sample Date		**3/19/2019**	**3/19/2019**	**3/19/2019**		**3/19/2019**	**3/19/2019**	**3/19/2019**
1,1,1-Trichloroethane (TCA)	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	5.0	<0.5	3.4	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	798	<0.5	1.9	0.73	0.74	<0.5	<0.5	<0.5
1,1-Dichloroethene (DCE)	7.0	0.66	**54**	**24**	**23**	<0.5	0.51	1
1,2-Dichloroethane (EDC)	5.0	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	6.09	**17**	**13**	5.3	5.5	<0.4	<0.4	<0.4
Chloroform**	0.155	<0.5	**0.78**	<0.5	<0.5	<0.5	<0.5	**0.24**
Tetrachloroethene (PCE)	5.0	0.8	<0.5	<0.5	<0.5	0.54	<0.5	<0.5
Trichloroethene (TCE)	5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

All results/standards in units of: µg/l - micrograms per liter
Bold indicates an exceedance
** MDEQ Target Remediation Goals (TRGs) for Groundwater*
*** Although the MDEQ risk based TRG for chloroform is 0.155 ug/L, the EPA Maximum Contamiant Level for Total Trihalomethanes is 80 ug/L with an individual MCL of 70 ug/L for chloroform.*

TABLE 2
OBSERVATION WELL RELATIVE VOC CONCENTRATIONS RESULTS SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

OBSERVATION WELL PID RESULTS SUMMARY

Sample Date	SVE-OBS-1	SVE-OBS-2	SVE-OBS-3	SVE-OBS-4	SVE-OBS-5	SVE-OBS-6	SVE-OBS-7	SVE-OBS-8	SVE-OBS-9
3/28/2019	0.0	0.0	0.0	0.0	0.0	NM	0.0	0.0	0.0
6/20/2019	3.9	3.8	6.8	4.0	8.0	9.2	5.2	8.0	9.7

OBSERVATION WELL FID RESULTS SUMMARY

Sample Date	SVE-OBS-1	SVE-OBS-2	SVE-OBS-3	SVE-OBS-4	SVE-OBS-5	SVE-OBS-6	SVE-OBS-7	SVE-OBS-8	SVE-OBS-9
3/28/2019	0.0	0.0	0.0	0.0	0.0	NM	0.0	0.0	0.0
6/20/2019	NM	NM	NM	NM	NM	NM	NM	NM	NM

All results in units of ppm - parts per million
NM - Not measured

TABLE 3
OBSERVATION WELL SOIL VAPOR ANALYTICAL RESULTS SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Compound	SVE-OBS-1		SVE-OBS-2		SVE-OBS-3		SVE-OBS-4		SVE-OBS-5		SVE-OBS-6		SVE-OBS-7		SVE-OBS-8		SVE-OBS-9	
Sample Date	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**	**3/28/2019**	**6/20/2019**
1,1,1-Trichloroethane	1.1	4.0	0.78	2.4	0.36	0.31	0.43	0.6	0.17	0.1	Not Sampled	3.8	0.41	1.1	4.2	2.1	0.66	0.58
1,1,2-Trichloroethane	<0.35	<0.35	<0.36	<0.36	<0.35	<0.45	<0.35	<0.34	<0.36	<0.31		<0.35	0.28	0.056	<0.37	<0.36	<0.38	<0.37
1,1-Dichloroethane	0.09	0.28	<0.46	0.089	<0.45	<0.59	0.075	<0.44	<0.46	<0.4		0.28	0.8	0.43	3.4	1.9	<0.49	<0.49
1,1-Dichloroethene	1.6	1.3	0.4	0.64	1.4	0.57	0.11	0.099	<0.49	<0.43		1.6	32	11	73	33	1.2	1.6
1,2-Dichloroethane	<0.47	<0.47	<0.47	<0.47	<0.46	<0.6	0.1	<0.45	<0.47	<0.41		<0.46	0.24	<0.48	<0.49	<0.48	0.059	<0.49
1,4-Dioxane	0.93	0.87	1.4	0.34	0.53	0.37	0.075	0.18	0.12	0.076		<0.51	0.12	0.49	0.12	<0.54	0.2	0.18
Carbon Tetrachloride	0.058	0.067	0.061	0.042	0.05	0.055	0.053	0.042	<0.3	<0.26		<0.29	0.071	0.06	0.053	<0.3	0.06	0.052

All results in units of ppb - parts per billion

TABLE 4
SVE SYSTEM RELATIVE VOC CONCENTRATION MONITORING

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Sample Date	Pre Carbon	Carbon Unit 1	Carbon Unit 2
	PID ppm		
2/19/2019	0.2	0.0	0.0
5/22/2019	0.0	0.0	0.0

Sample Date	Pre Carbon	Carbon Unit 1	Carbon Unit 2
	FID ppm		
2/19/2019	0.0	0.0	0.0
5/22/2019	0.0	0.0	0.0

Notes:

All results in units of ppm - parts per million

TABLE 5
SVE SYSTEM EXHAUST ANALYTICAL SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Compound	Pre Carbon		Post Carbon 1		Post Carbon 2	
Sample Date	**2/19/2019**	**5/22/2019**	**2/19/2019**	**5/22/2019**	**2/19/2019**	**5/22/2019**
1,1,1-Trichloroethane	34	32	13	35	0.4	<1.9
1,1,2-Trichloroethane	<10	1	<1.9	<13	<1.9	<1.9
1,1-Dichloroethane	2.9	2.9	3.1	3.4	1.4	1.9
1,1-Dichloroethene	120	110	120	120	59	77
1,2-Dichloroethane	<9.8	<7.6	<1.9	<13	<1.9	<1.9
1,4-Dioxane	1700	1900	610	2400	69	8.7

Results are in µg/m ^{3}

TABLE 6
SVE SYSTEM WELL FLOW RATE SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

	SVE-EXT-1	SVE-EXT-2	SVE-EXT-3
Date	**Flow Rate SCFM**		
1/9/2019	106.1	69.5	126.8
1/22/2019	106.1	69.5	126.8
2/19/2019	106.1	69.5	126.8
2/28/2019	108.0	69.5	126.8
3/28/2019	109.8	69.5	129.9
4/29/2019	109.8	69.5	126.8
5/22/2019	109.8	69.5	126.8
6/20/2019	108.0	69.5	126.8

TABLE 7
QUARTERLY AMBIENT AIR MONITORING

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Contaminant	OCCUPATIONAL STANDARDS			Air Mon 01-32	Air Mon 02-32	Air Mon 01-33	Air Mon 02-33
Sample Date	OSHA	ACGIH	NIOSH	2/19/2019		5/22/2019	
1,1,1-Trichloroethane	1900000	1900000	1900000	<2.7	<2.8	<2.5	<2.6
1,1-Dichloroethene		19800		<2.7	<2.8	<2.5	<2.6
1,2,4-Trichlorobenzene			40000	<2.6	<2.7	<2.5	<2.6
1,2,4-Trimethylbenzene		125000	125000	<2.6	7.9	14	18
1,2-Dibromoethane	153700		350	<2.7	<2.8	<2.5	<2.6
1,2-Dichloroethane	40450	40450	4000	<2.6	<2.7	<2.5	<2.6
1,3,5-Trimethylbenzene		125000	125000	<2.6	3	4	5.7
1,3-Dichlorobenzene				<2.7	<2.8	<2.5	<2.6
1,4-Dichlorobenzene	450000	60000		<2.7	<2.8	0.39	<2.6
1,4-Dioxane	360000	72000		<2.6	0.76	<2.5	<2.6
2-Butanone (MEK)	590000	590000	590000	22	31	19	24
2-Hexanone	410000	20480	4000	1.4	1.4	0.36	0.37
2-Propanol (Isopropyl Alcohol)	980000	980000	980000	16	8.2	16	5.1
4-Ethyltoluene				<2.6	2.9	3.8	5.6
4-Methyl-2-pentanone	410000	205000	205000	13	6	18	22
Acetone	2400000	1200000	590000	290	200	1300	2500
Acetonitrile	70000	70000	34000	<2.6	<2.7	0.89	0.94
Acrolein	250	0	250	1.4	1.7	1.7	1.6
Acrylonitrile	4340	4340	2170	<2.6	<2.7	0.91	1.3
alpha-Pinene	556000	111000	556000	2.9	<2.7	8.6	9.6
Benzene	3200	1600	320	0.82	0.9	0.65	0.54
Carbon Disulfide	60000	30000	3000	<5.4	3.3	2.7	3
Carbon Tetrachloride	63000	31000	12600	<2.6	0.4	0.35	0.38
Chloroform	240000	48830	9780	<2.7	<2.8	0.42	<2.6
Chloromethane	207000	103000		0.63	1.1	0.56	0.6
cis-1,2-Dichloroethene		792600	790000	<2.6	<2.7	<2.5	<2.6
Cumene	245000	245000	245000	<2.6	0.88	0.78	1.1
Cyclohexane	1050000	344000	1050000	1	1.4	<4.7	<4.9
Dichlorodifluoromethane (CFC 12)	4950000	4950000	4950000	2.2	2.3	2.3	2.4
d-Limonene				<2.5	<2.6	4.3	3.7
Ethanol	1900000	1900000	1900000	530	340	950	1200
Ethyl Acetate	1400000	1400000	1400000	41	34	25	51
Ethylbenzene	435000	435000	435000	6.1	13	8.7	13
m,p-Xylenes	435000	435000	435000	14	51	36	54
Methyl Methacrylate	410000	204600		1.1	<5.6	<5.1	<5.3
Methylene Chloride	87000	174000		<2.7	<2.8	<2.5	<2.6
Naphthalene	50000	50000	50000	<2.5	<2.6	1.4	1.1
n-Butyl Acetate	710000	710000	710000	30	19	180	370
n-Heptane	2000000	1640000	350000	2.6	2.8	2.6	3.1
n-Hexane	1800000	180000	180000	5.8	10	3.3	4.6
n-Nonane		1050000	1050000	<2.7	5.1	1.2	1.4
n-Octane	2350000	1400000	350000	0.94	1.8	2.1	1.9
n-Propylbenzene				<2.7	2.1	2.8	4
o-Xylene	435000	435000	435000	3.3	17	14	18
Propene				300	100	470	120
Styrene	425000	85200	215000	0.55	<2.7	3	2.6

TABLE 7
QUARTERLY AMBIENT AIR MONITORING

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Contaminant	OCCUPATIONAL STANDARDS			Air Mon 01-32	Air Mon 02-32	Air Mon 01-33	Air Mon 02-33
Sample Date	**OSHA**	**ACGIH**	**NIOSH**	**2/19/2019**		**5/22/2019**	
Tetrachloroethene	678000	169500		0.92	1.4	1	<2.6
Tetrahydrofuran (THF)	590000	590000	590000	13	11	17	20
Toluene	750000	188000	375000	290	50	160	63
Trichloroethene	537000	268500		0.46	<2.7	<2.5	<2.6
Trichlorofluoromethane (CFC 11)	5600000		5600000	1.1	1.1	1.1	1.2
Trichlorotrifluoroethane (CFC 113)	7600000	7600000	7600000	0.48	0.46	0.45	0.48
Vinyl Acetate		35000	15000	<26	<27	<25	<26

All results/standards are in **µg/m^3**

TABLE 8
OBSERVATION WELL VACUUM RESPONSE SUMMARY

SVE First Semiannual Sampling 2019
Kuhlman Electric Corporation
Crystal Springs, MS

Date	SVE-OBS-1	SVE-OBS-2	SVE-OBS-3	SVE-OBS-4	SVE-OBS-5	SVE-OBS-6	SVE-OBS-7	SVE-OBS-8	SVE-OBS-9
Distance* (feet)	**5**	**10**	**20**	**40**	**80**	**40**	**50**	**95**	**80**
1/9/2019	-24.00	-16.77	-12.02	-5.08	-3.45	-3.39	-7.43	-0.21	-3.40
4/29/2019	-20.90	-14.46	-10.56	-4.22	-2.56	NM	-6.70	-0.26	-3.03

** Distance to the nearest extraction well*
Vacuum readings are in inches of water.
NM - Not Measured

Appendix A

Observation Well Soil Vapor Laboratory Analytical Results

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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www.alsglobal.com

LABORATORY REPORT

April 17, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE Performance Monitoring / KUH0-19-010

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on April 3, 2019. For your reference, these analyses have been assigned our service request number P1901807.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 3:54 pm, Apr 17, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1901807
Project: SVE Performance Monitoring / KUH0-19-010

CASE NARRATIVE

The samples were received intact under chain of custody on April 3, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for d-limonene in the Continuing Calibration Verification (CCV) analyzed on April 11, 2019. Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. The data has been qualified accordingly.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1901807

Project ID: SVE Performance Monitoring / KUH0-19-010

Date Received: 4/3/2019

Time Received: 16:54

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SVE-OBS-01	P1901807-001	Air	3/28/2019	13:18	1SC01245	-0.79	5.01	X
SVE-OBS-02	P1901807-002	Air	3/28/2019	13:11	1SS00749	-0.93	5.15	X
SVE-OBS-03	P1901807-003	Air	3/28/2019	13:31	1SC00873	-0.25	5.60	X
SVE-OBS-04	P1901807-004	Air	3/28/2019	13:39	1SS00543	-0.36	5.71	X
SVE-OBS-05	P1901807-005	Air	3/28/2019	13:51	1SS00889	-0.62	5.62	X
SVE-OBS-07	P1901807-006	Air	3/28/2019	14:06	1SS00780	-1.15	5.40	X
SVE-OBS-08	P1901807-007	Air	3/28/2019	14:14	1SC00096	-1.19	5.72	X
SVE-OBS-09	P1901807-008	Air	3/28/2019	14:21	1SC00673	-0.96	6.20	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

P1901887

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

ALS Contact:

Company Name & Address (Reporting Information)	Environmental Management Services PO Box 15369 Hattiesburg, MS 39404
Project Name	SVE Performance Monitoring
Project Number	KUHO-19-010
Project Manager	Jeremy Van Slyke
P.O. # / Billing Information	KUHO-19-010 Same As Reporting
Phone	601 544 3674
Fax	601 544 0504
Email Address for Result Reporting	jvanslyke@env-mgt.com
Sampler (Print & Sign)	Jeremy Van Slyke / [signature]

Analysis Method

	Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
1	SVE-OBS-01		3/28/19	1318	ISC01245				1L	X		
2	SVE-OBS-02		3/28/19	1311	ISS00749				1L	X		
3	SVE-OBS-03		3/28/19	1331	ISC00873				1L	X		
4	SVE-OBS-04		3/28/19	1339	ISS00543				1L	X		
5	SVE-OBS-05		3/28/19	1351	ISS00889				1L	X		
6	SVE-OBS-07		3/28/19	1406	ISS00780				1L	X		
7	SVE-OBS-08		3/28/19	1414	ISC00096				1L	X		
8	SVE-OBS-09		3/28/19	1421	ISC00673				1L	X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) [signature]	Date: 3/29/19	Time: 1042	Received by: (Signature) Fed Ex	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) [signature]	Date: 4-3-19	Time: 0907

Cooler / Blank Temperature ____ °C

ALS Environmental

Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1901807

Project: KUHO-19-010

Sample(s) received on: 4/3/19 Date opened: 4/3/19 by: CHRIS.GLEASON

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1901807-001.01	1.0 L Source Can					
P1901807-002.01	1.0 L Source Silonite Canister					
P1901807-003.01	1.0 L Source Can					
P1901807-004.01	1.0 L Source Silonite Canister					
P1901807-005.01	1.0 L Source Silonite Canister					
P1901807-006.01	1.0 L Source Silonite Canister					
P1901807-007.01	1.0 L Source Can					
P1901807-008.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-01** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-001

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01245

Initial Pressure (psig): -0.79 Final Pressure (psig): 5.01

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**85**	1.8	0.46	**50**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	1.8	0.31	**0.51**	0.37	0.062	
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.86	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.30	ND	0.26	0.043	
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.74	0.079	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.83	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.46	0.068	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.69	0.089	
64-17-5	Ethanol	**30**	18	1.3	**16**	9.6	0.70	**B**
75-05-8	Acetonitrile	**1.8**	1.8	0.46	**1.1**	1.1	0.27	**J, B**
107-02-8	Acrolein	**1.4**	3.6	0.53	**0.60**	1.5	0.23	**J**
67-64-1	Acetone	**16**	19	4.3	**6.8**	8.1	1.8	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**1.3**	1.9	0.29	**0.23**	0.33	0.051	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	7.5	0.78	**0.49**	3.0	0.32	**J**
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.85	0.18	
75-35-4	1,1-Dichloroethene	**6.3**	1.9	0.26	**1.6**	0.48	0.066	
75-09-2	Methylene Chloride	**1.8**	1.9	0.53	**0.51**	0.55	0.15	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.60	0.082	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.89**	1.9	0.27	**0.12**	0.25	0.035	**J**
75-15-0	Carbon Disulfide	**0.98**	3.9	0.57	**0.31**	1.3	0.18	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
75-34-3	1,1-Dichloroethane	**0.36**	1.8	0.28	**0.090**	0.46	0.068	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.53	0.062	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.3	1.2	
78-93-3	2-Butanone (MEK)	**2.3**	3.6	0.39	**0.78**	1.2	0.13	**J, B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-01** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-001

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01245

Initial Pressure (psig): -0.79 Final Pressure (psig): 5.01

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.47	0.067	
141-78-6	Ethyl Acetate	**1.0**	3.9	0.99	**0.29**	1.1	0.28	**J**
110-54-3	n-Hexane	**0.54**	1.9	0.39	**0.15**	0.54	0.11	**J**
67-66-3	Chloroform	**0.45**	1.9	0.25	**0.092**	0.39	0.052	**J**
109-99-9	Tetrahydrofuran (THF)	**0.46**	1.9	0.24	**0.16**	0.64	0.081	**J, B**
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.47	0.052	
71-55-6	1,1,1-Trichloroethane	**6.2**	1.9	0.23	**1.1**	0.35	0.043	
71-43-2	Benzene	**1.8**	1.8	0.27	**0.56**	0.58	0.086	**J**
56-23-5	Carbon Tetrachloride	**0.36**	1.8	0.26	**0.058**	0.29	0.042	**J**
110-82-7	Cyclohexane	ND	3.6	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	**1.2**	1.9	0.23	**0.27**	0.41	0.051	**J**
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.041	
79-01-6	Trichloroethene	**1.3**	1.9	0.26	**0.25**	0.35	0.048	**J**
123-91-1	1,4-Dioxane	**3.3**	1.9	0.22	**0.93**	0.52	0.062	
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.95	0.16	
142-82-5	n-Heptane	ND	1.9	0.30	ND	0.47	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.44	0.065	
108-10-1	4-Methyl-2-pentanone	**0.92**	1.9	0.26	**0.22**	0.46	0.063	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.086	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**19**	1.9	0.23	**5.0**	0.50	0.061	
591-78-6	2-Hexanone	ND	1.9	0.23	ND	0.47	0.057	
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**0.95**	1.9	0.26	**0.20**	0.40	0.055	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **SVE-OBS-01** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-001

Test Code:	EPA TO-15	Date Collected:	3/28/19
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	4/3/19
Analyst:	Lusine Hakobyan	Date Analyzed:	4/10/19
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC01245		

Initial Pressure (psig): -0.79 Final Pressure (psig): 5.01

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**17**	1.9	0.43	**3.7**	0.41	0.091	
127-18-4	Tetrachloroethene	**1.9**	1.9	0.24	**0.29**	0.28	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.41	0.055	
100-41-4	Ethylbenzene	**0.54**	1.8	0.27	**0.12**	0.43	0.061	**J**
179601-23-1	m,p-Xylenes	**2.3**	3.9	0.50	**0.53**	0.90	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.038	
100-42-5	Styrene	ND	1.9	0.31	ND	0.44	0.072	
95-47-6	o-Xylene	**1.1**	1.9	0.27	**0.25**	0.43	0.063	**J**
111-84-2	n-Nonane	**84**	1.9	0.32	**16**	0.37	0.060	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.056	
80-56-8	alpha-Pinene	**0.70**	1.8	0.29	**0.12**	0.33	0.052	**J**
103-65-1	n-Propylbenzene	**1.1**	1.9	0.27	**0.23**	0.39	0.056	**J**
622-96-8	4-Ethyltoluene	**2.5**	1.9	0.30	**0.51**	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	**1.8**	1.9	0.27	**0.36**	0.38	0.056	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.5**	1.9	0.26	**0.51**	0.38	0.053	
100-44-7	Benzyl Chloride	ND	3.9	0.43	ND	0.75	0.082	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	**1.2**	1.8	0.39	**0.22**	0.33	0.070	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.062	
91-20-3	Naphthalene	**0.47**	1.8	0.46	**0.090**	0.35	0.088	**J**
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-02** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-002

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -0.93 Final Pressure (psig): 5.15

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**77**	1.9	0.47	**45**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	1.9	0.31	**0.47**	0.38	0.063	
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.87	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.30	ND	0.26	0.043	
75-01-4	Vinyl Chloride	ND	1.9	0.21	ND	0.75	0.080	
106-99-0	1,3-Butadiene	ND	1.9	0.32	ND	0.85	0.14	
74-83-9	Bromomethane	**0.66**	1.8	0.27	**0.17**	0.46	0.069	**J**
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.70	0.090	
64-17-5	Ethanol	**30**	18	1.3	**16**	9.7	0.71	**B**
75-05-8	Acetonitrile	**3.8**	1.9	0.47	**2.3**	1.1	0.28	**B**
107-02-8	Acrolein	**2.0**	3.6	0.54	**0.85**	1.6	0.24	**J**
67-64-1	Acetone	**30**	19	4.3	**13**	8.2	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	1.9	0.29	**0.21**	0.34	0.052	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.8**	7.6	0.79	**0.71**	3.1	0.32	**J**
107-13-1	Acrylonitrile	ND	1.9	0.40	ND	0.86	0.18	
75-35-4	1,1-Dichloroethene	**1.6**	1.9	0.27	**0.40**	0.49	0.067	**J**
75-09-2	Methylene Chloride	ND	1.9	0.54	ND	0.56	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.61	0.083	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.62**	1.9	0.27	**0.081**	0.25	0.036	**J**
75-15-0	Carbon Disulfide	**1.1**	4.0	0.58	**0.34**	1.3	0.19	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.067	
75-34-3	1,1-Dichloroethane	ND	1.9	0.28	ND	0.46	0.069	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.23	ND	0.54	0.063	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.4	1.2	
78-93-3	2-Butanone (MEK)	**5.7**	3.6	0.40	**1.9**	1.2	0.13	**B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-02** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-002

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -0.93 Final Pressure (psig): 5.15

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.068	
141-78-6	Ethyl Acetate	**28**	4.0	1.0	**7.7**	1.1	0.28	
110-54-3	n-Hexane	**0.73**	1.9	0.40	**0.21**	0.55	0.11	**J**
67-66-3	Chloroform	**0.59**	1.9	0.26	**0.12**	0.40	0.052	**J**
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.24	ND	0.65	0.082	
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.47	0.052	
71-55-6	1,1,1-Trichloroethane	**4.2**	1.9	0.24	**0.78**	0.36	0.044	
71-43-2	Benzene	**0.55**	1.9	0.28	**0.17**	0.59	0.087	**J**
56-23-5	Carbon Tetrachloride	**0.38**	1.9	0.27	**0.061**	0.30	0.042	**J**
110-82-7	Cyclohexane	ND	3.6	0.54	ND	1.0	0.16	
78-87-5	1,2-Dichloropropane	ND	1.9	0.24	ND	0.42	0.051	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.28	0.041	
79-01-6	Trichloroethene	ND	1.9	0.26	ND	0.36	0.048	
123-91-1	1,4-Dioxane	**5.1**	1.9	0.23	**1.4**	0.53	0.063	
80-62-6	Methyl Methacrylate	ND	4.0	0.68	ND	0.97	0.17	
142-82-5	n-Heptane	ND	1.9	0.31	ND	0.47	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.44	0.066	
108-10-1	4-Methyl-2-pentanone	**0.96**	1.9	0.26	**0.23**	0.47	0.064	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.40	ND	0.42	0.087	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.36	0.036	
108-88-3	Toluene	**31**	1.9	0.23	**8.2**	0.51	0.062	
591-78-6	2-Hexanone	ND	1.9	0.24	ND	0.47	0.058	
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**1.0**	1.9	0.26	**0.22**	0.41	0.055	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **SVE-OBS-02** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-002

Test Code:	EPA TO-15	Date Collected:	3/28/19
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	4/3/19
Analyst:	Lusine Hakobyan	Date Analyzed:	4/11/19
Sample Type:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00749		

Initial Pressure (psig): -0.93 Final Pressure (psig): 5.15

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**15**	1.9	0.43	**3.2**	0.42	0.093	
127-18-4	Tetrachloroethene	**1.8**	1.9	0.25	**0.26**	0.28	0.037	**J**
108-90-7	Chlorobenzene	ND	1.9	0.26	ND	0.41	0.056	
100-41-4	Ethylbenzene	**0.71**	1.9	0.27	**0.16**	0.43	0.062	**J**
179601-23-1	m,p-Xylenes	**3.6**	4.0	0.50	**0.82**	0.91	0.12	**J**
75-25-2	Bromoform	ND	1.9	0.40	ND	0.18	0.038	
100-42-5	Styrene	**0.60**	1.9	0.31	**0.14**	0.45	0.073	**J**
95-47-6	o-Xylene	**2.0**	1.9	0.28	**0.46**	0.44	0.064	
111-84-2	n-Nonane	**72**	1.9	0.32	**14**	0.37	0.061	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.27	ND	0.28	0.039	
98-82-8	Cumene	**0.28**	1.9	0.28	**0.057**	0.39	0.056	**J**
80-56-8	alpha-Pinene	**0.74**	1.9	0.30	**0.13**	0.34	0.053	**J**
103-65-1	n-Propylbenzene	**1.3**	1.9	0.28	**0.26**	0.40	0.056	**J**
622-96-8	4-Ethyltoluene	**3.0**	1.9	0.31	**0.62**	0.39	0.062	
108-67-8	1,3,5-Trimethylbenzene	**2.1**	1.9	0.28	**0.44**	0.39	0.056	
95-63-6	1,2,4-Trimethylbenzene	**4.7**	1.9	0.27	**0.96**	0.39	0.054	
100-44-7	Benzyl Chloride	ND	4.0	0.43	ND	0.77	0.083	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.30	ND	0.32	0.049	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	**1.9**	1.8	0.40	**0.34**	0.33	0.071	**V**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.47	ND	0.26	0.063	
91-20-3	Naphthalene	**0.81**	1.8	0.47	**0.15**	0.35	0.089	**J**
87-68-3	Hexachlorobutadiene	ND	1.9	0.40	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-003

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00873

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.60

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**23**	1.8	0.46	**13**	1.1	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	1.8	0.30	**0.48**	0.37	0.062	
74-87-3	Chloromethane	ND	1.8	0.30	ND	0.85	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.29	ND	0.26	0.042	
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.73	0.078	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.82	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.68	0.088	
64-17-5	Ethanol	**20**	18	1.3	**11**	9.5	0.69	**B**
75-05-8	Acetonitrile	**1.6**	1.8	0.46	**0.93**	1.1	0.27	**J, B**
107-02-8	Acrolein	**2.5**	3.5	0.53	**1.1**	1.5	0.23	**J**
67-64-1	Acetone	**32**	19	4.2	**14**	8.0	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	1.9	0.28	**0.21**	0.33	0.050	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.83**	7.4	0.77	**0.34**	3.0	0.31	**J**
107-13-1	Acrylonitrile	**0.58**	1.8	0.39	**0.27**	0.84	0.18	**J**
75-35-4	1,1-Dichloroethene	**5.4**	1.9	0.26	**1.4**	0.48	0.065	
75-09-2	Methylene Chloride	ND	1.9	0.53	ND	0.54	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.25	ND	0.59	0.081	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.89**	1.9	0.27	**0.12**	0.24	0.035	**J**
75-15-0	Carbon Disulfide	**16**	3.9	0.56	**5.3**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.065	
75-34-3	1,1-Dichloroethane	ND	1.8	0.27	ND	0.45	0.067	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.52	0.061	
108-05-4	Vinyl Acetate	**8.6**	19	4.2	**2.4**	5.3	1.2	**J**
78-93-3	2-Butanone (MEK)	**4.1**	3.5	0.39	**1.4**	1.2	0.13	**B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-003

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00873

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.60

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
141-78-6	Ethyl Acetate	ND	3.9	0.98	ND	1.1	0.27	
110-54-3	n-Hexane	ND	1.9	0.39	ND	0.54	0.11	
67-66-3	Chloroform	**0.42**	1.9	0.25	**0.085**	0.39	0.051	**J**
109-99-9	Tetrahydrofuran (THF)	**0.24**	1.9	0.23	**0.081**	0.63	0.080	**J, B**
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.46	0.051	
71-55-6	1,1,1-Trichloroethane	**1.9**	1.9	0.23	**0.36**	0.35	0.042	
71-43-2	Benzene	ND	1.8	0.27	ND	0.57	0.084	
56-23-5	Carbon Tetrachloride	**0.32**	1.8	0.26	**0.050**	0.29	0.041	**J**
110-82-7	Cyclohexane	ND	3.5	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.41	0.050	
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.040	
79-01-6	Trichloroethene	ND	1.9	0.25	ND	0.35	0.047	
123-91-1	1,4-Dioxane	**1.9**	1.9	0.22	**0.53**	0.51	0.061	
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.94	0.16	
142-82-5	n-Heptane	ND	1.9	0.30	ND	0.46	0.073	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.43	0.064	
108-10-1	4-Methyl-2-pentanone	**0.60**	1.9	0.26	**0.15**	0.45	0.062	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.085	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**6.3**	1.9	0.23	**1.7**	0.49	0.060	
591-78-6	2-Hexanone	**1.1**	1.9	0.23	**0.26**	0.46	0.056	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.22	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.028	
123-86-4	n-Butyl Acetate	**1.8**	1.9	0.26	**0.38**	0.40	0.054	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-003

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00873

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.60

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**11**	1.9	0.42	**2.3**	0.40	0.090	
127-18-4	Tetrachloroethene	**1.0**	1.9	0.24	**0.15**	0.27	0.036	**J**
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.40	0.054	
100-41-4	Ethylbenzene	**0.54**	1.8	0.26	**0.12**	0.42	0.060	**J**
179601-23-1	m,p-Xylenes	**2.9**	3.9	0.49	**0.68**	0.89	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.037	
100-42-5	Styrene	**0.42**	1.9	0.30	**0.10**	0.44	0.071	**J**
95-47-6	o-Xylene	**1.3**	1.9	0.27	**0.30**	0.43	0.062	**J**
111-84-2	n-Nonane	**64**	1.9	0.31	**12**	0.36	0.059	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.055	
80-56-8	alpha-Pinene	**0.60**	1.8	0.29	**0.11**	0.33	0.052	**J**
103-65-1	n-Propylbenzene	**1.2**	1.9	0.27	**0.24**	0.38	0.055	**J**
622-96-8	4-Ethyltoluene	**2.9**	1.9	0.30	**0.59**	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	**2.5**	1.9	0.27	**0.50**	0.38	0.055	
95-63-6	1,2,4-Trimethylbenzene	**5.4**	1.9	0.26	**1.1**	0.38	0.053	
100-44-7	Benzyl Chloride	ND	3.9	0.42	ND	0.74	0.081	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.047	
106-46-7	1,4-Dichlorobenzene	**0.34**	1.9	0.29	**0.056**	0.31	0.048	**J**
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.046	
5989-27-5	d-Limonene	**1.3**	1.8	0.39	**0.23**	0.32	0.069	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	**0.55**	1.9	0.46	**0.074**	0.25	0.061	**J**
91-20-3	Naphthalene	**2.5**	1.8	0.46	**0.47**	0.34	0.087	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.17	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-004

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00543

Initial Pressure (psig): -0.36 Final Pressure (psig): 5.71

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**20**	1.8	0.46	**12**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	1.8	0.31	**0.47**	0.37	0.062	
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.86	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.30	ND	0.26	0.043	
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.74	0.079	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.83	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.46	0.068	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.69	0.089	
64-17-5	Ethanol	**14**	18	1.3	**7.5**	9.6	0.70	**J, B**
75-05-8	Acetonitrile	ND	1.8	0.46	ND	1.1	0.27	
107-02-8	Acrolein	**0.65**	3.6	0.53	**0.28**	1.5	0.23	**J**
67-64-1	Acetone	ND	19	4.3	ND	8.1	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	1.9	0.29	**0.21**	0.33	0.051	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.8**	7.5	0.78	**1.1**	3.0	0.32	**J**
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.85	0.18	
75-35-4	1,1-Dichloroethene	**0.42**	1.9	0.26	**0.11**	0.48	0.066	**J**
75-09-2	Methylene Chloride	**0.87**	1.9	0.53	**0.25**	0.55	0.15	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.60	0.082	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**6.5**	1.9	0.27	**0.85**	0.25	0.035	
75-15-0	Carbon Disulfide	**0.98**	3.9	0.57	**0.32**	1.3	0.18	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
75-34-3	1,1-Dichloroethane	**0.31**	1.8	0.28	**0.075**	0.46	0.068	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.53	0.062	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.3	1.2	
78-93-3	2-Butanone (MEK)	**1.6**	3.6	0.39	**0.54**	1.2	0.13	**J, B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-004

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00543

Initial Pressure (psig): -0.36 Final Pressure (psig): 5.71

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.47	0.067	
141-78-6	Ethyl Acetate	**85**	3.9	0.99	**24**	1.1	0.28	
110-54-3	n-Hexane	**1.0**	1.9	0.39	**0.29**	0.54	0.11	**J**
67-66-3	Chloroform	ND	1.9	0.25	ND	0.39	0.052	
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.24	ND	0.64	0.081	
107-06-2	1,2-Dichloroethane	**0.41**	1.9	0.21	**0.10**	0.47	0.052	**J**
71-55-6	1,1,1-Trichloroethane	**2.3**	1.9	0.23	**0.43**	0.35	0.043	
71-43-2	Benzene	**0.45**	1.8	0.27	**0.14**	0.58	0.086	**J**
56-23-5	Carbon Tetrachloride	**0.33**	1.8	0.26	**0.053**	0.29	0.042	**J**
110-82-7	Cyclohexane	ND	3.6	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.41	0.051	
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.041	
79-01-6	Trichloroethene	ND	1.9	0.26	ND	0.35	0.048	
123-91-1	1,4-Dioxane	**0.27**	1.9	0.22	**0.075**	0.52	0.062	**J**
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.95	0.16	
142-82-5	n-Heptane	**0.37**	1.9	0.30	**0.089**	0.47	0.074	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.44	0.065	
108-10-1	4-Methyl-2-pentanone	**1.1**	1.9	0.26	**0.26**	0.46	0.063	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.086	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**7.6**	1.9	0.23	**2.0**	0.50	0.061	
591-78-6	2-Hexanone	ND	1.9	0.23	ND	0.47	0.057	
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**1.8**	1.9	0.26	**0.38**	0.40	0.055	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-004

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00543

Initial Pressure (psig): -0.36 Final Pressure (psig): 5.71

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**8.7**	1.9	0.43	**1.9**	0.41	0.091	
127-18-4	Tetrachloroethene	**1.5**	1.9	0.24	**0.23**	0.28	0.036	**J**
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.41	0.055	
100-41-4	Ethylbenzene	**0.72**	1.8	0.27	**0.17**	0.43	0.061	**J**
179601-23-1	m,p-Xylenes	**2.9**	3.9	0.50	**0.66**	0.90	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.038	
100-42-5	Styrene	**0.55**	1.9	0.31	**0.13**	0.44	0.072	**J**
95-47-6	o-Xylene	**1.6**	1.9	0.27	**0.36**	0.43	0.063	**J**
111-84-2	n-Nonane	**53**	1.9	0.32	**10**	0.37	0.060	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.056	
80-56-8	alpha-Pinene	**1.4**	1.8	0.29	**0.26**	0.33	0.052	**J**
103-65-1	n-Propylbenzene	**1.0**	1.9	0.27	**0.20**	0.39	0.056	**J**
622-96-8	4-Ethyltoluene	**2.4**	1.9	0.30	**0.50**	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	**1.9**	1.9	0.27	**0.39**	0.38	0.056	
95-63-6	1,2,4-Trimethylbenzene	**4.1**	1.9	0.26	**0.83**	0.38	0.053	
100-44-7	Benzyl Chloride	ND	3.9	0.43	ND	0.75	0.082	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	**0.98**	1.8	0.39	**0.18**	0.33	0.070	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.062	
91-20-3	Naphthalene	**0.74**	1.8	0.46	**0.14**	0.35	0.088	**J**
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-005

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00889

Initial Pressure (psig): -0.62 Final Pressure (psig): 5.62

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**12**	1.9	0.47	**6.9**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	1.9	0.31	**0.47**	0.38	0.063	
74-87-3	Chloromethane	**0.73**	1.8	0.31	**0.35**	0.87	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.30	ND	0.26	0.043	
75-01-4	Vinyl Chloride	ND	1.9	0.21	ND	0.75	0.080	
106-99-0	1,3-Butadiene	ND	1.9	0.32	ND	0.85	0.14	
74-83-9	Bromomethane	ND	1.8	0.27	ND	0.46	0.069	
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.70	0.090	
64-17-5	Ethanol	**7.7**	18	1.3	**4.1**	9.7	0.71	**J, B**
75-05-8	Acetonitrile	**1.1**	1.9	0.47	**0.64**	1.1	0.28	**J, B**
107-02-8	Acrolein	**2.1**	3.6	0.54	**0.90**	1.6	0.24	**J**
67-64-1	Acetone	**6.6**	19	4.3	**2.8**	8.2	1.8	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	1.9	0.29	**0.20**	0.34	0.052	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.6	0.79	ND	3.1	0.32	
107-13-1	Acrylonitrile	ND	1.9	0.40	ND	0.86	0.18	
75-35-4	1,1-Dichloroethene	ND	1.9	0.27	ND	0.49	0.067	
75-09-2	Methylene Chloride	ND	1.9	0.54	ND	0.56	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.61	0.083	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.46**	1.9	0.27	**0.060**	0.25	0.036	**J**
75-15-0	Carbon Disulfide	**0.77**	4.0	0.58	**0.25**	1.3	0.19	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.067	
75-34-3	1,1-Dichloroethane	ND	1.9	0.28	ND	0.46	0.069	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.23	ND	0.54	0.063	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.4	1.2	
78-93-3	2-Butanone (MEK)	**2.8**	3.6	0.40	**0.96**	1.2	0.13	**J, B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-005

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00889

Initial Pressure (psig): -0.62 Final Pressure (psig): 5.62

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.068	
141-78-6	Ethyl Acetate	ND	4.0	1.0	ND	1.1	0.28	
110-54-3	n-Hexane	ND	1.9	0.40	ND	0.55	0.11	
67-66-3	Chloroform	**0.46**	1.9	0.26	**0.095**	0.40	0.052	**J**
109-99-9	Tetrahydrofuran (THF)	**0.27**	1.9	0.24	**0.093**	0.65	0.082	**J, B**
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.47	0.052	
71-55-6	1,1,1-Trichloroethane	**0.93**	1.9	0.24	**0.17**	0.36	0.044	**J**
71-43-2	Benzene	ND	1.9	0.28	ND	0.59	0.087	
56-23-5	Carbon Tetrachloride	ND	1.9	0.27	ND	0.30	0.042	
110-82-7	Cyclohexane	ND	3.6	0.54	ND	1.0	0.16	
78-87-5	1,2-Dichloropropane	ND	1.9	0.24	ND	0.42	0.051	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.28	0.041	
79-01-6	Trichloroethene	ND	1.9	0.26	ND	0.36	0.048	
123-91-1	1,4-Dioxane	**0.45**	1.9	0.23	**0.12**	0.53	0.063	**J**
80-62-6	Methyl Methacrylate	ND	4.0	0.68	ND	0.97	0.17	
142-82-5	n-Heptane	ND	1.9	0.31	ND	0.47	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.44	0.066	
108-10-1	4-Methyl-2-pentanone	ND	1.9	0.26	ND	0.47	0.064	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.40	ND	0.42	0.087	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.36	0.036	
108-88-3	Toluene	**1.3**	1.9	0.23	**0.34**	0.51	0.062	**J**
591-78-6	2-Hexanone	ND	1.9	0.24	ND	0.47	0.058	
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**0.74**	1.9	0.26	**0.16**	0.41	0.055	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-005

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00889

Initial Pressure (psig): -0.62 Final Pressure (psig): 5.62

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**8.1**	1.9	0.43	**1.7**	0.42	0.093	
127-18-4	Tetrachloroethene	**1.3**	1.9	0.25	**0.20**	0.28	0.037	**J**
108-90-7	Chlorobenzene	ND	1.9	0.26	ND	0.41	0.056	
100-41-4	Ethylbenzene	ND	1.9	0.27	ND	0.43	0.062	
179601-23-1	m,p-Xylenes	**1.2**	4.0	0.50	**0.28**	0.91	0.12	**J**
75-25-2	Bromoform	ND	1.9	0.40	ND	0.18	0.038	
100-42-5	Styrene	ND	1.9	0.31	ND	0.45	0.073	
95-47-6	o-Xylene	**0.62**	1.9	0.28	**0.14**	0.44	0.064	**J**
111-84-2	n-Nonane	**46**	1.9	0.32	**8.8**	0.37	0.061	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.27	ND	0.28	0.039	
98-82-8	Cumene	ND	1.9	0.28	ND	0.39	0.056	
80-56-8	alpha-Pinene	ND	1.9	0.30	ND	0.34	0.053	
103-65-1	n-Propylbenzene	**0.82**	1.9	0.28	**0.17**	0.40	0.056	**J**
622-96-8	4-Ethyltoluene	**2.1**	1.9	0.31	**0.42**	0.39	0.062	
108-67-8	1,3,5-Trimethylbenzene	**1.6**	1.9	0.28	**0.33**	0.39	0.056	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.7**	1.9	0.27	**0.75**	0.39	0.054	
100-44-7	Benzyl Chloride	ND	4.0	0.43	ND	0.77	0.083	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.30	ND	0.32	0.049	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	**0.66**	1.8	0.40	**0.12**	0.33	0.071	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.47	ND	0.26	0.063	
91-20-3	Naphthalene	**0.79**	1.8	0.47	**0.15**	0.35	0.089	**J**
87-68-3	Hexachlorobutadiene	ND	1.9	0.40	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-07** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-006

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00780

Initial Pressure (psig): -1.15 Final Pressure (psig): 5.40

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**120**	1.9	0.48	**67**	1.1	0.28	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	1.9	0.32	**0.49**	0.39	0.065	
74-87-3	Chloromethane	ND	1.9	0.32	ND	0.90	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.31	ND	0.27	0.044	
75-01-4	Vinyl Chloride	ND	2.0	0.21	ND	0.77	0.083	
106-99-0	1,3-Butadiene	ND	1.9	0.33	ND	0.87	0.15	
74-83-9	Bromomethane	ND	1.9	0.27	ND	0.48	0.071	
75-00-3	Chloroethane	ND	1.9	0.24	ND	0.72	0.093	
64-17-5	Ethanol	**37**	19	1.4	**20**	10	0.73	**B**
75-05-8	Acetonitrile	ND	1.9	0.48	ND	1.1	0.29	
107-02-8	Acrolein	**0.87**	3.7	0.56	**0.38**	1.6	0.24	**J**
67-64-1	Acetone	**9.8**	20	4.4	**4.1**	8.4	1.9	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.0	0.30	**0.22**	0.35	0.053	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	7.8	0.81	**0.43**	3.2	0.33	**J**
107-13-1	Acrylonitrile	ND	1.9	0.41	ND	0.89	0.19	
75-35-4	1,1-Dichloroethene	**130**	2.0	0.27	**32**	0.50	0.069	
75-09-2	Methylene Chloride	**0.71**	2.0	0.56	**0.21**	0.58	0.16	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.0	0.27	ND	0.63	0.085	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.84**	2.0	0.28	**0.11**	0.26	0.037	**J**
75-15-0	Carbon Disulfide	**1.2**	4.1	0.59	**0.37**	1.3	0.19	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.27	ND	0.49	0.069	
75-34-3	1,1-Dichloroethane	**3.3**	1.9	0.29	**0.80**	0.48	0.071	
1634-04-4	Methyl tert-Butyl Ether	ND	2.0	0.23	ND	0.55	0.065	
108-05-4	Vinyl Acetate	ND	20	4.4	ND	5.6	1.3	
78-93-3	2-Butanone (MEK)	**1.4**	3.7	0.41	**0.47**	1.3	0.14	**J, B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **SVE-OBS-07** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-006

Test Code: EPA TO-15 Date Collected: 3/28/19

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19

Analyst: Lusine Hakobyan Date Analyzed: 4/10/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)

Test Notes:

Container ID: 1SS00780

Initial Pressure (psig): -1.15 Final Pressure (psig): 5.40

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.28	ND	0.49	0.070	
141-78-6	Ethyl Acetate	ND	4.1	1.0	ND	1.1	0.29	
110-54-3	n-Hexane	ND	2.0	0.41	ND	0.57	0.12	
67-66-3	Chloroform	**0.95**	2.0	0.26	**0.19**	0.41	0.054	**J**
109-99-9	Tetrahydrofuran (THF)	ND	2.0	0.25	ND	0.67	0.084	
107-06-2	1,2-Dichloroethane	**0.96**	2.0	0.22	**0.24**	0.48	0.054	**J**
71-55-6	1,1,1-Trichloroethane	**2.3**	2.0	0.24	**0.41**	0.37	0.045	
71-43-2	Benzene	ND	1.9	0.28	ND	0.60	0.089	
56-23-5	Carbon Tetrachloride	**0.45**	1.9	0.27	**0.071**	0.31	0.044	**J**
110-82-7	Cyclohexane	ND	3.7	0.56	ND	1.1	0.16	
78-87-5	1,2-Dichloropropane	ND	2.0	0.24	ND	0.43	0.053	
75-27-4	Bromodichloromethane	ND	2.0	0.28	ND	0.29	0.043	
79-01-6	Trichloroethene	**0.62**	2.0	0.27	**0.12**	0.37	0.050	**J**
123-91-1	1,4-Dioxane	**0.44**	2.0	0.23	**0.12**	0.54	0.065	**J**
80-62-6	Methyl Methacrylate	ND	4.1	0.70	ND	0.99	0.17	
142-82-5	n-Heptane	ND	2.0	0.31	ND	0.49	0.077	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.31	ND	0.46	0.068	
108-10-1	4-Methyl-2-pentanone	**1.1**	2.0	0.27	**0.26**	0.48	0.066	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.41	ND	0.43	0.090	
79-00-5	1,1,2-Trichloroethane	**1.5**	2.0	0.20	**0.28**	0.37	0.037	**J**
108-88-3	Toluene	**13**	2.0	0.24	**3.5**	0.52	0.064	
591-78-6	2-Hexanone	ND	2.0	0.24	ND	0.49	0.060	
124-48-1	Dibromochloromethane	ND	2.0	0.26	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	2.0	0.23	ND	0.26	0.030	
123-86-4	n-Butyl Acetate	**0.96**	2.0	0.27	**0.20**	0.42	0.057	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-07** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-006

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00780

Initial Pressure (psig): -1.15 Final Pressure (psig): 5.40

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**8.6**	2.0	0.44	**1.9**	0.43	0.095	
127-18-4	Tetrachloroethene	**0.92**	2.0	0.26	**0.14**	0.29	0.038	**J**
108-90-7	Chlorobenzene	ND	2.0	0.26	ND	0.43	0.057	
100-41-4	Ethylbenzene	**0.40**	1.9	0.28	**0.093**	0.44	0.064	**J**
179601-23-1	m,p-Xylenes	**1.8**	4.1	0.52	**0.41**	0.94	0.12	**J**
75-25-2	Bromoform	ND	2.0	0.41	ND	0.19	0.039	
100-42-5	Styrene	**0.41**	2.0	0.32	**0.097**	0.46	0.075	**J**
95-47-6	o-Xylene	**0.92**	2.0	0.28	**0.21**	0.45	0.066	**J**
111-84-2	n-Nonane	**48**	2.0	0.33	**9.2**	0.38	0.063	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.27	ND	0.29	0.040	
98-82-8	Cumene	ND	2.0	0.28	ND	0.40	0.058	
80-56-8	alpha-Pinene	**0.60**	1.9	0.30	**0.11**	0.35	0.054	**J**
103-65-1	n-Propylbenzene	**0.87**	2.0	0.28	**0.18**	0.41	0.058	**J**
622-96-8	4-Ethyltoluene	**2.2**	2.0	0.31	**0.44**	0.40	0.064	
108-67-8	1,3,5-Trimethylbenzene	**1.8**	2.0	0.28	**0.37**	0.40	0.058	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.0**	2.0	0.27	**0.82**	0.40	0.056	
100-44-7	Benzyl Chloride	ND	4.1	0.44	ND	0.79	0.086	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.30	ND	0.33	0.049	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.30	ND	0.33	0.050	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.29	ND	0.33	0.049	
5989-27-5	d-Limonene	**1.4**	1.9	0.41	**0.25**	0.34	0.073	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.37	ND	0.20	0.038	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.48	ND	0.26	0.065	
91-20-3	Naphthalene	**0.88**	1.9	0.48	**0.17**	0.36	0.092	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.41	ND	0.18	0.038	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-007

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00096

Initial Pressure (psig): -1.19 Final Pressure (psig): 5.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**140**	2.0	0.49	**81**	1.1	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.0	0.33	**0.48**	0.40	0.066	
74-87-3	Chloromethane	**0.34**	1.9	0.32	**0.16**	0.91	0.16	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.32	ND	0.28	0.045	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.78	0.084	
106-99-0	1,3-Butadiene	ND	2.0	0.33	ND	0.89	0.15	
74-83-9	Bromomethane	ND	1.9	0.28	ND	0.49	0.072	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.73	0.094	
64-17-5	Ethanol	**49**	19	1.4	**26**	10	0.74	**B**
75-05-8	Acetonitrile	**0.50**	2.0	0.49	**0.30**	1.2	0.29	**J, B**
107-02-8	Acrolein	**3.0**	3.8	0.57	**1.3**	1.6	0.25	**J**
67-64-1	Acetone	**23**	20	4.5	**9.8**	8.6	1.9	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.0	0.31	**0.21**	0.36	0.054	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**	7.9	0.83	**0.79**	3.2	0.34	**J**
107-13-1	Acrylonitrile	ND	2.0	0.42	ND	0.90	0.19	
75-35-4	1,1-Dichloroethene	**290**	2.0	0.28	**73**	0.51	0.070	
75-09-2	Methylene Chloride	ND	2.0	0.57	ND	0.59	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.0	0.27	ND	0.64	0.087	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.50**	2.0	0.29	**0.065**	0.26	0.037	**J**
75-15-0	Carbon Disulfide	**13**	4.2	0.60	**4.1**	1.3	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.28	ND	0.50	0.070	
75-34-3	1,1-Dichloroethane	**14**	2.0	0.29	**3.4**	0.49	0.073	
1634-04-4	Methyl tert-Butyl Ether	ND	2.0	0.24	ND	0.57	0.066	
108-05-4	Vinyl Acetate	**8.0**	20	4.5	**2.3**	5.7	1.3	**J**
78-93-3	2-Butanone (MEK)	**5.4**	3.8	0.42	**1.8**	1.3	0.14	**B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-007

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00096

Initial Pressure (psig): -1.19 Final Pressure (psig): 5.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.28	ND	0.50	0.071	
141-78-6	Ethyl Acetate	**1.6**	4.2	1.1	**0.43**	1.2	0.29	**J**
110-54-3	n-Hexane	**0.44**	2.0	0.42	**0.12**	0.58	0.12	**J**
67-66-3	Chloroform	**0.82**	2.0	0.27	**0.17**	0.42	0.055	**J**
109-99-9	Tetrahydrofuran (THF)	**1.1**	2.0	0.25	**0.38**	0.68	0.086	**J, B**
107-06-2	1,2-Dichloroethane	ND	2.0	0.22	ND	0.49	0.055	
71-55-6	1,1,1-Trichloroethane	**23**	2.0	0.25	**4.2**	0.37	0.046	
71-43-2	Benzene	**0.50**	2.0	0.29	**0.16**	0.61	0.091	**J**
56-23-5	Carbon Tetrachloride	**0.34**	2.0	0.28	**0.053**	0.31	0.044	**J**
110-82-7	Cyclohexane	**0.87**	3.8	0.57	**0.25**	1.1	0.16	**J**
78-87-5	1,2-Dichloropropane	ND	2.0	0.25	ND	0.44	0.054	
75-27-4	Bromodichloromethane	ND	2.0	0.29	ND	0.30	0.043	
79-01-6	Trichloroethene	**1.3**	2.0	0.27	**0.23**	0.37	0.051	**J**
123-91-1	1,4-Dioxane	**0.43**	2.0	0.24	**0.12**	0.56	0.066	**J**
80-62-6	Methyl Methacrylate	ND	4.2	0.72	ND	1.0	0.18	
142-82-5	n-Heptane	ND	2.0	0.32	ND	0.50	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.31	ND	0.47	0.069	
108-10-1	4-Methyl-2-pentanone	**1.8**	2.0	0.28	**0.45**	0.49	0.067	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.42	ND	0.44	0.092	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.20	ND	0.37	0.037	
108-88-3	Toluene	**20**	2.0	0.25	**5.4**	0.53	0.065	
591-78-6	2-Hexanone	**1.4**	2.0	0.25	**0.35**	0.50	0.061	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.26	ND	0.24	0.031	
106-93-4	1,2-Dibromoethane	ND	2.0	0.23	ND	0.27	0.030	
123-86-4	n-Butyl Acetate	**1.3**	2.0	0.28	**0.28**	0.43	0.058	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-007

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00096

Initial Pressure (psig): -1.19 Final Pressure (psig): 5.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**9.1**	2.0	0.45	**1.9**	0.44	0.097	
127-18-4	Tetrachloroethene	**13**	2.0	0.26	**1.9**	0.30	0.038	
108-90-7	Chlorobenzene	**0.82**	2.0	0.27	**0.18**	0.43	0.058	**J**
100-41-4	Ethylbenzene	**0.68**	2.0	0.28	**0.16**	0.45	0.065	**J**
179601-23-1	m,p-Xylenes	**3.5**	4.2	0.53	**0.81**	0.96	0.12	**J**
75-25-2	Bromoform	ND	2.0	0.42	ND	0.19	0.040	
100-42-5	Styrene	**0.44**	2.0	0.32	**0.10**	0.47	0.076	**J**
95-47-6	o-Xylene	**2.3**	2.0	0.29	**0.52**	0.46	0.067	
111-84-2	n-Nonane	**49**	2.0	0.34	**9.4**	0.39	0.064	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.28	ND	0.29	0.041	
98-82-8	Cumene	ND	2.0	0.29	ND	0.41	0.059	
80-56-8	alpha-Pinene	**0.78**	2.0	0.31	**0.14**	0.35	0.056	**J**
103-65-1	n-Propylbenzene	**1.1**	2.0	0.29	**0.22**	0.41	0.059	**J**
622-96-8	4-Ethyltoluene	**2.5**	2.0	0.32	**0.50**	0.41	0.065	
108-67-8	1,3,5-Trimethylbenzene	**2.1**	2.0	0.29	**0.44**	0.41	0.059	
95-63-6	1,2,4-Trimethylbenzene	**5.4**	2.0	0.28	**1.1**	0.41	0.057	
100-44-7	Benzyl Chloride	ND	4.2	0.45	ND	0.80	0.088	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.30	ND	0.34	0.050	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.31	ND	0.34	0.052	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.30	ND	0.34	0.050	
5989-27-5	d-Limonene	**2.3**	1.9	0.42	**0.41**	0.35	0.075	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.38	ND	0.20	0.039	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.49	ND	0.27	0.066	
91-20-3	Naphthalene	**1.0**	1.9	0.49	**0.19**	0.37	0.094	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.42	ND	0.19	0.039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-09** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-008

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00673

Initial Pressure (psig): -0.96 Final Pressure (psig): 6.20

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**150**	2.0	0.49	**87**	1.1	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.0	0.33	**0.49**	0.40	0.067	
74-87-3	Chloromethane	**0.60**	1.9	0.33	**0.29**	0.92	0.16	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.32	ND	0.28	0.046	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.79	0.085	
106-99-0	1,3-Butadiene	ND	2.0	0.33	ND	0.89	0.15	
74-83-9	Bromomethane	ND	1.9	0.28	ND	0.49	0.072	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.73	0.095	
64-17-5	Ethanol	**60**	19	1.4	**32**	10	0.75	**B**
75-05-8	Acetonitrile	**1.9**	2.0	0.49	**1.1**	1.2	0.29	**J, B**
107-02-8	Acrolein	**3.7**	3.8	0.57	**1.6**	1.7	0.25	**J**
67-64-1	Acetone	**64**	21	4.6	**27**	8.6	1.9	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.0	0.31	**0.22**	0.36	0.055	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.9**	8.0	0.84	**2.0**	3.2	0.34	**J**
107-13-1	Acrylonitrile	ND	2.0	0.42	ND	0.91	0.19	
75-35-4	1,1-Dichloroethene	**4.8**	2.1	0.28	**1.2**	0.52	0.071	
75-09-2	Methylene Chloride	**0.63**	2.1	0.57	**0.18**	0.59	0.16	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.0	0.27	ND	0.64	0.087	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.51**	2.0	0.29	**0.067**	0.26	0.038	**J**
75-15-0	Carbon Disulfide	**1.2**	4.2	0.61	**0.38**	1.3	0.20	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.28	ND	0.51	0.071	
75-34-3	1,1-Dichloroethane	ND	2.0	0.30	ND	0.49	0.073	
1634-04-4	Methyl tert-Butyl Ether	ND	2.1	0.24	ND	0.57	0.066	
108-05-4	Vinyl Acetate	**6.9**	20	4.6	**2.0**	5.7	1.3	**J**
78-93-3	2-Butanone (MEK)	**12**	3.8	0.42	**4.2**	1.3	0.14	**B**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **SVE-OBS-09** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-008

Test Code:	EPA TO-15	Date Collected:	3/28/19
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	4/3/19
Analyst:	Lusine Hakobyan	Date Analyzed:	4/10/19
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00673		

Initial Pressure (psig): -0.96 Final Pressure (psig): 6.20

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.51	0.072	
141-78-6	Ethyl Acetate	**25**	4.2	1.1	**7.0**	1.2	0.30	
110-54-3	n-Hexane	**0.71**	2.1	0.42	**0.20**	0.58	0.12	**J**
67-66-3	Chloroform	ND	2.1	0.27	ND	0.42	0.055	
109-99-9	Tetrahydrofuran (THF)	**0.26**	2.0	0.25	**0.088**	0.68	0.086	**J, B**
107-06-2	1,2-Dichloroethane	**0.24**	2.0	0.22	**0.059**	0.50	0.055	**J**
71-55-6	1,1,1-Trichloroethane	**3.6**	2.1	0.25	**0.66**	0.38	0.046	
71-43-2	Benzene	**0.56**	2.0	0.29	**0.18**	0.62	0.092	**J**
56-23-5	Carbon Tetrachloride	**0.38**	2.0	0.28	**0.060**	0.31	0.045	**J**
110-82-7	Cyclohexane	ND	3.8	0.57	ND	1.1	0.17	
78-87-5	1,2-Dichloropropane	ND	2.1	0.25	ND	0.44	0.054	
75-27-4	Bromodichloromethane	ND	2.0	0.29	ND	0.30	0.044	
79-01-6	Trichloroethene	**0.29**	2.0	0.27	**0.054**	0.37	0.051	**J**
123-91-1	1,4-Dioxane	**0.71**	2.0	0.24	**0.20**	0.56	0.066	**J**
80-62-6	Methyl Methacrylate	ND	4.2	0.72	ND	1.0	0.18	
142-82-5	n-Heptane	**0.40**	2.1	0.32	**0.097**	0.50	0.079	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.32	ND	0.47	0.070	
108-10-1	4-Methyl-2-pentanone	**3.0**	2.0	0.28	**0.74**	0.49	0.068	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.42	ND	0.44	0.092	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.21	ND	0.38	0.038	
108-88-3	Toluene	**12**	2.0	0.25	**3.3**	0.53	0.066	
591-78-6	2-Hexanone	**5.8**	2.1	0.25	**1.4**	0.50	0.061	
124-48-1	Dibromochloromethane	ND	2.1	0.27	ND	0.24	0.031	
106-93-4	1,2-Dibromoethane	ND	2.1	0.24	ND	0.27	0.031	
123-86-4	n-Butyl Acetate	**1.3**	2.1	0.28	**0.27**	0.43	0.058	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-09** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P1901807-008

Test Code: EPA TO-15 Date Collected: 3/28/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/3/19
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00673

Initial Pressure (psig): -0.96 Final Pressure (psig): 6.20

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**5.7**	2.1	0.46	**1.2**	0.44	0.098	
127-18-4	Tetrachloroethene	**1.6**	2.0	0.26	**0.24**	0.30	0.039	**J**
108-90-7	Chlorobenzene	ND	2.0	0.27	ND	0.44	0.059	
100-41-4	Ethylbenzene	**0.69**	2.0	0.29	**0.16**	0.46	0.066	**J**
179601-23-1	m,p-Xylenes	**2.9**	4.2	0.53	**0.67**	0.96	0.12	**J**
75-25-2	Bromoform	ND	2.0	0.42	ND	0.19	0.040	
100-42-5	Styrene	**0.51**	2.0	0.33	**0.12**	0.47	0.077	**J**
95-47-6	o-Xylene	**1.5**	2.0	0.29	**0.35**	0.46	0.067	**J**
111-84-2	n-Nonane	**33**	2.1	0.34	**6.3**	0.39	0.064	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.28	ND	0.29	0.041	
98-82-8	Cumene	ND	2.0	0.29	ND	0.41	0.060	
80-56-8	alpha-Pinene	**1.1**	2.0	0.31	**0.20**	0.35	0.056	**J**
103-65-1	n-Propylbenzene	**0.75**	2.1	0.29	**0.15**	0.42	0.060	**J**
622-96-8	4-Ethyltoluene	**1.7**	2.0	0.32	**0.34**	0.41	0.066	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.0	0.29	**0.30**	0.41	0.060	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.4**	2.0	0.28	**0.69**	0.41	0.057	
100-44-7	Benzyl Chloride	ND	4.2	0.46	ND	0.81	0.088	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.30	ND	0.34	0.051	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.31	ND	0.34	0.052	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.30	ND	0.34	0.050	
5989-27-5	d-Limonene	**1.7**	1.9	0.42	**0.30**	0.35	0.075	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.38	ND	0.20	0.039	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.49	ND	0.27	0.067	
91-20-3	Naphthalene	ND	1.9	0.49	ND	0.37	0.094	
87-68-3	Hexachlorobutadiene	ND	2.0	0.42	ND	0.19	0.039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	**1.2**	5.1	0.37	**0.62**	2.7	0.20	**J**
75-05-8	Acetonitrile	**0.28**	0.52	0.13	**0.17**	0.31	0.077	**J**
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	**0.18**	1.0	0.11	**0.061**	0.34	0.037	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 4/10/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	**0.092**	0.53	0.067	**0.031**	0.18	0.023	**J**
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 4/10/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	**0.60**	5.1	0.37	**0.32**	2.7	0.20	**J**
75-05-8	Acetonitrile	**0.13**	0.52	0.13	**0.080**	0.31	0.077	**J**
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	**0.15**	1.0	0.11	**0.050**	0.34	0.037	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 4/11/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	**0.077**	0.53	0.067	**0.026**	0.18	0.023	**J**
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901807

Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 4/11/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Project ID: P1901807

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 3/28/19
Analyst: Lusine Hakobyan Date(s) Received: 4/3/19
Sample Type: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/10 - 4/11/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190410-MB	**103**	**102**	**95**	70-130	
Method Blank	P190411-MB	**102**	**100**	**95**	70-130	
Lab Control Sample	P190410-LCS	**101**	**99**	**95**	70-130	
Lab Control Sample	P190411-LCS	**101**	**99**	**97**	70-130	
SVE-OBS-01	P1901807-001	**101**	**100**	**95**	70-130	
SVE-OBS-02	P1901807-002	**104**	**98**	**98**	70-130	
SVE-OBS-03	P1901807-003	**103**	**98**	**97**	70-130	
SVE-OBS-04	P1901807-004	**103**	**97**	**99**	70-130	
SVE-OBS-05	P1901807-005	**104**	**97**	**100**	70-130	
SVE-OBS-07	P1901807-006	**105**	**97**	**98**	70-130	
SVE-OBS-08	P1901807-007	**104**	**96**	**98**	70-130	
SVE-OBS-09	P1901807-008	**104**	**97**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**199**	**94**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**198**	**94**	62-103	
74-87-3	Chloromethane	211	**217**	**103**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**192**	**91**	56-111	
75-01-4	Vinyl Chloride	214	**217**	**101**	57-117	
106-99-0	1,3-Butadiene	210	**208**	**99**	53-134	
74-83-9	Bromomethane	212	**209**	**99**	65-110	
75-00-3	Chloroethane	214	**219**	**102**	64-111	
64-17-5	Ethanol	1,020	**1180**	**116**	57-124	
75-05-8	Acetonitrile	206	**225**	**109**	57-126	
107-02-8	Acrolein	205	**215**	**105**	62-121	
67-64-1	Acetone	1,060	**1120**	**106**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**199**	**94**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**496**	**120**	60-124	
107-13-1	Acrylonitrile	207	**235**	**114**	66-125	
75-35-4	1,1-Dichloroethene	218	**213**	**98**	68-107	
75-09-2	Methylene Chloride	217	**212**	**98**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**254**	**118**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**208**	**96**	59-109	
75-15-0	Carbon Disulfide	218	**212**	**97**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**224**	**105**	70-115	
75-34-3	1,1-Dichloroethane	216	**218**	**101**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**218**	**102**	67-109	
108-05-4	Vinyl Acetate	1,060	**1220**	**115**	68-136	
78-93-3	2-Butanone (MEK)	208	**221**	**106**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**217**	**103**	67-110	
141-78-6	Ethyl Acetate	436	**507**	**116**	64-127	
110-54-3	n-Hexane	216	**235**	**109**	60-115	
67-66-3	Chloroform	217	**209**	**96**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**214**	**99**	65-110	
107-06-2	1,2-Dichloroethane	215	**210**	**98**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**199**	**93**	64-108	
71-43-2	Benzene	211	**199**	**94**	67-106	
56-23-5	Carbon Tetrachloride	212	**202**	**95**	64-112	
110-82-7	Cyclohexane	416	**418**	**100**	67-110	
78-87-5	1,2-Dichloropropane	216	**217**	**100**	66-112	
75-27-4	Bromodichloromethane	215	**215**	**100**	67-113	
79-01-6	Trichloroethene	213	**204**	**96**	66-108	
123-91-1	1,4-Dioxane	214	**221**	**103**	70-116	
80-62-6	Methyl Methacrylate	431	**448**	**104**	73-118	
142-82-5	n-Heptane	215	**215**	**100**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**225**	**105**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**242**	**116**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**237**	**111**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**213**	**99**	68-112	
108-88-3	Toluene	212	**205**	**97**	62-111	
591-78-6	2-Hexanone	214	**257**	**120**	59-128	
124-48-1	Dibromochloromethane	213	**223**	**105**	67-123	
106-93-4	1,2-Dibromoethane	216	**219**	**101**	66-122	
123-86-4	n-Butyl Acetate	219	**263**	**120**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190410-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**230**	**106**	65-114	
127-18-4	Tetrachloroethene	213	**206**	**97**	55-120	
108-90-7	Chlorobenzene	215	**207**	**96**	61-114	
100-41-4	Ethylbenzene	212	**212**	**100**	64-113	
179601-23-1	m,p-Xylenes	426	**448**	**105**	64-114	
75-25-2	Bromoform	213	**225**	**106**	65-132	
100-42-5	Styrene	212	**226**	**107**	67-124	
95-47-6	o-Xylene	214	**224**	**105**	65-114	
111-84-2	n-Nonane	215	**239**	**111**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**228**	**107**	66-119	
98-82-8	Cumene	214	**221**	**103**	61-116	
80-56-8	alpha-Pinene	211	**213**	**101**	65-120	
103-65-1	n-Propylbenzene	218	**232**	**106**	63-117	
622-96-8	4-Ethyltoluene	214	**245**	**114**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**217**	**101**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**238**	**111**	61-122	
100-44-7	Benzyl Chloride	217	**226**	**104**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**233**	**108**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**223**	**103**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**229**	**106**	61-126	
5989-27-5	d-Limonene	211	**248**	**118**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**227**	**109**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**248**	**116**	62-141	
91-20-3	Naphthalene	203	**232**	**114**	62-145	
87-68-3	Hexachlorobutadiene	209	**204**	**98**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**202**	**96**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**193**	**92**	62-103	
74-87-3	Chloromethane	211	**202**	**96**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**187**	**89**	56-111	
75-01-4	Vinyl Chloride	214	**211**	**99**	57-117	
106-99-0	1,3-Butadiene	210	**199**	**95**	53-134	
74-83-9	Bromomethane	212	**204**	**96**	65-110	
75-00-3	Chloroethane	214	**213**	**100**	64-111	
64-17-5	Ethanol	1,020	**1140**	**112**	57-124	
75-05-8	Acetonitrile	206	**219**	**106**	57-126	
107-02-8	Acrolein	205	**211**	**103**	62-121	
67-64-1	Acetone	1,060	**1090**	**103**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**196**	**93**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**468**	**113**	60-124	
107-13-1	Acrylonitrile	207	**231**	**112**	66-125	
75-35-4	1,1-Dichloroethene	218	**212**	**97**	68-107	
75-09-2	Methylene Chloride	217	**209**	**96**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**250**	**116**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**206**	**95**	59-109	
75-15-0	Carbon Disulfide	218	**210**	**96**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**221**	**103**	70-115	
75-34-3	1,1-Dichloroethane	216	**216**	**100**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**216**	**101**	67-109	
108-05-4	Vinyl Acetate	1,060	**1210**	**114**	68-136	
78-93-3	2-Butanone (MEK)	208	**220**	**106**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**215**	**102**	67-110	
141-78-6	Ethyl Acetate	436	**505**	**116**	64-127	
110-54-3	n-Hexane	216	**233**	**108**	60-115	
67-66-3	Chloroform	217	**208**	**96**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**213**	**99**	65-110	
107-06-2	1,2-Dichloroethane	215	**208**	**97**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**200**	**93**	64-108	
71-43-2	Benzene	211	**198**	**94**	67-106	
56-23-5	Carbon Tetrachloride	212	**202**	**95**	64-112	
110-82-7	Cyclohexane	416	**414**	**100**	67-110	
78-87-5	1,2-Dichloropropane	216	**217**	**100**	66-112	
75-27-4	Bromodichloromethane	215	**215**	**100**	67-113	
79-01-6	Trichloroethene	213	**203**	**95**	66-108	
123-91-1	1,4-Dioxane	214	**219**	**102**	70-116	
80-62-6	Methyl Methacrylate	431	**447**	**104**	73-118	
142-82-5	n-Heptane	215	**217**	**101**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**226**	**106**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**242**	**116**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**238**	**112**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**213**	**99**	68-112	
108-88-3	Toluene	212	**203**	**96**	62-111	
591-78-6	2-Hexanone	214	**253**	**118**	59-128	
124-48-1	Dibromochloromethane	213	**222**	**104**	67-123	
106-93-4	1,2-Dibromoethane	216	**217**	**100**	66-122	
123-86-4	n-Butyl Acetate	219	**260**	**119**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901807
Client Project ID: **SVE Performance Monitoring / KUH0-19-010** ALS Sample ID: P190411-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/11/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**227**	**105**	65-114	
127-18-4	Tetrachloroethene	213	**205**	**96**	55-120	
108-90-7	Chlorobenzene	215	**205**	**95**	61-114	
100-41-4	Ethylbenzene	212	**211**	**100**	64-113	
179601-23-1	m,p-Xylenes	426	**443**	**104**	64-114	
75-25-2	Bromoform	213	**223**	**105**	65-132	
100-42-5	Styrene	212	**223**	**105**	67-124	
95-47-6	o-Xylene	214	**221**	**103**	65-114	
111-84-2	n-Nonane	215	**235**	**109**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**225**	**105**	66-119	
98-82-8	Cumene	214	**218**	**102**	61-116	
80-56-8	alpha-Pinene	211	**211**	**100**	65-120	
103-65-1	n-Propylbenzene	218	**229**	**105**	63-117	
622-96-8	4-Ethyltoluene	214	**239**	**112**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**214**	**100**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**234**	**109**	61-122	
100-44-7	Benzyl Chloride	217	**225**	**104**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**231**	**107**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**222**	**103**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**227**	**105**	61-126	
5989-27-5	d-Limonene	211	**244**	**116**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**225**	**108**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**245**	**114**	62-141	
91-20-3	Naphthalene	203	**231**	**114**	62-145	
87-68-3	Hexachlorobutadiene	209	**203**	**97**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

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www.alsglobal.com

LABORATORY REPORT

July 11, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE Performance Monitoring / KUHO-19-010

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on June 25, 2019. For your reference, these analyses have been assigned our service request number P1903775.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 12:57 pm, Jul 11, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1903775
Project: SVE Performance Monitoring / KUHO-19-010

CASE NARRATIVE

The samples were received intact under chain of custody on June 25, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1903775

Project ID: SVE Performance Monitoring / KUHO-19-010

Date Received: 6/25/2019

Time Received: 13:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SVE-OBS-01	P1903775-001	Air	6/20/2019	10:23	1SS00874	-0.40	5.74	X
SVE-OBS-02	P1903775-002	Air	6/20/2019	10:30	1SS00962	-0.24	6.17	X
SVE-OBS-03	P1903775-003	Air	6/20/2019	10:40	1SC00202	-0.23	5.15	X
SVE-OBS-04	P1903775-004	Air	6/20/2019	10:50	1SC00772	-0.14	5.41	X
SVE-OBS-05	P1903775-005	Air	6/20/2019	11:01	1SS00945	1.13	5.18	X
SVE-OBS-06	P1903775-006	Air	6/20/2019	11:14	1SC00603	-0.45	5.20	X
SVE-OBS-07	P1903775-007	Air	6/20/2019	11:31	1SC01295	-0.98	5.28	X
SVE-OBS-08	P1903775-008	Air	6/20/2019	11:37	1SC00360	-0.60	5.83	X
SVE-OBS-09	P1903775-009	Air	6/20/2019	11:50	1SC00266	-1.31	5.50	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P1903775

Company Name & Address (Reporting Information)
Environmental Management Services
P.O. Box 15369
Hattiesburg, MS 39404

Project Name: SVE Performance Monitoring
Project Number: KUHO-19-010
P.O. # / Billing Information: KUHO-19-010 Same As Reporting

Project Manager: Jeremy Van Slyke
Phone: 601 544 3674
Fax: 601 544 0504
Email Address for Result Reporting: jvanslyke@env-mgt.com
Sampler (Print & Sign): Jeremy Van Slyke

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC. SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
SVE-OBS-01	1	6.20.19	1023	ISS00874				1L	X		
SVE-OBS-02	2	6.20.19	1030	ISS00962				1L	X		
SVE-OBS-03	3	6.20.19	1040	ISC00202				1L	X		
SVE-OBS-04	4	6.20.19	1050	ISC00772				1L	X		
SVE-OBS-05	5	6.20.19	1101	ISS00945				1L	X		
SVE-OBS-06	6	6.20.19	1114	ISC00603				1L	X		
SVE-OBS-07	7	6.20.19	1131	ISC01295				1L	X		
SVE-OBS-08	8	6.20.19	1137	ISC00360				1L	X		
SVE-OBS-09	9	6.20.19	1150	ISC00266				1L	X		

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Jeremy Van Slyke	6.21.19	1050		6/25/19	13:00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____°C

ALS Environmental
Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1903775

Project: SVE Performance Monitoring / KUHO-19-010

Sample(s) received on: 6/25/19 Date opened: 6/25/19 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1903775-001.01	1.0 L Source Silonite Canister					
P1903775-002.01	1.0 L Source Silonite Canister					
P1903775-003.01	1.0 L Source Can					
P1903775-004.01	1.0 L Source Can					
P1903775-005.01	1.0 L Source Silonite Canister					
P1903775-006.01	1.0 L Source Can					
P1903775-007.01	1.0 L Source Can					
P1903775-008.01	1.0 L Source Can					
P1903775-009.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-01** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-001

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.74

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**57**	1.9	0.46	**33**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	1.9	0.31	**0.81**	0.38	0.063	
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.87	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**0.83**	1.8	0.30	**0.12**	0.26	0.043	**J**
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.74	0.080	
106-99-0	1,3-Butadiene	ND	1.9	0.31	ND	0.84	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.46	0.068	
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.69	0.089	
64-17-5	Ethanol	**55**	18	1.3	**29**	9.7	0.70	
75-05-8	Acetonitrile	ND	1.9	0.46	ND	1.1	0.28	
107-02-8	Acrolein	**0.63**	3.6	0.54	**0.27**	1.6	0.23	**J**
67-64-1	Acetone	**37**	19	4.3	**16**	8.1	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.6**	1.9	0.29	**0.28**	0.34	0.052	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	7.5	0.79	**1.3**	3.1	0.32	**J**
107-13-1	Acrylonitrile	ND	1.9	0.39	ND	0.86	0.18	
75-35-4	1,1-Dichloroethene	**5.1**	1.9	0.26	**1.3**	0.49	0.067	
75-09-2	Methylene Chloride	ND	1.9	0.54	ND	0.56	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.61	0.082	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**2.9**	1.9	0.27	**0.38**	0.25	0.035	
75-15-0	Carbon Disulfide	**7.7**	3.9	0.57	**2.5**	1.3	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.48	0.067	
75-34-3	1,1-Dichloroethane	**1.1**	1.9	0.28	**0.28**	0.46	0.069	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.23	ND	0.54	0.062	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.4	1.2	
78-93-3	2-Butanone (MEK)	**6.4**	3.6	0.39	**2.2**	1.2	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-01** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-001

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.74

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.068	
141-78-6	Ethyl Acetate	**1.2**	3.9	1.0	**0.34**	1.1	0.28	**J**
110-54-3	n-Hexane	**1.9**	1.9	0.39	**0.55**	0.55	0.11	
67-66-3	Chloroform	**0.80**	1.9	0.25	**0.16**	0.40	0.052	**J**
109-99-9	Tetrahydrofuran (THF)	**0.75**	1.9	0.24	**0.25**	0.64	0.081	**J**
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.47	0.052	
71-55-6	1,1,1-Trichloroethane	**22**	1.9	0.24	**4.0**	0.35	0.043	
71-43-2	Benzene	**0.29**	1.9	0.28	**0.092**	0.58	0.086	**J**
56-23-5	Carbon Tetrachloride	**0.42**	1.9	0.26	**0.067**	0.30	0.042	**J**
110-82-7	Cyclohexane	**0.61**	3.6	0.54	**0.18**	1.0	0.16	**J**
78-87-5	1,2-Dichloropropane	ND	1.9	0.24	ND	0.42	0.051	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.28	0.041	
79-01-6	Trichloroethene	**0.43**	1.9	0.26	**0.079**	0.35	0.048	**J**
123-91-1	1,4-Dioxane	**3.1**	1.9	0.23	**0.87**	0.53	0.063	
80-62-6	Methyl Methacrylate	ND	3.9	0.68	ND	0.96	0.17	
142-82-5	n-Heptane	**0.48**	1.9	0.30	**0.12**	0.47	0.074	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.44	0.065	
108-10-1	4-Methyl-2-pentanone	**3.1**	1.9	0.26	**0.77**	0.46	0.064	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.42	0.087	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**27**	1.9	0.23	**7.3**	0.50	0.062	
591-78-6	2-Hexanone	**0.51**	1.9	0.24	**0.12**	0.47	0.058	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**3.1**	1.9	0.26	**0.65**	0.41	0.055	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-01** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-001

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.74

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.51**	1.9	0.43	**0.11**	0.41	0.092	**J**
127-18-4	Tetrachloroethene	**3.2**	1.9	0.25	**0.47**	0.28	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.41	0.055	
100-41-4	Ethylbenzene	**1.5**	1.9	0.27	**0.35**	0.43	0.062	**J**
179601-23-1	m,p-Xylenes	**7.3**	3.9	0.50	**1.7**	0.91	0.12	
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.038	
100-42-5	Styrene	**0.43**	1.9	0.31	**0.10**	0.45	0.072	**J**
95-47-6	o-Xylene	**4.2**	1.9	0.28	**0.97**	0.44	0.063	
111-84-2	n-Nonane	**0.92**	1.9	0.32	**0.18**	0.37	0.061	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.28	0.039	
98-82-8	Cumene	**0.30**	1.9	0.28	**0.060**	0.39	0.056	**J**
80-56-8	alpha-Pinene	**1.4**	1.9	0.29	**0.24**	0.33	0.053	**J**
103-65-1	n-Propylbenzene	**0.89**	1.9	0.28	**0.18**	0.39	0.056	**J**
622-96-8	4-Ethyltoluene	**1.1**	1.9	0.30	**0.21**	0.39	0.062	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.1**	1.9	0.28	**0.22**	0.39	0.056	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.3**	1.9	0.26	**0.67**	0.39	0.054	
100-44-7	Benzyl Chloride	ND	3.9	0.43	ND	0.76	0.083	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.049	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	ND	1.8	0.39	ND	0.33	0.071	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.26	0.063	
91-20-3	Naphthalene	ND	1.8	0.46	ND	0.35	0.089	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-02** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-002

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -0.24 Final Pressure (psig): 6.17

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**35**	1.9	0.47	**20**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	1.9	0.31	**0.55**	0.38	0.063	
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.87	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**0.31**	1.8	0.30	**0.045**	0.26	0.043	**J**
75-01-4	Vinyl Chloride	ND	1.9	0.21	ND	0.75	0.080	
106-99-0	1,3-Butadiene	ND	1.9	0.32	ND	0.85	0.14	
74-83-9	Bromomethane	ND	1.8	0.27	ND	0.46	0.069	
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.70	0.090	
64-17-5	Ethanol	**47**	18	1.3	**25**	9.7	0.71	
75-05-8	Acetonitrile	ND	1.9	0.47	ND	1.1	0.28	
107-02-8	Acrolein	ND	3.6	0.54	ND	1.6	0.24	
67-64-1	Acetone	**49**	19	4.3	**21**	8.2	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	1.9	0.29	**0.19**	0.34	0.052	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.6	0.79	ND	3.1	0.32	
107-13-1	Acrylonitrile	ND	1.9	0.40	ND	0.86	0.18	
75-35-4	1,1-Dichloroethene	**2.6**	1.9	0.27	**0.64**	0.49	0.067	
75-09-2	Methylene Chloride	ND	1.9	0.54	ND	0.56	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.61	0.083	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1.1**	1.9	0.27	**0.14**	0.25	0.036	**J**
75-15-0	Carbon Disulfide	**8.8**	4.0	0.58	**2.8**	1.3	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.067	
75-34-3	1,1-Dichloroethane	**0.36**	1.9	0.28	**0.089**	0.46	0.069	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.23	ND	0.54	0.063	
108-05-4	Vinyl Acetate	ND	19	4.3	ND	5.4	1.2	
78-93-3	2-Butanone (MEK)	**4.4**	3.6	0.40	**1.5**	1.2	0.13	

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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-02** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-002

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -0.24 Final Pressure (psig): 6.17

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.48	0.068	
141-78-6	Ethyl Acetate	ND	4.0	1.0	ND	1.1	0.28	
110-54-3	n-Hexane	**0.90**	1.9	0.40	**0.26**	0.55	0.11	**J**
67-66-3	Chloroform	**0.64**	1.9	0.26	**0.13**	0.40	0.052	**J**
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.24	ND	0.65	0.082	
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.47	0.052	
71-55-6	1,1,1-Trichloroethane	**13**	1.9	0.24	**2.4**	0.36	0.044	
71-43-2	Benzene	**0.57**	1.9	0.28	**0.18**	0.59	0.087	**J**
56-23-5	Carbon Tetrachloride	**0.27**	1.9	0.27	**0.042**	0.30	0.042	**J**
110-82-7	Cyclohexane	ND	3.6	0.54	ND	1.0	0.16	
78-87-5	1,2-Dichloropropane	ND	1.9	0.24	ND	0.42	0.051	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.28	0.041	
79-01-6	Trichloroethene	ND	1.9	0.26	ND	0.36	0.048	
123-91-1	1,4-Dioxane	**1.2**	1.9	0.23	**0.34**	0.53	0.063	**J**
80-62-6	Methyl Methacrylate	ND	4.0	0.68	ND	0.97	0.17	
142-82-5	n-Heptane	**0.36**	1.9	0.31	**0.088**	0.47	0.075	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.44	0.066	
108-10-1	4-Methyl-2-pentanone	**1.9**	1.9	0.26	**0.47**	0.47	0.064	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.40	ND	0.42	0.087	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.36	0.036	
108-88-3	Toluene	**20**	1.9	0.23	**5.4**	0.51	0.062	
591-78-6	2-Hexanone	**0.48**	1.9	0.24	**0.12**	0.47	0.058	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.029	
123-86-4	n-Butyl Acetate	**2.2**	1.9	0.26	**0.47**	0.41	0.055	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-02** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-002

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -0.24 Final Pressure (psig): 6.17

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.48**	1.9	0.43	**0.10**	0.42	0.093	**J**
127-18-4	Tetrachloroethene	**1.5**	1.9	0.25	**0.22**	0.28	0.037	**J**
108-90-7	Chlorobenzene	ND	1.9	0.26	ND	0.41	0.056	
100-41-4	Ethylbenzene	**1.3**	1.9	0.27	**0.29**	0.43	0.062	**J**
179601-23-1	m,p-Xylenes	**6.1**	4.0	0.50	**1.4**	0.91	0.12	
75-25-2	Bromoform	ND	1.9	0.40	ND	0.18	0.038	
100-42-5	Styrene	**0.35**	1.9	0.31	**0.081**	0.45	0.073	**J**
95-47-6	o-Xylene	**3.3**	1.9	0.28	**0.77**	0.44	0.064	
111-84-2	n-Nonane	**0.94**	1.9	0.32	**0.18**	0.37	0.061	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.27	ND	0.28	0.039	
98-82-8	Cumene	ND	1.9	0.28	ND	0.39	0.056	
80-56-8	alpha-Pinene	**1.1**	1.9	0.30	**0.19**	0.34	0.053	**J**
103-65-1	n-Propylbenzene	**0.57**	1.9	0.28	**0.12**	0.40	0.056	**J**
622-96-8	4-Ethyltoluene	**0.88**	1.9	0.31	**0.18**	0.39	0.062	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.92**	1.9	0.28	**0.19**	0.39	0.056	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.8**	1.9	0.27	**0.58**	0.39	0.054	
100-44-7	Benzyl Chloride	ND	4.0	0.43	ND	0.77	0.083	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.30	ND	0.32	0.049	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
5989-27-5	d-Limonene	ND	1.8	0.40	ND	0.33	0.071	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.36	ND	0.19	0.037	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.47	ND	0.26	0.063	
91-20-3	Naphthalene	ND	1.8	0.47	ND	0.35	0.089	
87-68-3	Hexachlorobutadiene	ND	1.9	0.40	ND	0.18	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-003

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.15

Container Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**150**	2.4	0.59	**85**	1.4	0.35	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	2.4	0.40	**0.41**	0.48	0.080	**J**
74-87-3	Chloromethane	**0.70**	2.3	0.39	**0.34**	1.1	0.19	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.3	0.38	ND	0.33	0.055	
75-01-4	Vinyl Chloride	ND	2.4	0.26	ND	0.95	0.10	
106-99-0	1,3-Butadiene	ND	2.4	0.40	ND	1.1	0.18	
74-83-9	Bromomethane	ND	2.3	0.34	ND	0.59	0.087	
75-00-3	Chloroethane	ND	2.3	0.30	ND	0.88	0.11	
64-17-5	Ethanol	**40**	23	1.7	**21**	12	0.90	
75-05-8	Acetonitrile	ND	2.4	0.59	ND	1.4	0.35	
107-02-8	Acrolein	**1.7**	4.6	0.69	**0.75**	2.0	0.30	**J**
67-64-1	Acetone	**110**	25	5.5	**48**	10	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	2.4	0.37	**0.19**	0.43	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	9.6	1.0	**1.2**	3.9	0.41	**J**
107-13-1	Acrylonitrile	ND	2.4	0.50	ND	1.1	0.23	
75-35-4	1,1-Dichloroethene	**2.3**	2.5	0.34	**0.57**	0.62	0.085	**J**
75-09-2	Methylene Chloride	ND	2.5	0.69	ND	0.71	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.4	0.33	ND	0.77	0.11	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.46**	2.4	0.35	**0.060**	0.32	0.045	**J**
75-15-0	Carbon Disulfide	**5.6**	5.0	0.73	**1.8**	1.6	0.23	
156-60-5	trans-1,2-Dichloroethene	ND	2.4	0.34	ND	0.61	0.085	
75-34-3	1,1-Dichloroethane	ND	2.4	0.36	ND	0.59	0.088	
1634-04-4	Methyl tert-Butyl Ether	ND	2.5	0.29	ND	0.68	0.080	
108-05-4	Vinyl Acetate	**8.5**	24	5.5	**2.4**	6.9	1.6	**J**
78-93-3	2-Butanone (MEK)	**16**	4.6	0.50	**5.5**	1.5	0.17	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-003

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.15

Container Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.4	0.34	ND	0.61	0.086	
141-78-6	Ethyl Acetate	**7.3**	5.0	1.3	**2.0**	1.4	0.35	
110-54-3	n-Hexane	**8.4**	2.5	0.50	**2.4**	0.70	0.14	
67-66-3	Chloroform	ND	2.5	0.32	ND	0.51	0.066	
109-99-9	Tetrahydrofuran (THF)	**1.4**	2.4	0.31	**0.48**	0.82	0.10	**J**
107-06-2	1,2-Dichloroethane	ND	2.4	0.27	ND	0.60	0.067	
71-55-6	1,1,1-Trichloroethane	**1.7**	2.5	0.30	**0.31**	0.45	0.055	**J**
71-43-2	Benzene	ND	2.4	0.35	ND	0.74	0.11	
56-23-5	Carbon Tetrachloride	**0.35**	2.4	0.34	**0.055**	0.38	0.054	**J**
110-82-7	Cyclohexane	**1.1**	4.6	0.69	**0.31**	1.3	0.20	**J**
78-87-5	1,2-Dichloropropane	ND	2.5	0.30	ND	0.53	0.065	
75-27-4	Bromodichloromethane	ND	2.4	0.35	ND	0.36	0.053	
79-01-6	Trichloroethene	ND	2.4	0.33	ND	0.45	0.061	
123-91-1	1,4-Dioxane	**1.3**	2.4	0.29	**0.37**	0.67	0.080	**J**
80-62-6	Methyl Methacrylate	ND	5.0	0.87	ND	1.2	0.21	
142-82-5	n-Heptane	**1.8**	2.5	0.39	**0.44**	0.60	0.095	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	0.38	ND	0.56	0.084	
108-10-1	4-Methyl-2-pentanone	**23**	2.4	0.33	**5.5**	0.59	0.081	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.50	ND	0.53	0.11	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.25	ND	0.45	0.045	
108-88-3	Toluene	**33**	2.4	0.30	**8.6**	0.64	0.079	
591-78-6	2-Hexanone	**0.84**	2.5	0.30	**0.21**	0.60	0.074	**J**
124-48-1	Dibromochloromethane	ND	2.5	0.32	ND	0.29	0.038	
106-93-4	1,2-Dibromoethane	ND	2.5	0.28	ND	0.32	0.037	
123-86-4	n-Butyl Acetate	**39**	2.5	0.33	**8.3**	0.52	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-03** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-003

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.15

Container Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.88**	2.5	0.55	**0.19**	0.53	0.12	**J**
127-18-4	Tetrachloroethene	**1.3**	2.4	0.32	**0.20**	0.36	0.046	**J**
108-90-7	Chlorobenzene	ND	2.4	0.32	ND	0.53	0.070	
100-41-4	Ethylbenzene	**8.6**	2.4	0.34	**2.0**	0.55	0.079	
179601-23-1	m,p-Xylenes	**40**	5.0	0.64	**9.2**	1.2	0.15	
75-25-2	Bromoform	ND	2.4	0.50	ND	0.23	0.049	
100-42-5	Styrene	**0.56**	2.4	0.39	**0.13**	0.57	0.092	**J**
95-47-6	o-Xylene	**39**	2.4	0.35	**8.9**	0.56	0.081	
111-84-2	n-Nonane	**1.5**	2.5	0.41	**0.30**	0.47	0.078	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.34	ND	0.35	0.049	
98-82-8	Cumene	**1.2**	2.4	0.35	**0.25**	0.49	0.072	**J**
80-56-8	alpha-Pinene	**3.7**	2.4	0.37	**0.67**	0.43	0.067	
103-65-1	n-Propylbenzene	**2.7**	2.5	0.35	**0.54**	0.50	0.072	
622-96-8	4-Ethyltoluene	**3.9**	2.4	0.39	**0.79**	0.49	0.079	
108-67-8	1,3,5-Trimethylbenzene	**5.1**	2.4	0.35	**1.0**	0.49	0.072	
95-63-6	1,2,4-Trimethylbenzene	**12**	2.4	0.34	**2.4**	0.49	0.069	
100-44-7	Benzyl Chloride	ND	5.0	0.55	ND	0.97	0.11	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.37	ND	0.41	0.061	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.37	ND	0.41	0.062	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.36	ND	0.41	0.060	
5989-27-5	d-Limonene	ND	2.3	0.50	ND	0.42	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	0.46	ND	0.25	0.047	
120-82-1	1,2,4-Trichlorobenzene	ND	2.4	0.59	ND	0.33	0.080	
91-20-3	Naphthalene	ND	2.3	0.59	ND	0.44	0.11	
87-68-3	Hexachlorobutadiene	ND	2.4	0.50	ND	0.23	0.047	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-004

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00772

Initial Pressure (psig): -0.14 Final Pressure (psig): 5.41

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**63**	1.8	0.45	**36**	1.0	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	1.8	0.30	**0.41**	0.36	0.061	
74-87-3	Chloromethane	**0.45**	1.7	0.30	**0.22**	0.84	0.14	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.29	ND	0.25	0.041	
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.72	0.077	
106-99-0	1,3-Butadiene	ND	1.8	0.30	ND	0.81	0.14	
74-83-9	Bromomethane	ND	1.7	0.26	ND	0.44	0.066	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.67	0.086	
64-17-5	Ethanol	**49**	18	1.3	**26**	9.3	0.68	
75-05-8	Acetonitrile	**0.63**	1.8	0.45	**0.38**	1.1	0.27	**J**
107-02-8	Acrolein	**3.0**	3.5	0.52	**1.3**	1.5	0.23	**J**
67-64-1	Acetone	**69**	19	4.1	**29**	7.8	1.7	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	1.8	0.28	**0.19**	0.33	0.050	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**	7.2	0.76	**0.81**	2.9	0.31	**J**
107-13-1	Acrylonitrile	ND	1.8	0.38	ND	0.83	0.17	
75-35-4	1,1-Dichloroethene	**0.39**	1.9	0.26	**0.099**	0.47	0.064	**J**
75-09-2	Methylene Chloride	ND	1.9	0.52	ND	0.54	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.8	0.25	ND	0.58	0.079	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.95**	1.8	0.26	**0.12**	0.24	0.034	**J**
75-15-0	Carbon Disulfide	**6.7**	3.8	0.55	**2.2**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	0.26	ND	0.46	0.064	
75-34-3	1,1-Dichloroethane	ND	1.8	0.27	ND	0.44	0.067	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.52	0.060	
108-05-4	Vinyl Acetate	**9.3**	18	4.1	**2.6**	5.2	1.2	**J**
78-93-3	2-Butanone (MEK)	**7.2**	3.5	0.38	**2.4**	1.2	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-004

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00772

Initial Pressure (psig): -0.14 Final Pressure (psig): 5.41

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.26	ND	0.46	0.065	
141-78-6	Ethyl Acetate	**43**	3.8	0.97	**12**	1.1	0.27	
110-54-3	n-Hexane	**3.9**	1.9	0.38	**1.1**	0.53	0.11	
67-66-3	Chloroform	ND	1.9	0.24	ND	0.38	0.050	
109-99-9	Tetrahydrofuran (THF)	ND	1.8	0.23	ND	0.62	0.078	
107-06-2	1,2-Dichloroethane	ND	1.8	0.20	ND	0.45	0.050	
71-55-6	1,1,1-Trichloroethane	**3.3**	1.9	0.23	**0.60**	0.34	0.042	
71-43-2	Benzene	**0.40**	1.8	0.27	**0.12**	0.56	0.083	**J**
56-23-5	Carbon Tetrachloride	**0.26**	1.8	0.26	**0.042**	0.29	0.041	**J**
110-82-7	Cyclohexane	**0.52**	3.5	0.52	**0.15**	1.0	0.15	**J**
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.40	0.049	
75-27-4	Bromodichloromethane	ND	1.8	0.27	ND	0.27	0.040	
79-01-6	Trichloroethene	ND	1.8	0.25	ND	0.34	0.046	
123-91-1	1,4-Dioxane	**0.65**	1.8	0.22	**0.18**	0.51	0.060	**J**
80-62-6	Methyl Methacrylate	ND	3.8	0.66	ND	0.93	0.16	
142-82-5	n-Heptane	**1.8**	1.9	0.29	**0.43**	0.45	0.072	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.29	ND	0.43	0.063	
108-10-1	4-Methyl-2-pentanone	**3.7**	1.8	0.25	**0.90**	0.45	0.061	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.38	ND	0.40	0.084	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.34	0.034	
108-88-3	Toluene	**18**	1.8	0.22	**4.8**	0.49	0.060	
591-78-6	2-Hexanone	**1.0**	1.9	0.23	**0.26**	0.45	0.056	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.24	ND	0.22	0.028	
106-93-4	1,2-Dibromoethane	ND	1.9	0.21	ND	0.24	0.028	
123-86-4	n-Butyl Acetate	**10**	1.9	0.25	**2.2**	0.39	0.053	

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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-04** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-004

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00772

Initial Pressure (psig): -0.14 Final Pressure (psig): 5.41

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.61**	1.9	0.41	**0.13**	0.40	0.089	**J**
127-18-4	Tetrachloroethene	**1.2**	1.8	0.24	**0.17**	0.27	0.035	**J**
108-90-7	Chlorobenzene	ND	1.8	0.24	ND	0.40	0.053	
100-41-4	Ethylbenzene	**7.6**	1.8	0.26	**1.8**	0.41	0.060	
179601-23-1	m,p-Xylenes	**32**	3.8	0.48	**7.4**	0.87	0.11	
75-25-2	Bromoform	ND	1.8	0.38	ND	0.18	0.037	
100-42-5	Styrene	**0.56**	1.8	0.30	**0.13**	0.43	0.070	**J**
95-47-6	o-Xylene	**20**	1.8	0.27	**4.5**	0.42	0.061	
111-84-2	n-Nonane	**1.2**	1.9	0.31	**0.22**	0.36	0.059	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.27	0.037	
98-82-8	Cumene	**0.65**	1.8	0.27	**0.13**	0.37	0.054	**J**
80-56-8	alpha-Pinene	**2.5**	1.8	0.28	**0.45**	0.32	0.051	
103-65-1	n-Propylbenzene	**1.5**	1.9	0.27	**0.31**	0.38	0.054	**J**
622-96-8	4-Ethyltoluene	**2.1**	1.8	0.29	**0.42**	0.37	0.060	
108-67-8	1,3,5-Trimethylbenzene	**2.6**	1.8	0.27	**0.53**	0.37	0.054	
95-63-6	1,2,4-Trimethylbenzene	**6.5**	1.8	0.26	**1.3**	0.37	0.052	
100-44-7	Benzyl Chloride	ND	3.8	0.41	ND	0.73	0.080	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.046	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.047	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.27	ND	0.31	0.045	
5989-27-5	d-Limonene	ND	1.8	0.38	ND	0.32	0.068	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.45	ND	0.25	0.060	
91-20-3	Naphthalene	ND	1.8	0.45	ND	0.34	0.086	
87-68-3	Hexachlorobutadiene	ND	1.8	0.38	ND	0.17	0.036	

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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-005

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): 1.13 Final Pressure (psig): 5.18

Container Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**120**	1.6	0.41	**72**	0.95	0.24	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	1.6	0.27	**0.33**	0.33	0.055	**J**
74-87-3	Chloromethane	**0.35**	1.6	0.27	**0.17**	0.76	0.13	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.6	0.26	ND	0.23	0.038	
75-01-4	Vinyl Chloride	ND	1.7	0.18	ND	0.65	0.070	
106-99-0	1,3-Butadiene	ND	1.6	0.28	ND	0.74	0.13	
74-83-9	Bromomethane	ND	1.6	0.23	ND	0.41	0.060	
75-00-3	Chloroethane	ND	1.6	0.21	ND	0.61	0.079	
64-17-5	Ethanol	**54**	16	1.2	**29**	8.5	0.62	
75-05-8	Acetonitrile	ND	1.6	0.41	ND	0.98	0.24	
107-02-8	Acrolein	ND	3.2	0.47	ND	1.4	0.21	
67-64-1	Acetone	**58**	17	3.8	**24**	7.2	1.6	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.84**	1.7	0.26	**0.15**	0.30	0.045	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.6	0.69	ND	2.7	0.28	
107-13-1	Acrylonitrile	ND	1.6	0.35	ND	0.76	0.16	
75-35-4	1,1-Dichloroethene	ND	1.7	0.23	ND	0.43	0.059	
75-09-2	Methylene Chloride	ND	1.7	0.47	ND	0.49	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	0.23	ND	0.53	0.072	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.40**	1.7	0.24	**0.052**	0.22	0.031	**J**
75-15-0	Carbon Disulfide	**2.2**	3.5	0.50	**0.72**	1.1	0.16	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.7	0.23	ND	0.42	0.059	
75-34-3	1,1-Dichloroethane	ND	1.6	0.25	ND	0.40	0.061	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.20	ND	0.47	0.055	
108-05-4	Vinyl Acetate	ND	17	3.8	ND	4.7	1.1	
78-93-3	2-Butanone (MEK)	**7.2**	3.2	0.35	**2.4**	1.1	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-005

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): 1.13 Final Pressure (psig): 5.18

Container Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.7	0.24	ND	0.42	0.060	
141-78-6	Ethyl Acetate	**4.2**	3.5	0.88	**1.2**	0.96	0.24	
110-54-3	n-Hexane	**5.6**	1.7	0.35	**1.6**	0.48	0.098	
67-66-3	Chloroform	ND	1.7	0.22	ND	0.35	0.046	
109-99-9	Tetrahydrofuran (THF)	**0.31**	1.7	0.21	**0.10**	0.57	0.072	**J**
107-06-2	1,2-Dichloroethane	ND	1.7	0.19	ND	0.41	0.046	
71-55-6	1,1,1-Trichloroethane	**0.56**	1.7	0.21	**0.10**	0.31	0.038	**J**
71-43-2	Benzene	ND	1.6	0.24	ND	0.51	0.076	
56-23-5	Carbon Tetrachloride	ND	1.6	0.23	ND	0.26	0.037	
110-82-7	Cyclohexane	**0.59**	3.2	0.47	**0.17**	0.92	0.14	**J**
78-87-5	1,2-Dichloropropane	ND	1.7	0.21	ND	0.37	0.045	
75-27-4	Bromodichloromethane	ND	1.7	0.24	ND	0.25	0.036	
79-01-6	Trichloroethene	ND	1.7	0.23	ND	0.31	0.042	
123-91-1	1,4-Dioxane	**0.27**	1.7	0.20	**0.076**	0.46	0.055	**J**
80-62-6	Methyl Methacrylate	ND	3.5	0.60	ND	0.85	0.15	
142-82-5	n-Heptane	**3.0**	1.7	0.27	**0.74**	0.42	0.065	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.26	ND	0.39	0.058	
108-10-1	4-Methyl-2-pentanone	**11**	1.7	0.23	**2.7**	0.41	0.056	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.35	ND	0.37	0.076	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.17	ND	0.31	0.031	
108-88-3	Toluene	**18**	1.7	0.20	**4.8**	0.44	0.054	
591-78-6	2-Hexanone	**0.23**	1.7	0.21	**0.055**	0.42	0.051	**J**
124-48-1	Dibromochloromethane	ND	1.7	0.22	ND	0.20	0.026	
106-93-4	1,2-Dibromoethane	ND	1.7	0.20	ND	0.22	0.025	
123-86-4	n-Butyl Acetate	**25**	1.7	0.23	**5.2**	0.36	0.048	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-05** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-005

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): 1.13 Final Pressure (psig): 5.18

Container Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.65**	1.7	0.38	**0.14**	0.36	0.081	**J**
127-18-4	Tetrachloroethene	**0.65**	1.7	0.22	**0.095**	0.25	0.032	**J**
108-90-7	Chlorobenzene	ND	1.7	0.22	ND	0.36	0.049	
100-41-4	Ethylbenzene	**4.8**	1.6	0.24	**1.1**	0.38	0.054	
179601-23-1	m,p-Xylenes	**23**	3.5	0.44	**5.3**	0.80	0.10	
75-25-2	Bromoform	ND	1.7	0.35	ND	0.16	0.034	
100-42-5	Styrene	**0.57**	1.7	0.27	**0.13**	0.39	0.064	**J**
95-47-6	o-Xylene	**11**	1.7	0.24	**2.6**	0.38	0.056	
111-84-2	n-Nonane	**1.5**	1.7	0.28	**0.28**	0.32	0.053	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.23	ND	0.24	0.034	
98-82-8	Cumene	**0.42**	1.7	0.24	**0.085**	0.34	0.049	**J**
80-56-8	alpha-Pinene	**3.2**	1.6	0.26	**0.58**	0.29	0.046	
103-65-1	n-Propylbenzene	**1.1**	1.7	0.24	**0.23**	0.35	0.049	**J**
622-96-8	4-Ethyltoluene	**1.5**	1.7	0.27	**0.31**	0.34	0.054	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.8**	1.7	0.24	**0.38**	0.34	0.049	
95-63-6	1,2,4-Trimethylbenzene	**5.0**	1.7	0.23	**1.0**	0.34	0.047	
100-44-7	Benzyl Chloride	ND	3.5	0.38	ND	0.67	0.073	
541-73-1	1,3-Dichlorobenzene	ND	1.7	0.25	ND	0.28	0.042	
106-46-7	1,4-Dichlorobenzene	ND	1.7	0.26	ND	0.28	0.043	
95-50-1	1,2-Dichlorobenzene	ND	1.7	0.25	ND	0.28	0.041	
5989-27-5	d-Limonene	ND	1.6	0.35	ND	0.29	0.062	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	0.32	ND	0.17	0.033	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	0.41	ND	0.22	0.055	
91-20-3	Naphthalene	ND	1.6	0.41	ND	0.31	0.078	
87-68-3	Hexachlorobutadiene	ND	1.7	0.35	ND	0.16	0.032	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-06** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-006

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00603

Initial Pressure (psig): -0.45 Final Pressure (psig): 5.20

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**110**	1.8	0.46	**65**	1.1	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	1.8	0.30	**0.40**	0.37	0.062	
74-87-3	Chloromethane	**0.39**	1.8	0.30	**0.19**	0.85	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.29	ND	0.26	0.042	
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.73	0.078	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.82	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.68	0.088	
64-17-5	Ethanol	**420**	18	1.3	**220**	9.5	0.69	
75-05-8	Acetonitrile	ND	1.8	0.46	ND	1.1	0.27	
107-02-8	Acrolein	**1.7**	3.5	0.53	**0.75**	1.5	0.23	**J**
67-64-1	Acetone	**340**	19	4.2	**140**	8.0	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	1.9	0.28	**0.19**	0.33	0.050	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.7**	7.4	0.77	**1.5**	3.0	0.31	**J**
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.84	0.18	
75-35-4	1,1-Dichloroethene	**6.3**	1.9	0.26	**1.6**	0.48	0.065	
75-09-2	Methylene Chloride	ND	1.9	0.53	ND	0.54	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.25	ND	0.59	0.081	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.43**	1.9	0.27	**0.056**	0.24	0.035	**J**
75-15-0	Carbon Disulfide	**12**	3.9	0.56	**3.8**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.065	
75-34-3	1,1-Dichloroethane	**1.1**	1.8	0.27	**0.28**	0.45	0.067	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.52	0.061	
108-05-4	Vinyl Acetate	**8.8**	19	4.2	**2.5**	5.3	1.2	**J**
78-93-3	2-Butanone (MEK)	**20**	3.5	0.39	**6.9**	1.2	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-06** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-006

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00603

Initial Pressure (psig): -0.45 Final Pressure (psig): 5.20

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
141-78-6	Ethyl Acetate	**28**	3.9	0.98	**7.8**	1.1	0.27	
110-54-3	n-Hexane	**2.8**	1.9	0.39	**0.78**	0.54	0.11	
67-66-3	Chloroform	**0.28**	1.9	0.25	**0.057**	0.39	0.051	**J**
109-99-9	Tetrahydrofuran (THF)	**0.99**	1.9	0.23	**0.34**	0.63	0.080	**J**
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.46	0.051	
71-55-6	1,1,1-Trichloroethane	**21**	1.9	0.23	**3.8**	0.35	0.042	
71-43-2	Benzene	**0.40**	1.8	0.27	**0.12**	0.57	0.084	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.29	0.041	
110-82-7	Cyclohexane	ND	3.5	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.41	0.050	
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.040	
79-01-6	Trichloroethene	**0.42**	1.9	0.25	**0.078**	0.35	0.047	**J**
123-91-1	1,4-Dioxane	ND	1.9	0.22	ND	0.51	0.061	
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.94	0.16	
142-82-5	n-Heptane	**1.7**	1.9	0.30	**0.42**	0.46	0.073	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.43	0.064	
108-10-1	4-Methyl-2-pentanone	**24**	1.9	0.26	**5.9**	0.45	0.062	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.085	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**18**	1.9	0.23	**4.7**	0.49	0.060	
591-78-6	2-Hexanone	**0.94**	1.9	0.23	**0.23**	0.46	0.056	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.22	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.028	
123-86-4	n-Butyl Acetate	**49**	1.9	0.26	**10**	0.40	0.054	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-06** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-006

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00603

Initial Pressure (psig): -0.45 Final Pressure (psig): 5.20

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.9**	1.9	0.42	**0.40**	0.40	0.090	**J**
127-18-4	Tetrachloroethene	**3.4**	1.9	0.24	**0.51**	0.27	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.40	0.054	
100-41-4	Ethylbenzene	**4.9**	1.8	0.26	**1.1**	0.42	0.060	
179601-23-1	m,p-Xylenes	**24**	3.9	0.49	**5.6**	0.89	0.11	
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.037	
100-42-5	Styrene	**1.1**	1.9	0.30	**0.25**	0.44	0.071	**J**
95-47-6	o-Xylene	**14**	1.9	0.27	**3.2**	0.43	0.062	
111-84-2	n-Nonane	**3.9**	1.9	0.31	**0.75**	0.36	0.059	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	**0.50**	1.9	0.27	**0.10**	0.38	0.055	**J**
80-56-8	alpha-Pinene	**2.9**	1.8	0.29	**0.51**	0.33	0.052	
103-65-1	n-Propylbenzene	**1.4**	1.9	0.27	**0.29**	0.38	0.055	**J**
622-96-8	4-Ethyltoluene	**2.3**	1.9	0.30	**0.46**	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	**2.8**	1.9	0.27	**0.56**	0.38	0.055	
95-63-6	1,2,4-Trimethylbenzene	**9.2**	1.9	0.26	**1.9**	0.38	0.053	
100-44-7	Benzyl Chloride	ND	3.9	0.42	ND	0.74	0.081	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.31	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.046	
5989-27-5	d-Limonene	ND	1.8	0.39	ND	0.32	0.069	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.061	
91-20-3	Naphthalene	ND	1.8	0.46	ND	0.34	0.087	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.17	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-07** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-007

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01295

Initial Pressure (psig): -0.98 Final Pressure (psig): 5.28

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**640**	19	4.7	**370**	11	2.8	**D**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	1.9	0.32	**0.41**	0.38	0.064	
74-87-3	Chloromethane	**0.37**	1.8	0.31	**0.18**	0.88	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.31	ND	0.27	0.044	
75-01-4	Vinyl Chloride	ND	1.9	0.21	ND	0.76	0.081	
106-99-0	1,3-Butadiene	ND	1.9	0.32	ND	0.86	0.15	
74-83-9	Bromomethane	ND	1.8	0.27	ND	0.47	0.070	
75-00-3	Chloroethane	ND	1.9	0.24	ND	0.71	0.091	
64-17-5	Ethanol	**49**	19	1.4	**26**	9.9	0.72	
75-05-8	Acetonitrile	**1.2**	1.9	0.47	**0.74**	1.1	0.28	**J**
107-02-8	Acrolein	**0.78**	3.7	0.55	**0.34**	1.6	0.24	**J**
67-64-1	Acetone	**210**	20	4.4	**87**	8.3	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	1.9	0.30	**0.20**	0.34	0.053	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	7.7	0.80	**0.64**	3.1	0.33	**J**
107-13-1	Acrylonitrile	ND	1.9	0.40	ND	0.87	0.19	
75-35-4	1,1-Dichloroethene	**43**	2.0	0.27	**11**	0.50	0.068	
75-09-2	Methylene Chloride	**0.82**	2.0	0.55	**0.24**	0.57	0.16	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.62	0.084	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.81**	1.9	0.28	**0.11**	0.25	0.036	**J**
75-15-0	Carbon Disulfide	**2.2**	4.0	0.58	**0.72**	1.3	0.19	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.27	ND	0.49	0.068	
75-34-3	1,1-Dichloroethane	**1.7**	1.9	0.28	**0.43**	0.47	0.070	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	2.0	0.23	ND	0.55	0.064	
108-05-4	Vinyl Acetate	ND	19	4.4	ND	5.5	1.2	
78-93-3	2-Butanone (MEK)	**16**	3.7	0.40	**5.4**	1.2	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-07** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-007

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01295

Initial Pressure (psig): -0.98 Final Pressure (psig): 5.28

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.49	0.069	
141-78-6	Ethyl Acetate	**4.9**	4.0	1.0	**1.4**	1.1	0.28	
110-54-3	n-Hexane	**5.6**	2.0	0.40	**1.6**	0.56	0.11	
67-66-3	Chloroform	**0.48**	2.0	0.26	**0.098**	0.40	0.053	**J**
109-99-9	Tetrahydrofuran (THF)	**1.1**	1.9	0.24	**0.39**	0.66	0.083	**J**
107-06-2	1,2-Dichloroethane	ND	1.9	0.22	ND	0.48	0.053	
71-55-6	1,1,1-Trichloroethane	**6.3**	2.0	0.24	**1.1**	0.36	0.044	
71-43-2	Benzene	**0.45**	1.9	0.28	**0.14**	0.59	0.088	**J**
56-23-5	Carbon Tetrachloride	**0.38**	1.9	0.27	**0.060**	0.30	0.043	**J**
110-82-7	Cyclohexane	**0.67**	3.7	0.55	**0.20**	1.1	0.16	**J**
78-87-5	1,2-Dichloropropane	ND	2.0	0.24	ND	0.43	0.052	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.29	0.042	
79-01-6	Trichloroethene	**0.81**	1.9	0.26	**0.15**	0.36	0.049	**J**
123-91-1	1,4-Dioxane	**1.8**	1.9	0.23	**0.49**	0.54	0.064	**J**
80-62-6	Methyl Methacrylate	ND	4.0	0.69	ND	0.98	0.17	
142-82-5	n-Heptane	**1.9**	2.0	0.31	**0.47**	0.48	0.076	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.45	0.067	
108-10-1	4-Methyl-2-pentanone	**18**	1.9	0.27	**4.4**	0.47	0.065	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.40	ND	0.43	0.088	
79-00-5	1,1,2-Trichloroethane	**0.30**	2.0	0.20	**0.056**	0.36	0.036	**J**
108-88-3	Toluene	**99**	1.9	0.24	**26**	0.51	0.063	
591-78-6	2-Hexanone	**0.45**	2.0	0.24	**0.11**	0.48	0.059	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.26	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	2.0	0.23	ND	0.26	0.029	
123-86-4	n-Butyl Acetate	**34**	2.0	0.27	**7.3**	0.42	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-07** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-007

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01295

Initial Pressure (psig): -0.98 Final Pressure (psig): 5.28

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.80**	2.0	0.44	**0.17**	0.42	0.094	**J**
127-18-4	Tetrachloroethene	**1.2**	1.9	0.25	**0.18**	0.29	0.037	**J**
108-90-7	Chlorobenzene	ND	1.9	0.26	ND	0.42	0.056	
100-41-4	Ethylbenzene	**6.8**	1.9	0.27	**1.6**	0.44	0.063	
179601-23-1	m,p-Xylenes	**31**	4.0	0.51	**7.1**	0.92	0.12	
75-25-2	Bromoform	ND	1.9	0.40	ND	0.19	0.039	
100-42-5	Styrene	**1.3**	1.9	0.31	**0.31**	0.45	0.074	**J**
95-47-6	o-Xylene	**25**	1.9	0.28	**5.8**	0.45	0.065	
111-84-2	n-Nonane	**1.8**	2.0	0.32	**0.33**	0.38	0.062	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.27	ND	0.28	0.039	
98-82-8	Cumene	**0.94**	1.9	0.28	**0.19**	0.39	0.057	**J**
80-56-8	alpha-Pinene	**4.3**	1.9	0.30	**0.78**	0.34	0.054	
103-65-1	n-Propylbenzene	**2.1**	2.0	0.28	**0.43**	0.40	0.057	
622-96-8	4-Ethyltoluene	**2.7**	1.9	0.31	**0.54**	0.39	0.063	
108-67-8	1,3,5-Trimethylbenzene	**3.5**	1.9	0.28	**0.72**	0.39	0.057	
95-63-6	1,2,4-Trimethylbenzene	**7.7**	1.9	0.27	**1.6**	0.39	0.055	
100-44-7	Benzyl Chloride	ND	4.0	0.44	ND	0.78	0.085	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.29	ND	0.33	0.049	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.30	ND	0.33	0.050	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.29	ND	0.33	0.048	
5989-27-5	d-Limonene	ND	1.9	0.40	ND	0.33	0.072	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.37	ND	0.20	0.038	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.47	ND	0.26	0.064	
91-20-3	Naphthalene	ND	1.9	0.47	ND	0.36	0.091	
87-68-3	Hexachlorobutadiene	ND	1.9	0.40	ND	0.18	0.038	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-008

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00360

Initial Pressure (psig): -0.60 Final Pressure (psig): 5.83

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**11**	1.9	0.47	**6.1**	1.1	0.28	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.0**	1.9	0.32	**0.21**	0.38	0.064	**J**
74-87-3	Chloromethane	ND	1.8	0.31	ND	0.88	0.15	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.31	ND	0.27	0.044	
75-01-4	Vinyl Chloride	ND	1.9	0.21	ND	0.76	0.081	
106-99-0	1,3-Butadiene	ND	1.9	0.32	ND	0.86	0.15	
74-83-9	Bromomethane	ND	1.8	0.27	ND	0.47	0.070	
75-00-3	Chloroethane	ND	1.9	0.24	ND	0.71	0.091	
64-17-5	Ethanol	**17**	19	1.4	**9.0**	9.9	0.72	**J**
75-05-8	Acetonitrile	ND	1.9	0.47	ND	1.1	0.28	
107-02-8	Acrolein	**0.87**	3.7	0.55	**0.38**	1.6	0.24	**J**
67-64-1	Acetone	**25**	20	4.4	**10**	8.3	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.51**	1.9	0.30	**0.091**	0.34	0.053	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.5**	7.7	0.80	**1.0**	3.1	0.33	**J**
107-13-1	Acrylonitrile	ND	1.9	0.40	ND	0.87	0.19	
75-35-4	1,1-Dichloroethene	**130**	2.0	0.27	**33**	0.50	0.068	
75-09-2	Methylene Chloride	**0.66**	2.0	0.55	**0.19**	0.57	0.16	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.26	ND	0.62	0.084	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	1.9	0.28	ND	0.25	0.036	
75-15-0	Carbon Disulfide	**2.5**	4.0	0.58	**0.79**	1.3	0.19	**J**
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.27	ND	0.49	0.068	
75-34-3	1,1-Dichloroethane	**7.6**	1.9	0.28	**1.9**	0.47	0.070	
1634-04-4	Methyl tert-Butyl Ether	ND	2.0	0.23	ND	0.55	0.064	
108-05-4	Vinyl Acetate	**5.3**	19	4.4	**1.5**	5.5	1.2	**J**
78-93-3	2-Butanone (MEK)	**3.5**	3.7	0.40	**1.2**	1.2	0.14	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-008

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00360

Initial Pressure (psig): -0.60 Final Pressure (psig): 5.83

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.27	ND	0.49	0.069	
141-78-6	Ethyl Acetate	**49**	4.0	1.0	**14**	1.1	0.28	
110-54-3	n-Hexane	**0.89**	2.0	0.40	**0.25**	0.56	0.11	**J**
67-66-3	Chloroform	**0.42**	2.0	0.26	**0.085**	0.40	0.053	**J**
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.24	ND	0.66	0.083	
107-06-2	1,2-Dichloroethane	ND	1.9	0.22	ND	0.48	0.053	
71-55-6	1,1,1-Trichloroethane	**11**	2.0	0.24	**2.1**	0.36	0.044	
71-43-2	Benzene	**0.43**	1.9	0.28	**0.13**	0.59	0.088	**J**
56-23-5	Carbon Tetrachloride	ND	1.9	0.27	ND	0.30	0.043	
110-82-7	Cyclohexane	ND	3.7	0.55	ND	1.1	0.16	
78-87-5	1,2-Dichloropropane	ND	2.0	0.24	ND	0.43	0.052	
75-27-4	Bromodichloromethane	ND	1.9	0.28	ND	0.29	0.042	
79-01-6	Trichloroethene	**0.37**	1.9	0.26	**0.069**	0.36	0.049	**J**
123-91-1	1,4-Dioxane	ND	1.9	0.23	ND	0.54	0.064	
80-62-6	Methyl Methacrylate	ND	4.0	0.69	ND	0.98	0.17	
142-82-5	n-Heptane	**0.62**	2.0	0.31	**0.15**	0.48	0.076	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ND	0.45	0.067	
108-10-1	4-Methyl-2-pentanone	**1.6**	1.9	0.27	**0.39**	0.47	0.065	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.40	ND	0.43	0.088	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.20	ND	0.36	0.036	
108-88-3	Toluene	**7.4**	1.9	0.24	**2.0**	0.51	0.063	
591-78-6	2-Hexanone	**0.56**	2.0	0.24	**0.14**	0.48	0.059	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.26	ND	0.23	0.030	
106-93-4	1,2-Dibromoethane	ND	2.0	0.23	ND	0.26	0.029	
123-86-4	n-Butyl Acetate	**3.4**	2.0	0.27	**0.72**	0.42	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-08** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-008

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00360

Initial Pressure (psig): -0.60 Final Pressure (psig): 5.83

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.2**	2.0	0.44	**0.25**	0.42	0.094	**J**
127-18-4	Tetrachloroethene	**1.1**	1.9	0.25	**0.16**	0.29	0.037	**J**
108-90-7	Chlorobenzene	ND	1.9	0.26	ND	0.42	0.056	
100-41-4	Ethylbenzene	**0.88**	1.9	0.27	**0.20**	0.44	0.063	**J**
179601-23-1	m,p-Xylenes	**3.8**	4.0	0.51	**0.86**	0.92	0.12	**J**
75-25-2	Bromoform	ND	1.9	0.40	ND	0.19	0.039	
100-42-5	Styrene	**1.1**	1.9	0.31	**0.25**	0.45	0.074	**J**
95-47-6	o-Xylene	**1.9**	1.9	0.28	**0.43**	0.45	0.065	**J**
111-84-2	n-Nonane	**1.7**	2.0	0.32	**0.32**	0.38	0.062	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.27	ND	0.28	0.039	
98-82-8	Cumene	ND	1.9	0.28	ND	0.39	0.057	
80-56-8	alpha-Pinene	**1.1**	1.9	0.30	**0.21**	0.34	0.054	**J**
103-65-1	n-Propylbenzene	ND	2.0	0.28	ND	0.40	0.057	
622-96-8	4-Ethyltoluene	**0.41**	1.9	0.31	**0.083**	0.39	0.063	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.41**	1.9	0.28	**0.084**	0.39	0.057	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.3**	1.9	0.27	**0.26**	0.39	0.055	**J**
100-44-7	Benzyl Chloride	ND	4.0	0.44	ND	0.78	0.085	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.29	ND	0.33	0.049	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.30	ND	0.33	0.050	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.29	ND	0.33	0.048	
5989-27-5	d-Limonene	ND	1.9	0.40	ND	0.33	0.072	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.37	ND	0.20	0.038	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.47	ND	0.26	0.064	
91-20-3	Naphthalene	ND	1.9	0.47	ND	0.36	0.091	
87-68-3	Hexachlorobutadiene	ND	1.9	0.40	ND	0.18	0.038	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-09** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-009

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00266

Initial Pressure (psig): -1.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**740**	20	4.9	**430**	11	2.9	**D**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	2.0	0.33	**0.37**	0.40	0.066	**J**
74-87-3	Chloromethane	**0.50**	1.9	0.32	**0.24**	0.91	0.16	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.9	0.32	ND	0.28	0.045	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.78	0.084	
106-99-0	1,3-Butadiene	ND	2.0	0.33	ND	0.89	0.15	
74-83-9	Bromomethane	ND	1.9	0.28	ND	0.49	0.072	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.73	0.094	
64-17-5	Ethanol	**35**	19	1.4	**19**	10	0.74	
75-05-8	Acetonitrile	**1.3**	2.0	0.49	**0.77**	1.2	0.29	**J**
107-02-8	Acrolein	**1.9**	3.8	0.57	**0.81**	1.6	0.25	**J**
67-64-1	Acetone	**120**	20	4.5	**49**	8.6	1.9	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	2.0	0.31	**0.18**	0.36	0.054	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	7.9	0.83	**0.60**	3.2	0.34	**J**
107-13-1	Acrylonitrile	ND	2.0	0.42	ND	0.90	0.19	
75-35-4	1,1-Dichloroethene	**6.4**	2.0	0.28	**1.6**	0.51	0.070	
75-09-2	Methylene Chloride	ND	2.0	0.57	ND	0.59	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.0	0.27	ND	0.64	0.087	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.43**	2.0	0.29	**0.056**	0.26	0.037	**J**
75-15-0	Carbon Disulfide	**4.5**	4.2	0.60	**1.4**	1.3	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.28	ND	0.50	0.070	
75-34-3	1,1-Dichloroethane	ND	2.0	0.29	ND	0.49	0.073	
1634-04-4	Methyl tert-Butyl Ether	ND	2.0	0.24	ND	0.57	0.066	
108-05-4	Vinyl Acetate	**9.3**	20	4.5	**2.6**	5.7	1.3	**J**
78-93-3	2-Butanone (MEK)	**16**	3.8	0.42	**5.3**	1.3	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-09** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-009

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00266

Initial Pressure (psig): -1.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.28	ND	0.50	0.071	
141-78-6	Ethyl Acetate	**1.7**	4.2	1.1	**0.46**	1.2	0.29	**J**
110-54-3	n-Hexane	**3.8**	2.0	0.42	**1.1**	0.58	0.12	
67-66-3	Chloroform	ND	2.0	0.27	ND	0.42	0.055	
109-99-9	Tetrahydrofuran (THF)	ND	2.0	0.25	ND	0.68	0.086	
107-06-2	1,2-Dichloroethane	ND	2.0	0.22	ND	0.49	0.055	
71-55-6	1,1,1-Trichloroethane	**3.1**	2.0	0.25	**0.58**	0.37	0.046	
71-43-2	Benzene	**0.39**	2.0	0.29	**0.12**	0.61	0.091	**J**
56-23-5	Carbon Tetrachloride	**0.32**	2.0	0.28	**0.052**	0.31	0.044	**J**
110-82-7	Cyclohexane	**0.71**	3.8	0.57	**0.21**	1.1	0.16	**J**
78-87-5	1,2-Dichloropropane	ND	2.0	0.25	ND	0.44	0.054	
75-27-4	Bromodichloromethane	ND	2.0	0.29	ND	0.30	0.043	
79-01-6	Trichloroethene	ND	2.0	0.27	ND	0.37	0.051	
123-91-1	1,4-Dioxane	**0.65**	2.0	0.24	**0.18**	0.56	0.066	**J**
80-62-6	Methyl Methacrylate	ND	4.2	0.72	ND	1.0	0.18	
142-82-5	n-Heptane	**1.4**	2.0	0.32	**0.34**	0.50	0.078	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.31	ND	0.47	0.069	
108-10-1	4-Methyl-2-pentanone	**8.5**	2.0	0.28	**2.1**	0.49	0.067	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.42	ND	0.44	0.092	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.20	ND	0.37	0.037	
108-88-3	Toluene	**57**	2.0	0.25	**15**	0.53	0.065	
591-78-6	2-Hexanone	**1.5**	2.0	0.25	**0.36**	0.50	0.061	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.26	ND	0.24	0.031	
106-93-4	1,2-Dibromoethane	ND	2.0	0.23	ND	0.27	0.030	
123-86-4	n-Butyl Acetate	**12**	2.0	0.28	**2.5**	0.43	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE-OBS-09** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903775-009

Test Code: EPA TO-15 Date Collected: 6/20/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 6/25/19
Analyst: Raneem Sahtah Date Analyzed: 7/9 - 7/10/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00266

Initial Pressure (psig): -1.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.3**	2.0	0.45	**0.27**	0.44	0.097	**J**
127-18-4	Tetrachloroethene	**0.96**	2.0	0.26	**0.14**	0.30	0.038	**J**
108-90-7	Chlorobenzene	ND	2.0	0.27	ND	0.43	0.058	
100-41-4	Ethylbenzene	**3.4**	2.0	0.28	**0.79**	0.45	0.065	
179601-23-1	m,p-Xylenes	**17**	4.2	0.53	**4.0**	0.96	0.12	
75-25-2	Bromoform	ND	2.0	0.42	ND	0.19	0.040	
100-42-5	Styrene	**1.0**	2.0	0.32	**0.24**	0.47	0.076	**J**
95-47-6	o-Xylene	**9.7**	2.0	0.29	**2.2**	0.46	0.067	
111-84-2	n-Nonane	**3.2**	2.0	0.34	**0.61**	0.39	0.064	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.28	ND	0.29	0.041	
98-82-8	Cumene	**0.44**	2.0	0.29	**0.089**	0.41	0.059	**J**
80-56-8	alpha-Pinene	**3.7**	2.0	0.31	**0.67**	0.35	0.056	
103-65-1	n-Propylbenzene	**1.4**	2.0	0.29	**0.29**	0.41	0.059	**J**
622-96-8	4-Ethyltoluene	**2.0**	2.0	0.32	**0.41**	0.41	0.065	
108-67-8	1,3,5-Trimethylbenzene	**2.1**	2.0	0.29	**0.44**	0.41	0.059	
95-63-6	1,2,4-Trimethylbenzene	**6.9**	2.0	0.28	**1.4**	0.41	0.057	
100-44-7	Benzyl Chloride	ND	4.2	0.45	ND	0.80	0.088	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.30	ND	0.34	0.050	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.31	ND	0.34	0.052	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.30	ND	0.34	0.050	
5989-27-5	d-Limonene	ND	1.9	0.42	ND	0.35	0.075	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.38	ND	0.20	0.039	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.49	ND	0.27	0.066	
91-20-3	Naphthalene	ND	1.9	0.49	ND	0.37	0.094	
87-68-3	Hexachlorobutadiene	ND	2.0	0.42	ND	0.19	0.039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903775

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/9/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903775

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/9/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903775

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/10/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903775

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-MB

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	NA
Analyst:	Raneem Sahtah	Date Analyzed:	7/10/19
Sample Type:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Project ID: P1903775

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date(s) Collected: 6/20/19
Analyst: Raneem Sahtah Date(s) Received: 6/25/19
Sample Type: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 7/9 - 7/10/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190709-MB	**94**	**95**	**111**	70-130	
Method Blank	P190710-MB	**97**	**94**	**109**	70-130	
Lab Control Sample	P190709-LCS	**93**	**94**	**111**	70-130	
Lab Control Sample	P190710-LCS	**96**	**94**	**111**	70-130	
SVE-OBS-01	P1903775-001	**95**	**94**	**110**	70-130	
SVE-OBS-02	P1903775-002	**95**	**94**	**110**	70-130	
SVE-OBS-03	P1903775-003	**95**	**94**	**110**	70-130	
SVE-OBS-04	P1903775-004	**95**	**94**	**109**	70-130	
SVE-OBS-05	P1903775-005	**94**	**94**	**109**	70-130	
SVE-OBS-06	P1903775-006	**95**	**93**	**109**	70-130	
SVE-OBS-07	P1903775-007	**95**	**94**	**110**	70-130	
SVE-OBS-08	P1903775-008	**94**	**92**	**111**	70-130	
SVE-OBS-09	P1903775-009	**94**	**92**	**112**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**187**	**89**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**170**	**81**	62-103	
74-87-3	Chloromethane	211	**176**	**83**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**185**	**88**	56-111	
75-01-4	Vinyl Chloride	214	**195**	**91**	57-117	
106-99-0	1,3-Butadiene	210	**203**	**97**	53-134	
74-83-9	Bromomethane	212	**186**	**88**	65-110	
75-00-3	Chloroethane	214	**182**	**85**	64-111	
64-17-5	Ethanol	1,020	**886**	**87**	57-124	
75-05-8	Acetonitrile	206	**186**	**90**	57-126	
107-02-8	Acrolein	205	**214**	**104**	62-121	
67-64-1	Acetone	1,060	**912**	**86**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**170**	**81**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**357**	**86**	60-124	
107-13-1	Acrylonitrile	207	**225**	**109**	66-125	
75-35-4	1,1-Dichloroethene	218	**184**	**84**	68-107	
75-09-2	Methylene Chloride	217	**189**	**87**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**204**	**94**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**179**	**83**	59-109	
75-15-0	Carbon Disulfide	218	**194**	**89**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**192**	**90**	70-115	
75-34-3	1,1-Dichloroethane	216	**178**	**82**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**181**	**85**	67-109	
108-05-4	Vinyl Acetate	1,060	**1100**	**104**	68-136	
78-93-3	2-Butanone (MEK)	208	**216**	**104**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	211	**178**	**84**	67-110	
141-78-6	Ethyl Acetate	436	**418**	**96**	64-127	
110-54-3	n-Hexane	216	**183**	**85**	60-115	
67-66-3	Chloroform	217	**177**	**82**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**185**	**86**	65-110	
107-06-2	1,2-Dichloroethane	215	**171**	**80**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**175**	**81**	64-108	
71-43-2	Benzene	211	**176**	**83**	67-106	
56-23-5	Carbon Tetrachloride	212	**178**	**84**	64-112	
110-82-7	Cyclohexane	416	**346**	**83**	67-110	
78-87-5	1,2-Dichloropropane	216	**185**	**86**	66-112	
75-27-4	Bromodichloromethane	215	**192**	**89**	67-113	
79-01-6	Trichloroethene	213	**187**	**88**	66-108	
123-91-1	1,4-Dioxane	214	**201**	**94**	70-116	
80-62-6	Methyl Methacrylate	431	**438**	**102**	73-118	
142-82-5	n-Heptane	215	**184**	**86**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**209**	**98**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**216**	**103**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**222**	**104**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**191**	**89**	68-112	
108-88-3	Toluene	212	**169**	**80**	62-111	
591-78-6	2-Hexanone	214	**195**	**91**	59-128	
124-48-1	Dibromochloromethane	213	**187**	**88**	67-123	
106-93-4	1,2-Dibromoethane	216	**188**	**87**	66-122	
123-86-4	n-Butyl Acetate	219	**204**	**93**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190709-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/9/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
111-65-9	n-Octane	217	**167**	**77**	65-114	
127-18-4	Tetrachloroethene	213	**166**	**78**	55-120	
108-90-7	Chlorobenzene	215	**167**	**78**	61-114	
100-41-4	Ethylbenzene	212	**160**	**75**	64-113	
179601-23-1	m,p-Xylenes	426	**321**	**75**	64-114	
75-25-2	Bromoform	213	**195**	**92**	65-132	
100-42-5	Styrene	212	**187**	**88**	67-124	
95-47-6	o-Xylene	214	**162**	**76**	65-114	
111-84-2	n-Nonane	215	**166**	**77**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**174**	**81**	66-119	
98-82-8	Cumene	214	**163**	**76**	61-116	
80-56-8	alpha-Pinene	211	**177**	**84**	65-120	
103-65-1	n-Propylbenzene	218	**169**	**78**	63-117	
622-96-8	4-Ethyltoluene	214	**182**	**85**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**167**	**78**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**172**	**80**	61-122	
100-44-7	Benzyl Chloride	217	**234**	**108**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**184**	**85**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**190**	**88**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**196**	**91**	61-126	
5989-27-5	d-Limonene	211	**177**	**84**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**210**	**100**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**214**	**100**	62-141	
91-20-3	Naphthalene	203	**222**	**109**	62-145	
87-68-3	Hexachlorobutadiene	209	**165**	**79**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
115-07-1	Propene	211	**202**	**96**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**184**	**88**	62-103	
74-87-3	Chloromethane	211	**200**	**95**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**199**	**94**	56-111	
75-01-4	Vinyl Chloride	214	**215**	**100**	57-117	
106-99-0	1,3-Butadiene	210	**226**	**108**	53-134	
74-83-9	Bromomethane	212	**203**	**96**	65-110	
75-00-3	Chloroethane	214	**199**	**93**	64-111	
64-17-5	Ethanol	1,020	**984**	**96**	57-124	
75-05-8	Acetonitrile	206	**207**	**100**	57-126	
107-02-8	Acrolein	205	**237**	**116**	62-121	
67-64-1	Acetone	1,060	**1010**	**95**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**187**	**89**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**398**	**96**	60-124	
107-13-1	Acrylonitrile	207	**251**	**121**	66-125	
75-35-4	1,1-Dichloroethene	218	**202**	**93**	68-107	
75-09-2	Methylene Chloride	217	**207**	**95**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**225**	**104**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**195**	**90**	59-109	
75-15-0	Carbon Disulfide	218	**213**	**98**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**211**	**99**	70-115	
75-34-3	1,1-Dichloroethane	216	**197**	**91**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**200**	**93**	67-109	
108-05-4	Vinyl Acetate	1,060	**1220**	**115**	68-136	
78-93-3	2-Butanone (MEK)	208	**239**	**115**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**197**	**93**	67-110	
141-78-6	Ethyl Acetate	436	**468**	**107**	64-127	
110-54-3	n-Hexane	216	**206**	**95**	60-115	
67-66-3	Chloroform	217	**194**	**89**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**205**	**95**	65-110	
107-06-2	1,2-Dichloroethane	215	**188**	**87**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**193**	**90**	64-108	
71-43-2	Benzene	211	**195**	**92**	67-106	
56-23-5	Carbon Tetrachloride	212	**196**	**92**	64-112	
110-82-7	Cyclohexane	416	**381**	**92**	67-110	
78-87-5	1,2-Dichloropropane	216	**206**	**95**	66-112	
75-27-4	Bromodichloromethane	215	**211**	**98**	67-113	
79-01-6	Trichloroethene	213	**203**	**95**	66-108	
123-91-1	1,4-Dioxane	214	**219**	**102**	70-116	
80-62-6	Methyl Methacrylate	431	**484**	**112**	73-118	
142-82-5	n-Heptane	215	**205**	**95**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**230**	**107**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**240**	**115**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**245**	**115**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**209**	**97**	68-112	
108-88-3	Toluene	212	**184**	**87**	62-111	
591-78-6	2-Hexanone	214	**216**	**101**	59-128	
124-48-1	Dibromochloromethane	213	**201**	**94**	67-123	
106-93-4	1,2-Dibromoethane	216	**203**	**94**	66-122	
123-86-4	n-Butyl Acetate	219	**225**	**103**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903775
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190710-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
111-65-9	n-Octane	217	**185**	**85**	65-114	
127-18-4	Tetrachloroethene	213	**177**	**83**	55-120	
108-90-7	Chlorobenzene	215	**180**	**84**	61-114	
100-41-4	Ethylbenzene	212	**174**	**82**	64-113	
179601-23-1	m,p-Xylenes	426	**348**	**82**	64-114	
75-25-2	Bromoform	213	**210**	**99**	65-132	
100-42-5	Styrene	212	**201**	**95**	67-124	
95-47-6	o-Xylene	214	**176**	**82**	65-114	
111-84-2	n-Nonane	215	**183**	**85**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**187**	**87**	66-119	
98-82-8	Cumene	214	**176**	**82**	61-116	
80-56-8	alpha-Pinene	211	**189**	**90**	65-120	
103-65-1	n-Propylbenzene	218	**182**	**83**	63-117	
622-96-8	4-Ethyltoluene	214	**196**	**92**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**179**	**84**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**185**	**86**	61-122	
100-44-7	Benzyl Chloride	217	**252**	**116**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**197**	**91**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**202**	**94**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**209**	**97**	61-126	
5989-27-5	d-Limonene	211	**192**	**91**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**223**	**107**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**229**	**107**	62-141	
91-20-3	Naphthalene	203	**239**	**118**	62-145	
87-68-3	Hexachlorobutadiene	209	**175**	**84**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Appendix B

SVE Laboratory Analytical Results and Mass Removal Calculations

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

March 12, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE Performance Monitoring / KUHO-19-010

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on February 26, 2019. For your reference, these analyses have been assigned our service request number P1900987.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 12:49 pm, Mar 12, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1900987
Project: SVE Performance Monitoring / KUHO-19-010

CASE NARRATIVE

The samples were received intact under chain of custody on February 26, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1900987

Project ID: SVE Performance Monitoring / KUHO-19-010

Date Received: 2/26/2019

Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SVE Exhaust	P1900987-001	Air	2/19/2019	09:26	1SC00394	-0.25	5.32	X
SVE Carbon 1	P1900987-002	Air	2/19/2019	09:29	1SC00281	-0.64	5.00	X
SVE Carbon 2	P1900987-003	Air	2/19/2019	09:31	1SS00013	0.16	6.08	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: 1190857

Company Name & Address (Reporting Information)
Environmental Management Services
Po Box 15369
Hattiesburg, MS 39404

Project Name: SVE Performance Monitoring

Project Number: KUHO-19-010

Project Manager: Jeremy Van Slyke

P.O. # / Billing Information: KUHO-19-010/ Same As Reporting

Phone: 601 544 3674 Fax: 601 544 0504

Email Address for Result Reporting: jvanslyke@env-mgt.com

Sampler (Print & Sign): Jeremy Van Slyke / [signature]

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
SVE Exhaust		2.19.19	0926	ISC00394				1L	X		
SVE Carbon 1		2.19.19	0929	ISC00281				1L	X		
SVE Carbon 2		2.19.19	0931	ISS00013				1L	X		

Report Tier Levels - please select

Tier I - Results (Default in not specified) ____ Tier III (Results + QC & Calibration Summaries) ____

Tier II (Results + QC Summaries X Tier IV (Date Validation Package) 10% Surcharge ____

EDD required YES / No

Type: _____ Units: _____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	2.20.19	1728	Fed Ex		
Relinquished by. (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Fed Ex			[signature]	2/26/19	0930

Cooler / Blank Temperature ____ °C

ALS Environmental

Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1900987

Project: SVE Performance Monitoring / KUHO-19-010

Sample(s) received on: 2/26/19 Date opened: 2/26/19 by: HAYDEN.AKERS

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1900987-001.01	1.0 L Source Can					
P1900987-002.01	1.0 L Source Can					
P1900987-003.01	1.0 L Source Silonite Canister					
P1900987-004.01	1.0 L Source Can					
P1900987-005.01	1.0 L Source Can					
P1900987-006.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.075 Liter(s)
Test Notes:
Container ID: 1SC00394

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.32

Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.4**	9.6	2.4	**4.9**	5.6	1.4	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.1**	9.6	1.6	**0.84**	1.9	0.33	**J**
74-87-3	Chloromethane	ND	9.3	1.6	ND	4.5	0.77	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	9.5	1.6	ND	1.4	0.22	
75-01-4	Vinyl Chloride	ND	9.8	1.1	ND	3.8	0.41	
106-99-0	1,3-Butadiene	ND	9.6	1.6	ND	4.4	0.74	
74-83-9	Bromomethane	ND	9.3	1.4	ND	2.4	0.35	
75-00-3	Chloroethane	ND	9.5	1.2	ND	3.6	0.46	
64-17-5	Ethanol	**11**	95	6.9	**6.0**	50	3.6	**J**
75-05-8	Acetonitrile	ND	9.6	2.4	ND	5.7	1.4	
107-02-8	Acrolein	ND	19	2.8	ND	8.1	1.2	
67-64-1	Acetone	**40**	100	22	**17**	42	9.4	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**1.9**	9.8	1.5	**0.34**	1.7	0.27	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**11**	39	4.1	**4.6**	16	1.7	**J**
107-13-1	Acrylonitrile	ND	9.6	2.0	ND	4.4	0.94	
75-35-4	1,1-Dichloroethene	**120**	10	1.4	**29**	2.5	0.35	
75-09-2	Methylene Chloride	**54**	10	2.8	**15**	2.9	0.80	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	9.8	1.3	ND	3.1	0.43	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**4.3**	9.8	1.4	**0.57**	1.3	0.18	**J**
75-15-0	Carbon Disulfide	ND	20	3.0	ND	6.5	0.95	
156-60-5	trans-1,2-Dichloroethene	ND	9.8	1.4	ND	2.5	0.35	
75-34-3	1,1-Dichloroethane	**2.9**	9.6	1.4	**0.73**	2.4	0.36	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	10	1.2	ND	2.8	0.32	
108-05-4	Vinyl Acetate	ND	98	22	ND	28	6.3	
78-93-3	2-Butanone (MEK)	ND	19	2.0	ND	6.3	0.69	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.075 Liter(s)
Test Notes:
Container ID: 1SC00394

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.32

Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	9.8	1.4	ND	2.5	0.35	
141-78-6	Ethyl Acetate	**7.5**	20	5.2	**2.1**	5.7	1.4	**J**
110-54-3	n-Hexane	ND	10	2.0	ND	2.8	0.58	
67-66-3	Chloroform	ND	10	1.3	ND	2.1	0.27	
109-99-9	Tetrahydrofuran (THF)	ND	9.8	1.2	ND	3.3	0.42	
107-06-2	1,2-Dichloroethane	ND	9.8	1.1	ND	2.4	0.27	
71-55-6	1,1,1-Trichloroethane	**34**	10	1.2	**6.2**	1.8	0.22	
71-43-2	Benzene	ND	9.6	1.4	ND	3.0	0.45	
56-23-5	Carbon Tetrachloride	ND	9.6	1.4	ND	1.5	0.22	
110-82-7	Cyclohexane	ND	19	2.8	ND	5.4	0.81	
78-87-5	1,2-Dichloropropane	ND	10	1.2	ND	2.2	0.26	
75-27-4	Bromodichloromethane	ND	9.8	1.4	ND	1.5	0.21	
79-01-6	Trichloroethene	ND	9.8	1.3	ND	1.8	0.25	
123-91-1	1,4-Dioxane	**1,700**	9.8	1.2	**470**	2.7	0.32	
80-62-6	Methyl Methacrylate	ND	20	3.5	ND	5.0	0.86	
142-82-5	n-Heptane	ND	10	1.6	ND	2.4	0.38	
10061-01-5	cis-1,3-Dichloropropene	ND	10	1.5	ND	2.3	0.34	
108-10-1	4-Methyl-2-pentanone	ND	9.8	1.4	ND	2.4	0.33	
10061-02-6	trans-1,3-Dichloropropene	ND	9.8	2.0	ND	2.2	0.45	
79-00-5	1,1,2-Trichloroethane	ND	10	1.0	ND	1.8	0.18	
108-88-3	Toluene	**16**	9.8	1.2	**4.3**	2.6	0.32	
591-78-6	2-Hexanone	ND	10	1.2	ND	2.4	0.30	
124-48-1	Dibromochloromethane	ND	10	1.3	ND	1.2	0.15	
106-93-4	1,2-Dibromoethane	ND	10	1.1	ND	1.3	0.15	
123-86-4	n-Butyl Acetate	ND	10	1.4	ND	2.1	0.28	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.075 Liter(s)
Test Notes:
Container ID: 1SC00394

Initial Pressure (psig): -0.25 Final Pressure (psig): 5.32

Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	10	2.2	ND	2.1	0.48	
127-18-4	Tetrachloroethene	**12**	9.8	1.3	**1.7**	1.4	0.19	
108-90-7	Chlorobenzene	ND	9.8	1.3	ND	2.1	0.29	
100-41-4	Ethylbenzene	**3.2**	9.6	1.4	**0.74**	2.2	0.32	**J**
179601-23-1	m,p-Xylenes	**13**	20	2.6	**3.0**	4.7	0.60	**J**
75-25-2	Bromoform	ND	9.8	2.0	ND	0.95	0.20	
100-42-5	Styrene	ND	9.8	1.6	ND	2.3	0.37	
95-47-6	o-Xylene	**4.6**	9.8	1.4	**1.1**	2.3	0.33	**J**
111-84-2	n-Nonane	ND	10	1.6	ND	1.9	0.31	
79-34-5	1,1,2,2-Tetrachloroethane	ND	9.8	1.4	ND	1.4	0.20	
98-82-8	Cumene	ND	9.8	1.4	ND	2.0	0.29	
80-56-8	alpha-Pinene	ND	9.6	1.5	ND	1.7	0.27	
103-65-1	n-Propylbenzene	ND	10	1.4	ND	2.0	0.29	
622-96-8	4-Ethyltoluene	ND	9.8	1.6	ND	2.0	0.32	
108-67-8	1,3,5-Trimethylbenzene	ND	9.8	1.4	ND	2.0	0.29	
95-63-6	1,2,4-Trimethylbenzene	**2.3**	9.8	1.4	**0.46**	2.0	0.28	**J**
100-44-7	Benzyl Chloride	ND	20	2.2	ND	3.9	0.43	
541-73-1	1,3-Dichlorobenzene	ND	10	1.5	ND	1.7	0.25	
106-46-7	1,4-Dichlorobenzene	ND	10	1.5	ND	1.7	0.25	
95-50-1	1,2-Dichlorobenzene	ND	10	1.5	ND	1.7	0.24	
5989-27-5	d-Limonene	ND	9.5	2.0	ND	1.7	0.37	
96-12-8	1,2-Dibromo-3-chloropropane	ND	9.6	1.9	ND	1.0	0.19	
120-82-1	1,2,4-Trichlorobenzene	ND	9.8	2.4	ND	1.3	0.32	
91-20-3	Naphthalene	ND	9.5	2.4	ND	1.8	0.46	
87-68-3	Hexachlorobutadiene	ND	9.8	2.0	ND	0.92	0.19	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00281

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.00

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**110**	1.8	0.46	**61**	1.1	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.5**	1.8	0.30	**0.71**	0.37	0.062	
74-87-3	Chloromethane	**0.40**	1.8	0.30	**0.19**	0.85	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**0.34**	1.8	0.29	**0.049**	0.26	0.042	**J**
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.73	0.078	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.82	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.68	0.088	
64-17-5	Ethanol	**8.6**	18	1.3	**4.6**	9.5	0.69	**J**
75-05-8	Acetonitrile	**0.84**	1.8	0.46	**0.50**	1.1	0.27	**J**
107-02-8	Acrolein	**1.4**	3.5	0.53	**0.61**	1.5	0.23	**J**
67-64-1	Acetone	**33**	19	4.2	**14**	8.0	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.8**	1.9	0.28	**0.32**	0.33	0.050	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.8**	7.4	0.77	**2.7**	3.0	0.31	**J**
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.84	0.18	
75-35-4	1,1-Dichloroethene	**120**	1.9	0.26	**29**	0.48	0.065	
75-09-2	Methylene Chloride	**81**	1.9	0.53	**23**	0.54	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.25	ND	0.59	0.081	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**2.6**	1.9	0.27	**0.34**	0.24	0.035	
75-15-0	Carbon Disulfide	**34**	3.9	0.56	**11**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.065	
75-34-3	1,1-Dichloroethane	**3.1**	1.8	0.27	**0.76**	0.45	0.067	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.52	0.061	
108-05-4	Vinyl Acetate	**5.1**	19	4.2	**1.5**	5.3	1.2	**J**
78-93-3	2-Butanone (MEK)	**2.1**	3.5	0.39	**0.72**	1.2	0.13	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00281

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.00

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
141-78-6	Ethyl Acetate	ND	3.9	0.98	ND	1.1	0.27	
110-54-3	n-Hexane	ND	1.9	0.39	ND	0.54	0.11	
67-66-3	Chloroform	**1.5**	1.9	0.25	**0.30**	0.39	0.051	**J**
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.23	ND	0.63	0.080	
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.46	0.051	
71-55-6	1,1,1-Trichloroethane	**13**	1.9	0.23	**2.4**	0.35	0.042	
71-43-2	Benzene	ND	1.8	0.27	ND	0.57	0.084	
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.29	0.041	
110-82-7	Cyclohexane	ND	3.5	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	**0.41**	1.9	0.23	**0.089**	0.41	0.050	**J**
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.040	
79-01-6	Trichloroethene	ND	1.9	0.25	ND	0.35	0.047	
123-91-1	1,4-Dioxane	**610**	19	2.2	**170**	5.1	0.61	**D**
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.94	0.16	
142-82-5	n-Heptane	ND	1.9	0.30	ND	0.46	0.073	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.43	0.064	
108-10-1	4-Methyl-2-pentanone	**0.68**	1.9	0.26	**0.17**	0.45	0.062	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.085	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**0.41**	1.9	0.23	**0.11**	0.49	0.060	**J**
591-78-6	2-Hexanone	**0.59**	1.9	0.23	**0.14**	0.46	0.056	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.22	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.028	
123-86-4	n-Butyl Acetate	ND	1.9	0.26	ND	0.40	0.054	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00281

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.00

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	1.9	0.42	ND	0.40	0.090	
127-18-4	Tetrachloroethene	ND	1.9	0.24	ND	0.27	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.40	0.054	
100-41-4	Ethylbenzene	ND	1.8	0.26	ND	0.42	0.060	
179601-23-1	m,p-Xylenes	**0.60**	3.9	0.49	**0.14**	0.89	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.037	
100-42-5	Styrene	ND	1.9	0.30	ND	0.44	0.071	
95-47-6	o-Xylene	ND	1.9	0.27	ND	0.43	0.062	
111-84-2	n-Nonane	ND	1.9	0.31	ND	0.36	0.059	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.055	
80-56-8	alpha-Pinene	ND	1.8	0.29	ND	0.33	0.052	
103-65-1	n-Propylbenzene	ND	1.9	0.27	ND	0.38	0.055	
622-96-8	4-Ethyltoluene	ND	1.9	0.30	ND	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.27	ND	0.38	0.055	
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.26	ND	0.38	0.053	
100-44-7	Benzyl Chloride	ND	3.9	0.42	ND	0.74	0.081	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.31	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.046	
5989-27-5	d-Limonene	**0.60**	1.8	0.39	**0.11**	0.32	0.069	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.061	
91-20-3	Naphthalene	ND	1.8	0.46	ND	0.34	0.087	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.17	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-003

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00013

Initial Pressure (psig): 0.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**110**	1.8	0.46	**64**	1.1	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.5**	1.8	0.30	**0.71**	0.37	0.062	
74-87-3	Chloromethane	**0.56**	1.8	0.30	**0.27**	0.85	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**0.42**	1.8	0.29	**0.060**	0.26	0.042	**J**
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.73	0.078	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.82	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.68	0.088	
64-17-5	Ethanol	**10**	18	1.3	**5.3**	9.5	0.69	**J**
75-05-8	Acetonitrile	ND	1.8	0.46	ND	1.1	0.27	
107-02-8	Acrolein	ND	3.5	0.53	ND	1.5	0.23	
67-64-1	Acetone	**38**	19	4.2	**16**	8.0	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**2.0**	1.9	0.28	**0.35**	0.33	0.050	
67-63-0	2-Propanol (Isopropyl Alcohol)	**11**	7.4	0.77	**4.5**	3.0	0.31	
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.84	0.18	
75-35-4	1,1-Dichloroethene	**59**	1.9	0.26	**15**	0.48	0.065	
75-09-2	Methylene Chloride	**0.93**	1.9	0.53	**0.27**	0.54	0.15	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.25	ND	0.59	0.081	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.47**	1.9	0.27	**0.062**	0.24	0.035	**J**
75-15-0	Carbon Disulfide	**12**	3.9	0.56	**4.0**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.065	
75-34-3	1,1-Dichloroethane	**1.4**	1.8	0.27	**0.35**	0.45	0.067	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.52	0.061	
108-05-4	Vinyl Acetate	**15**	19	4.2	**4.3**	5.3	1.2	**J**
78-93-3	2-Butanone (MEK)	**4.0**	3.5	0.39	**1.4**	1.2	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-003

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00013

Initial Pressure (psig): 0.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
141-78-6	Ethyl Acetate	ND	3.9	0.98	ND	1.1	0.27	
110-54-3	n-Hexane	ND	1.9	0.39	ND	0.54	0.11	
67-66-3	Chloroform	ND	1.9	0.25	ND	0.39	0.051	
109-99-9	Tetrahydrofuran (THF)	ND	1.9	0.23	ND	0.63	0.080	
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.46	0.051	
71-55-6	1,1,1-Trichloroethane	**0.40**	1.9	0.23	**0.073**	0.35	0.042	**J**
71-43-2	Benzene	**0.97**	1.8	0.27	**0.30**	0.57	0.084	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.29	0.041	
110-82-7	Cyclohexane	ND	3.5	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.41	0.050	
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.040	
79-01-6	Trichloroethene	ND	1.9	0.25	ND	0.35	0.047	
123-91-1	1,4-Dioxane	**69**	1.9	0.22	**19**	0.51	0.061	
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.94	0.16	
142-82-5	n-Heptane	ND	1.9	0.30	ND	0.46	0.073	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.43	0.064	
108-10-1	4-Methyl-2-pentanone	ND	1.9	0.26	ND	0.45	0.062	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.085	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**3.4**	1.9	0.23	**0.89**	0.49	0.060	
591-78-6	2-Hexanone	ND	1.9	0.23	ND	0.46	0.056	
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.22	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.028	
123-86-4	n-Butyl Acetate	ND	1.9	0.26	ND	0.40	0.054	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1900987-003

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/26/19
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00013

Initial Pressure (psig): 0.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	1.9	0.42	ND	0.40	0.090	
127-18-4	Tetrachloroethene	ND	1.9	0.24	ND	0.27	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.40	0.054	
100-41-4	Ethylbenzene	**0.33**	1.8	0.26	**0.076**	0.42	0.060	**J**
179601-23-1	m,p-Xylenes	**1.5**	3.9	0.49	**0.35**	0.89	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.037	
100-42-5	Styrene	ND	1.9	0.30	ND	0.44	0.071	
95-47-6	o-Xylene	**0.62**	1.9	0.27	**0.14**	0.43	0.062	**J**
111-84-2	n-Nonane	ND	1.9	0.31	ND	0.36	0.059	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.055	
80-56-8	alpha-Pinene	ND	1.8	0.29	ND	0.33	0.052	
103-65-1	n-Propylbenzene	ND	1.9	0.27	ND	0.38	0.055	
622-96-8	4-Ethyltoluene	ND	1.9	0.30	ND	0.38	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.27	ND	0.38	0.055	
95-63-6	1,2,4-Trimethylbenzene	**0.47**	1.9	0.26	**0.095**	0.38	0.053	**J**
100-44-7	Benzyl Chloride	ND	3.9	0.42	ND	0.74	0.081	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.31	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.31	0.046	
5989-27-5	d-Limonene	**0.55**	1.8	0.39	**0.098**	0.32	0.069	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.061	
91-20-3	Naphthalene	ND	1.8	0.46	ND	0.34	0.087	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.17	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1900987

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA

Analyst: Wida Ang Date Analyzed: 3/5/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1900987

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA

Analyst: Wida Ang Date Analyzed: 3/5/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Project ID: P1900987

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 2/19/19
Analyst: Wida Ang Date(s) Received: 2/26/19
Sample Type: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 3/5/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190305-MB	**111**	**96**	**99**	70-130	
Lab Control Sample	P190305-LCS	**108**	**94**	**101**	70-130	
SVE Exhaust	P1900987-001	**109**	**97**	**100**	70-130	
SVE Carbon 1	P1900987-002	**108**	**95**	**99**	70-130	
SVE Carbon 2	P1900987-003	**112**	**94**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**204**	**97**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**202**	**96**	62-103	
74-87-3	Chloromethane	211	**216**	**102**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**196**	**93**	56-111	
75-01-4	Vinyl Chloride	214	**222**	**104**	57-117	
106-99-0	1,3-Butadiene	210	**221**	**105**	53-134	
74-83-9	Bromomethane	212	**207**	**98**	65-110	
75-00-3	Chloroethane	214	**208**	**97**	64-111	
64-17-5	Ethanol	1,020	**1020**	**100**	57-124	
75-05-8	Acetonitrile	206	**218**	**106**	57-126	
107-02-8	Acrolein	205	**221**	**108**	62-121	
67-64-1	Acetone	1,060	**985**	**93**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**204**	**97**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**431**	**104**	60-124	
107-13-1	Acrylonitrile	207	**246**	**119**	66-125	
75-35-4	1,1-Dichloroethene	218	**208**	**95**	68-107	
75-09-2	Methylene Chloride	217	**219**	**101**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**233**	**108**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**197**	**91**	59-109	
75-15-0	Carbon Disulfide	218	**195**	**89**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**235**	**110**	70-115	
75-34-3	1,1-Dichloroethane	216	**209**	**97**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**209**	**98**	67-109	
108-05-4	Vinyl Acetate	1,060	**1090**	**103**	68-136	
78-93-3	2-Butanone (MEK)	208	**209**	**100**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**218**	**103**	67-110	
141-78-6	Ethyl Acetate	436	**448**	**103**	64-127	
110-54-3	n-Hexane	216	**202**	**94**	60-115	
67-66-3	Chloroform	217	**209**	**96**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**200**	**93**	65-110	
107-06-2	1,2-Dichloroethane	215	**220**	**102**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**208**	**97**	64-108	
71-43-2	Benzene	211	**194**	**92**	67-106	
56-23-5	Carbon Tetrachloride	212	**206**	**97**	64-112	
110-82-7	Cyclohexane	416	**389**	**94**	67-110	
78-87-5	1,2-Dichloropropane	216	**210**	**97**	66-112	
75-27-4	Bromodichloromethane	215	**220**	**102**	67-113	
79-01-6	Trichloroethene	213	**201**	**94**	66-108	
123-91-1	1,4-Dioxane	214	**212**	**99**	70-116	
80-62-6	Methyl Methacrylate	431	**453**	**105**	73-118	
142-82-5	n-Heptane	215	**205**	**95**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**216**	**101**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**221**	**106**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**225**	**106**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**209**	**97**	68-112	
108-88-3	Toluene	212	**171**	**81**	62-111	
591-78-6	2-Hexanone	214	**220**	**103**	59-128	
124-48-1	Dibromochloromethane	213	**208**	**98**	67-123	
106-93-4	1,2-Dibromoethane	216	**208**	**96**	66-122	
123-86-4	n-Butyl Acetate	219	**213**	**97**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1900987
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190305-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Wida Ang Date Analyzed: 3/5/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**189**	**87**	65-114	
127-18-4	Tetrachloroethene	213	**178**	**84**	55-120	
108-90-7	Chlorobenzene	215	**181**	**84**	61-114	
100-41-4	Ethylbenzene	212	**177**	**83**	64-113	
179601-23-1	m,p-Xylenes	426	**359**	**84**	64-114	
75-25-2	Bromoform	213	**208**	**98**	65-132	
100-42-5	Styrene	212	**194**	**92**	67-124	
95-47-6	o-Xylene	214	**180**	**84**	65-114	
111-84-2	n-Nonane	215	**191**	**89**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**190**	**89**	66-119	
98-82-8	Cumene	214	**175**	**82**	61-116	
80-56-8	alpha-Pinene	211	**187**	**89**	65-120	
103-65-1	n-Propylbenzene	218	**185**	**85**	63-117	
622-96-8	4-Ethyltoluene	214	**182**	**85**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**173**	**81**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**181**	**84**	61-122	
100-44-7	Benzyl Chloride	217	**213**	**98**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**186**	**86**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**179**	**83**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**185**	**86**	61-126	
5989-27-5	d-Limonene	211	**203**	**96**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**195**	**93**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**192**	**90**	62-141	
91-20-3	Naphthalene	203	**200**	**99**	62-145	
87-68-3	Hexachlorobutadiene	209	**163**	**78**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

2655 Park Center Dr., Suite A
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LABORATORY REPORT

June 13, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE Performance Monitoring / KUHO-19-010

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on May 30, 2019. For your reference, these analyses have been assigned our service request number P1903119.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 6:17 pm, Jun 13, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1903119
Project: SVE Performance Monitoring / KUHO-19-010

CASE NARRATIVE

The samples were received intact under chain of custody on May 30, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1903119

Project ID: SVE Performance Monitoring / KUHO-19-010

Date Received: 5/30/2019

Time Received: 10:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SVE Exhaust	P1903119-001	Air	5/22/2019	08:18	1SS00053	-0.52	5.77	X
SVE Carbon 1	P1903119-002	Air	5/22/2019	08:16	1SS00194	-0.58	6.17	X
SVE Carbon 2	P1903119-003	Air	5/22/2019	08:13	1SS00521	-0.23	5.71	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: P190319

Company Name & Address (Reporting Information)
Environmental Management Services
PO Box 15369
Hattiesburg, MS 39404

Project Name: SVE Performance Monitoring

Project Number: KUHO-19-010

Project Manager: Jeremy Van Slyke

P.O. # / Billing Information: KUHO-19-010 / Same As Reporting

Phone: 601 544 3674 Fax: 601 544 0504

Email Address for Result Reporting: jvanslyke@env-mgt.com

Sampler (Print & Sign): Jeremy Van Slyke / Jeremy Van Slyke

ALS Contact:

Analysis Method: TO-15

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
SVE Exhaust		5-22-19	0818	15500053				1L	X		
SVE Carbon 1		5-22-19	0816	15500194				1L	X		
SVE Carbon 2		5-22-19	0813	15500521				1L	X		

5 of 22

Report Tier Levels - please select

Tier I - Results (Default in not specified) ____ Tier III (Results + QC & Calibration Summaries) ____

Tier II (Results + QC Summaries X Tier IV (Date Validation Package) 10% Surcharge ____

EDD required YES / No

Type: ____ Units: ____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Jeremy Van Slyke	5-24-19	935	Fed Ex		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Fed Ex				5-30-19	1000

Cooler / Blank Temperature ____°C

ALS Environmental

Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1903119

Project: SVE Performance Monitoring / KUHO-19-010

Sample(s) received on: 5/30/19 Date opened: 5/30/19 by: CHRIS.GLEASON

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1903119-001.01	1.0 L Source Silonite Canister					
P1903119-002.01	1.0 L Source Silonite Canister					
P1903119-003.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-001

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00053

Initial Pressure (psig): -0.52 Final Pressure (psig): 5.77

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**52**	7.5	1.9	**30**	4.4	1.1	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.5**	7.5	1.3	**0.91**	1.5	0.25	**J**
74-87-3	Chloromethane	ND	7.2	1.2	ND	3.5	0.60	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	7.3	1.2	ND	1.1	0.17	
75-01-4	Vinyl Chloride	ND	7.6	0.82	ND	3.0	0.32	
106-99-0	1,3-Butadiene	ND	7.5	1.3	ND	3.4	0.57	
74-83-9	Bromomethane	ND	7.2	1.1	ND	1.9	0.27	
75-00-3	Chloroethane	ND	7.3	0.95	ND	2.8	0.36	
64-17-5	Ethanol	**9.8**	73	5.3	**5.2**	39	2.8	**J**
75-05-8	Acetonitrile	ND	7.5	1.9	ND	4.5	1.1	
107-02-8	Acrolein	ND	14	2.2	ND	6.3	0.94	
67-64-1	Acetone	**44**	78	17	**18**	33	7.3	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**2.0**	7.6	1.2	**0.36**	1.4	0.21	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.8**	30	3.2	**2.0**	12	1.3	**J**
107-13-1	Acrylonitrile	ND	7.5	1.6	ND	3.5	0.73	
75-35-4	1,1-Dichloroethene	**110**	7.8	1.1	**29**	2.0	0.27	
75-09-2	Methylene Chloride	ND	7.8	2.2	ND	2.2	0.62	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	7.6	1.0	ND	2.4	0.33	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**3.9**	7.6	1.1	**0.51**	1.0	0.14	**J**
75-15-0	Carbon Disulfide	ND	16	2.3	ND	5.1	0.74	
156-60-5	trans-1,2-Dichloroethene	ND	7.6	1.1	ND	1.9	0.27	
75-34-3	1,1-Dichloroethane	**2.9**	7.5	1.1	**0.72**	1.9	0.28	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	7.8	0.91	ND	2.2	0.25	
108-05-4	Vinyl Acetate	ND	76	17	ND	22	4.9	
78-93-3	2-Butanone (MEK)	**2.7**	14	1.6	**0.93**	4.9	0.54	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-001

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00053

Initial Pressure (psig): -0.52 Final Pressure (psig): 5.77

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	7.6	1.1	ND	1.9	0.27	
141-78-6	Ethyl Acetate	ND	16	4.0	ND	4.4	1.1	
110-54-3	n-Hexane	ND	7.8	1.6	ND	2.2	0.45	
67-66-3	Chloroform	**1.6**	7.8	1.0	**0.32**	1.6	0.21	**J**
109-99-9	Tetrahydrofuran (THF)	ND	7.6	0.96	ND	2.6	0.33	
107-06-2	1,2-Dichloroethane	ND	7.6	0.85	ND	1.9	0.21	
71-55-6	1,1,1-Trichloroethane	**32**	7.8	0.95	**5.8**	1.4	0.17	
71-43-2	Benzene	ND	7.5	1.1	ND	2.3	0.35	
56-23-5	Carbon Tetrachloride	ND	7.5	1.1	ND	1.2	0.17	
110-82-7	Cyclohexane	ND	14	2.2	ND	4.2	0.63	
78-87-5	1,2-Dichloropropane	ND	7.8	0.95	ND	1.7	0.21	
75-27-4	Bromodichloromethane	ND	7.6	1.1	ND	1.1	0.17	
79-01-6	Trichloroethene	ND	7.6	1.0	ND	1.4	0.19	
123-91-1	1,4-Dioxane	**1,900**	51	6.0	**520**	14	1.7	**D**
80-62-6	Methyl Methacrylate	ND	16	2.7	ND	3.9	0.67	
142-82-5	n-Heptane	ND	7.8	1.2	ND	1.9	0.30	
10061-01-5	cis-1,3-Dichloropropene	ND	8.1	1.2	ND	1.8	0.26	
108-10-1	4-Methyl-2-pentanone	**1.2**	7.6	1.1	**0.28**	1.9	0.26	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	7.6	1.6	ND	1.7	0.35	
79-00-5	1,1,2-Trichloroethane	**1.0**	7.8	0.78	**0.18**	1.4	0.14	**J**
108-88-3	Toluene	**9.0**	7.6	0.94	**2.4**	2.0	0.25	
591-78-6	2-Hexanone	ND	7.8	0.95	ND	1.9	0.23	
124-48-1	Dibromochloromethane	ND	7.8	1.0	ND	0.91	0.12	
106-93-4	1,2-Dibromoethane	ND	7.8	0.89	ND	1.0	0.12	
123-86-4	n-Butyl Acetate	**4.3**	7.8	1.1	**0.91**	1.6	0.22	**J**

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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Exhaust** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-001

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00053

Initial Pressure (psig): -0.52 Final Pressure (psig): 5.77

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	7.8	1.7	ND	1.7	0.37	
127-18-4	Tetrachloroethene	**13**	7.6	0.99	**2.0**	1.1	0.15	
108-90-7	Chlorobenzene	ND	7.6	1.0	ND	1.7	0.22	
100-41-4	Ethylbenzene	**2.0**	7.5	1.1	**0.46**	1.7	0.25	**J**
179601-23-1	m,p-Xylenes	**9.4**	16	2.0	**2.2**	3.6	0.46	**J**
75-25-2	Bromoform	ND	7.6	1.6	ND	0.74	0.15	
100-42-5	Styrene	ND	7.6	1.2	ND	1.8	0.29	
95-47-6	o-Xylene	**4.0**	7.6	1.1	**0.91**	1.8	0.26	**J**
111-84-2	n-Nonane	**3.3**	7.8	1.3	**0.63**	1.5	0.24	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.6	1.1	ND	1.1	0.16	
98-82-8	Cumene	ND	7.6	1.1	ND	1.6	0.23	
80-56-8	alpha-Pinene	ND	7.5	1.2	ND	1.3	0.21	
103-65-1	n-Propylbenzene	ND	7.8	1.1	ND	1.6	0.23	
622-96-8	4-Ethyltoluene	**1.5**	7.6	1.2	**0.31**	1.6	0.25	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.2**	7.6	1.1	**0.46**	1.6	0.23	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.2**	7.6	1.1	**1.3**	1.6	0.22	**J**
100-44-7	Benzyl Chloride	ND	16	1.7	ND	3.1	0.33	
541-73-1	1,3-Dichlorobenzene	ND	7.8	1.2	ND	1.3	0.19	
106-46-7	1,4-Dichlorobenzene	ND	7.8	1.2	ND	1.3	0.20	
95-50-1	1,2-Dichlorobenzene	ND	7.8	1.1	ND	1.3	0.19	
5989-27-5	d-Limonene	ND	7.3	1.6	ND	1.3	0.28	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.5	1.4	ND	0.78	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	7.6	1.9	ND	1.0	0.25	
91-20-3	Naphthalene	ND	7.3	1.9	ND	1.4	0.36	
87-68-3	Hexachlorobutadiene	ND	7.6	1.6	ND	0.72	0.15	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -0.58 Final Pressure (psig): 6.17

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**57**	13	3.2	**33**	7.5	1.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	13	2.1	**0.74**	2.6	0.43	**J**
74-87-3	Chloromethane	ND	12	2.1	ND	6.0	1.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	13	2.1	ND	1.8	0.30	
75-01-4	Vinyl Chloride	ND	13	1.4	ND	5.1	0.55	
106-99-0	1,3-Butadiene	ND	13	2.2	ND	5.8	0.98	
74-83-9	Bromomethane	ND	12	1.8	ND	3.2	0.47	
75-00-3	Chloroethane	ND	13	1.6	ND	4.8	0.62	
64-17-5	Ethanol	**21**	130	9.1	**11**	67	4.8	**J**
75-05-8	Acetonitrile	ND	13	3.2	ND	7.6	1.9	
107-02-8	Acrolein	ND	25	3.7	ND	11	1.6	
67-64-1	Acetone	**54**	130	30	**23**	56	12	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	ND	13	2.0	ND	2.3	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	52	5.4	ND	21	2.2	
107-13-1	Acrylonitrile	ND	13	2.7	ND	5.9	1.3	
75-35-4	1,1-Dichloroethene	**120**	13	1.8	**29**	3.4	0.46	
75-09-2	Methylene Chloride	**4.4**	13	3.7	**1.3**	3.8	1.1	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	13	1.8	ND	4.2	0.57	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**5.6**	13	1.9	**0.73**	1.7	0.24	**J**
75-15-0	Carbon Disulfide	ND	27	3.9	ND	8.7	1.3	
156-60-5	trans-1,2-Dichloroethene	ND	13	1.8	ND	3.3	0.46	
75-34-3	1,1-Dichloroethane	**3.4**	13	1.9	**0.83**	3.2	0.48	**J**
1634-04-4	Methyl tert-Butyl Ether	ND	13	1.6	ND	3.7	0.43	
108-05-4	Vinyl Acetate	ND	130	30	ND	37	8.4	
78-93-3	2-Butanone (MEK)	ND	25	2.7	ND	8.4	0.92	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -0.58 Final Pressure (psig): 6.17

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	13	1.9	ND	3.3	0.47	
141-78-6	Ethyl Acetate	ND	27	6.9	ND	7.5	1.9	
110-54-3	n-Hexane	ND	13	2.7	ND	3.8	0.77	
67-66-3	Chloroform	ND	13	1.8	ND	2.7	0.36	
109-99-9	Tetrahydrofuran (THF)	ND	13	1.7	ND	4.4	0.56	
107-06-2	1,2-Dichloroethane	ND	13	1.5	ND	3.2	0.36	
71-55-6	1,1,1-Trichloroethane	**35**	13	1.6	**6.4**	2.4	0.30	
71-43-2	Benzene	ND	13	1.9	ND	4.0	0.59	
56-23-5	Carbon Tetrachloride	ND	13	1.8	ND	2.0	0.29	
110-82-7	Cyclohexane	ND	25	3.7	ND	7.2	1.1	
78-87-5	1,2-Dichloropropane	ND	13	1.6	ND	2.9	0.35	
75-27-4	Bromodichloromethane	ND	13	1.9	ND	2.0	0.28	
79-01-6	Trichloroethene	ND	13	1.8	ND	2.4	0.33	
123-91-1	1,4-Dioxane	**2,400**	13	1.6	**660**	3.6	0.43	
80-62-6	Methyl Methacrylate	ND	27	4.7	ND	6.6	1.1	
142-82-5	n-Heptane	ND	13	2.1	ND	3.3	0.51	
10061-01-5	cis-1,3-Dichloropropene	ND	14	2.0	ND	3.0	0.45	
108-10-1	4-Methyl-2-pentanone	ND	13	1.8	ND	3.2	0.44	
10061-02-6	trans-1,3-Dichloropropene	ND	13	2.7	ND	2.9	0.60	
79-00-5	1,1,2-Trichloroethane	ND	13	1.3	ND	2.4	0.24	
108-88-3	Toluene	ND	13	1.6	ND	3.5	0.43	
591-78-6	2-Hexanone	ND	13	1.6	ND	3.3	0.40	
124-48-1	Dibromochloromethane	ND	13	1.7	ND	1.6	0.20	
106-93-4	1,2-Dibromoethane	ND	13	1.5	ND	1.7	0.20	
123-86-4	n-Butyl Acetate	**3.8**	13	1.8	**0.79**	2.8	0.38	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 1** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -0.58 Final Pressure (psig): 6.17

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	13	3.0	ND	2.9	0.63	
127-18-4	Tetrachloroethene	ND	13	1.7	ND	1.9	0.25	
108-90-7	Chlorobenzene	ND	13	1.8	ND	2.8	0.38	
100-41-4	Ethylbenzene	ND	13	1.9	ND	3.0	0.43	
179601-23-1	m,p-Xylenes	ND	27	3.5	ND	6.2	0.80	
75-25-2	Bromoform	ND	13	2.7	ND	1.3	0.26	
100-42-5	Styrene	ND	13	2.1	ND	3.1	0.50	
95-47-6	o-Xylene	ND	13	1.9	ND	3.0	0.44	
111-84-2	n-Nonane	**3.1**	13	2.2	**0.60**	2.5	0.42	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	13	1.8	ND	1.9	0.27	
98-82-8	Cumene	ND	13	1.9	ND	2.7	0.39	
80-56-8	alpha-Pinene	ND	13	2.0	ND	2.3	0.36	
103-65-1	n-Propylbenzene	ND	13	1.9	ND	2.7	0.39	
622-96-8	4-Ethyltoluene	ND	13	2.1	ND	2.7	0.43	
108-67-8	1,3,5-Trimethylbenzene	ND	13	1.9	ND	2.7	0.39	
95-63-6	1,2,4-Trimethylbenzene	ND	13	1.8	ND	2.7	0.37	
100-44-7	Benzyl Chloride	ND	27	3.0	ND	5.2	0.57	
541-73-1	1,3-Dichlorobenzene	ND	13	2.0	ND	2.2	0.33	
106-46-7	1,4-Dichlorobenzene	ND	13	2.0	ND	2.2	0.34	
95-50-1	1,2-Dichlorobenzene	ND	13	1.9	ND	2.2	0.32	
5989-27-5	d-Limonene	ND	13	2.7	ND	2.3	0.49	
96-12-8	1,2-Dibromo-3-chloropropane	ND	13	2.5	ND	1.3	0.26	
120-82-1	1,2,4-Trichlorobenzene	ND	13	3.2	ND	1.8	0.43	
91-20-3	Naphthalene	ND	13	3.2	ND	2.4	0.61	
87-68-3	Hexachlorobutadiene	ND	13	2.7	ND	1.2	0.25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-003

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00521

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.71

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**28**	1.8	0.46	**16**	1.1	0.27	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	1.8	0.31	**0.58**	0.37	0.062	
74-87-3	Chloromethane	**0.66**	1.8	0.30	**0.32**	0.85	0.15	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**0.33**	1.8	0.30	**0.048**	0.26	0.042	**J**
75-01-4	Vinyl Chloride	ND	1.9	0.20	ND	0.73	0.079	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.83	0.14	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.68	0.088	
64-17-5	Ethanol	**27**	18	1.3	**14**	9.5	0.69	
75-05-8	Acetonitrile	**0.50**	1.8	0.46	**0.30**	1.1	0.27	**J**
107-02-8	Acrolein	ND	3.5	0.53	ND	1.5	0.23	
67-64-1	Acetone	**31**	19	4.2	**13**	8.0	1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.8**	1.9	0.29	**0.32**	0.33	0.051	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.2**	7.4	0.78	**1.7**	3.0	0.32	**J**
107-13-1	Acrylonitrile	ND	1.8	0.39	ND	0.84	0.18	
75-35-4	1,1-Dichloroethene	**77**	1.9	0.26	**19**	0.48	0.066	
75-09-2	Methylene Chloride	**1.4**	1.9	0.53	**0.41**	0.55	0.15	**J**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.9	0.25	ND	0.60	0.081	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.48**	1.9	0.27	**0.063**	0.24	0.035	**J**
75-15-0	Carbon Disulfide	**17**	3.9	0.56	**5.4**	1.2	0.18	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.066	
75-34-3	1,1-Dichloroethane	**1.9**	1.8	0.27	**0.47**	0.45	0.068	
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.22	ND	0.53	0.062	
108-05-4	Vinyl Acetate	**4.7**	19	4.2	**1.3**	5.3	1.2	**J**
78-93-3	2-Butanone (MEK)	**1.8**	3.5	0.39	**0.62**	1.2	0.13	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-003

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00521

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.71

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.26	ND	0.47	0.067	
141-78-6	Ethyl Acetate	**170**	3.9	0.99	**47**	1.1	0.27	
110-54-3	n-Hexane	**1.5**	1.9	0.39	**0.42**	0.54	0.11	**J**
67-66-3	Chloroform	**0.34**	1.9	0.25	**0.070**	0.39	0.051	**J**
109-99-9	Tetrahydrofuran (THF)	**6.1**	1.9	0.24	**2.1**	0.63	0.080	
107-06-2	1,2-Dichloroethane	ND	1.9	0.21	ND	0.46	0.051	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.23	ND	0.35	0.043	
71-43-2	Benzene	**0.99**	1.8	0.27	**0.31**	0.57	0.085	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.29	0.041	
110-82-7	Cyclohexane	ND	3.5	0.53	ND	1.0	0.15	
78-87-5	1,2-Dichloropropane	ND	1.9	0.23	ND	0.41	0.050	
75-27-4	Bromodichloromethane	ND	1.9	0.27	ND	0.28	0.041	
79-01-6	Trichloroethene	ND	1.9	0.25	ND	0.35	0.047	
123-91-1	1,4-Dioxane	**8.7**	1.9	0.22	**2.4**	0.52	0.062	
80-62-6	Methyl Methacrylate	ND	3.9	0.67	ND	0.95	0.16	
142-82-5	n-Heptane	**0.51**	1.9	0.30	**0.12**	0.46	0.073	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.29	ND	0.43	0.064	
108-10-1	4-Methyl-2-pentanone	**0.35**	1.9	0.26	**0.085**	0.46	0.063	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.39	ND	0.41	0.085	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.19	ND	0.35	0.035	
108-88-3	Toluene	**5.6**	1.9	0.23	**1.5**	0.50	0.061	
591-78-6	2-Hexanone	**0.37**	1.9	0.23	**0.090**	0.46	0.057	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.25	ND	0.22	0.029	
106-93-4	1,2-Dibromoethane	ND	1.9	0.22	ND	0.25	0.028	
123-86-4	n-Butyl Acetate	**4.4**	1.9	0.26	**0.92**	0.40	0.054	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **SVE Carbon 2** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P1903119-003

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 5/30/19
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00521

Initial Pressure (psig): -0.23 Final Pressure (psig): 5.71

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.4**	1.9	0.42	**0.31**	0.41	0.091	**J**
127-18-4	Tetrachloroethene	ND	1.9	0.24	ND	0.28	0.036	
108-90-7	Chlorobenzene	ND	1.9	0.25	ND	0.41	0.054	
100-41-4	Ethylbenzene	**0.80**	1.8	0.26	**0.18**	0.42	0.061	**J**
179601-23-1	m,p-Xylenes	**3.1**	3.9	0.49	**0.72**	0.89	0.11	**J**
75-25-2	Bromoform	ND	1.9	0.39	ND	0.18	0.038	
100-42-5	Styrene	**0.42**	1.9	0.30	**0.099**	0.44	0.071	**J**
95-47-6	o-Xylene	**0.88**	1.9	0.27	**0.20**	0.43	0.063	**J**
111-84-2	n-Nonane	**3.9**	1.9	0.31	**0.74**	0.36	0.060	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.26	ND	0.27	0.038	
98-82-8	Cumene	ND	1.9	0.27	ND	0.38	0.055	
80-56-8	alpha-Pinene	**2.2**	1.8	0.29	**0.39**	0.33	0.052	
103-65-1	n-Propylbenzene	ND	1.9	0.27	ND	0.39	0.055	
622-96-8	4-Ethyltoluene	**0.39**	1.9	0.30	**0.080**	0.38	0.061	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.41**	1.9	0.27	**0.084**	0.38	0.055	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	1.9	0.26	**0.22**	0.38	0.053	**J**
100-44-7	Benzyl Chloride	ND	3.9	0.42	ND	0.75	0.082	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ND	0.32	0.048	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.28	ND	0.32	0.046	
5989-27-5	d-Limonene	**0.63**	1.8	0.39	**0.11**	0.32	0.070	**J**
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.19	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.46	ND	0.25	0.062	
91-20-3	Naphthalene	ND	1.8	0.46	ND	0.34	0.087	
87-68-3	Hexachlorobutadiene	ND	1.9	0.39	ND	0.18	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903119

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 6/12/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903119

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 6/12/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903119

Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 6/12/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Project ID: P1903119

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 5/22/19
Analyst: Simon Cao Date(s) Received: 5/30/19
Sample Type: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 6/12/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190612-MB	**102**	**100**	**99**	70-130	
Lab Control Sample	P190612-LCS	**100**	**99**	**98**	70-130	
SVE Exhaust	P1903119-001	**100**	**100**	**99**	70-130	
SVE Carbon 1	P1903119-002	**102**	**100**	**98**	70-130	
SVE Carbon 2	P1903119-003	**102**	**99**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
115-07-1	Propene	211	**215**	**102**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**197**	**94**	62-103	
74-87-3	Chloromethane	211	**213**	**101**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**197**	**93**	56-111	
75-01-4	Vinyl Chloride	214	**205**	**96**	57-117	
106-99-0	1,3-Butadiene	210	**219**	**104**	53-134	
74-83-9	Bromomethane	212	**205**	**97**	65-110	
75-00-3	Chloroethane	214	**203**	**95**	64-111	
64-17-5	Ethanol	1,020	**969**	**95**	57-124	
75-05-8	Acetonitrile	206	**204**	**99**	57-126	
107-02-8	Acrolein	205	**190**	**93**	62-121	
67-64-1	Acetone	1,060	**1000**	**94**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**201**	**95**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**400**	**97**	60-124	
107-13-1	Acrylonitrile	207	**201**	**97**	66-125	
75-35-4	1,1-Dichloroethene	218	**203**	**93**	68-107	
75-09-2	Methylene Chloride	217	**201**	**93**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**212**	**98**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**201**	**93**	59-109	
75-15-0	Carbon Disulfide	218	**200**	**92**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**202**	**94**	70-115	
75-34-3	1,1-Dichloroethane	216	**205**	**95**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**213**	**100**	67-109	
108-05-4	Vinyl Acetate	1,060	**1030**	**97**	68-136	
78-93-3	2-Butanone (MEK)	208	**182**	**88**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**199**	**94**	67-110	
141-78-6	Ethyl Acetate	436	**424**	**97**	64-127	
110-54-3	n-Hexane	216	**205**	**95**	60-115	
67-66-3	Chloroform	217	**204**	**94**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**199**	**92**	65-110	
107-06-2	1,2-Dichloroethane	215	**201**	**93**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**204**	**95**	64-108	
71-43-2	Benzene	211	**185**	**88**	67-106	
56-23-5	Carbon Tetrachloride	212	**200**	**94**	64-112	
110-82-7	Cyclohexane	416	**400**	**96**	67-110	
78-87-5	1,2-Dichloropropane	216	**206**	**95**	66-112	
75-27-4	Bromodichloromethane	215	**211**	**98**	67-113	
79-01-6	Trichloroethene	213	**203**	**95**	66-108	
123-91-1	1,4-Dioxane	214	**202**	**94**	70-116	
80-62-6	Methyl Methacrylate	431	**435**	**101**	73-118	
142-82-5	n-Heptane	215	**206**	**96**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**213**	**100**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**213**	**102**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**218**	**102**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**207**	**96**	68-112	
108-88-3	Toluene	212	**192**	**91**	62-111	
591-78-6	2-Hexanone	214	**207**	**97**	59-128	
124-48-1	Dibromochloromethane	213	**209**	**98**	67-123	
106-93-4	1,2-Dibromoethane	216	**205**	**95**	66-122	
123-86-4	n-Butyl Acetate	219	**214**	**98**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903119
Client Project ID: **SVE Performance Monitoring / KUHO-19-010** ALS Sample ID: P190612-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/12/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**203**	**94**	65-114	
127-18-4	Tetrachloroethene	213	**199**	**93**	55-120	
108-90-7	Chlorobenzene	215	**198**	**92**	61-114	
100-41-4	Ethylbenzene	212	**196**	**92**	64-113	
179601-23-1	m,p-Xylenes	426	**393**	**92**	64-114	
75-25-2	Bromoform	213	**214**	**100**	65-132	
100-42-5	Styrene	212	**210**	**99**	67-124	
95-47-6	o-Xylene	214	**200**	**93**	65-114	
111-84-2	n-Nonane	215	**203**	**94**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**194**	**91**	66-119	
98-82-8	Cumene	214	**200**	**93**	61-116	
80-56-8	alpha-Pinene	211	**210**	**100**	65-120	
103-65-1	n-Propylbenzene	218	**204**	**94**	63-117	
622-96-8	4-Ethyltoluene	214	**215**	**100**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**198**	**93**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**204**	**95**	61-122	
100-44-7	Benzyl Chloride	217	**229**	**106**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**202**	**94**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**202**	**94**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**202**	**94**	61-126	
5989-27-5	d-Limonene	211	**225**	**107**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**212**	**101**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**215**	**100**	62-141	
91-20-3	Naphthalene	203	**222**	**109**	62-145	
87-68-3	Hexachlorobutadiene	209	**201**	**96**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.00075**	**0.00230**	**0.02300**
enter avg flow rate in ACFM air	cubic ft/min	**302.38**	302.38	302.38
ave flow rate in cubic ft per day	ft3/day	435426	435426	435426
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi mol)/(R lbmol g)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	33502.6	33502.6	33502.6
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1155.26	1155.26	1155.26
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	8.66447E-07	2.6571E-06	2.6571E-05
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.0001**	**0.0003**	**0.0023**
January 2019 Recovery		**0.004**	**0.008**	**0.072**

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.006**	**0.03**	**0.47**
enter avg flow rate in ACFM air	cubic ft/min	**303.32**	303.32	303.32
ave flow rate in cubic ft per day	ft3/day	436778	436778	436778
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi)/(R lbm)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	33606.6	33606.6	33606.6
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1158.85	1158.85	1158.85
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	7.18487E-06	3.36066E-05	0.000544659
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.001**	**0.003**	**0.048**
February 2019 Recovery		**0.027**	**0.091**	**1.334**

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.006**	**0.03**	**0.47**
enter avg flow rate in ACFM air	cubic ft/min	**309.23**	309.23	309.23
ave flow rate in cubic ft per day	ft3/day	445298	445298	445298
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi)/(R lbm)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	34262.2	34262.2	34262.2
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1181.46	1181.46	1181.46
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	7.32502E-06	3.42622E-05	0.000555284
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.001**	**0.003**	**0.049**
March 2019 Recovery		**0.029**	**0.100**	**1.467**

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.006**	**0.03**	**0.47**
enter avg flow rate in ACFM air	cubic ft/min	**306.10**	306.10	306.10
ave flow rate in cubic ft per day	ft3/day	440789	440789	440789
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi)/(R lbm)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	33915.2	33915.2	33915.2
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1169.49	1169.49	1169.49
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	7.25084E-06	3.39152E-05	0.00054966
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.001**	**0.003**	**0.048**
April 2019 Recovery		**0.029**	**0.098**	**1.442**

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.006**	**0.029**	**0.52**
enter avg flow rate in ACFM air	cubic ft/min	**306.10**	306.10	306.10
ave flow rate in cubic ft per day	ft3/day	440789	440789	440789
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi)/(R lbm)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	33915.2	33915.2	33915.2
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1169.49	1169.49	1169.49
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	6.78304E-06	3.39152E-05	0.000608135
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.001**	**0.003**	**0.05**
May 2019 Recovery		**0.027**	**0.100**	**1.627**

Calculation of Mass Recovery Per Day and Per Month
SVE system
Kuhlman Electric Corporation
Crystal Springs, MS

OPERATING PARAMETER	UNITS	1,1,1-Trichloroethane	1,1-Dichloroethene	1,4-Dioxane
Constituent concentration	ppmv	**0.006**	**0.029**	**0.52**
enter avg flow rate in ACFM air	cubic ft/min	**304.26**	304.26	304.26
ave flow rate in cubic ft per day	ft3/day	438130	438130	438130
enter avg vapor temperature	degrees F	70	70	70
enter nominal pressure in psig	lb/in2	**0.38**	0.38	0.38
temp in degrees rankin	degrees R	529.67	529.67	529.67
Ru = universal gas constant	psi ft3/(lbmol deg R)	10.73	10.73	10.73
R = specific gas constant air (R=Ru/mw)	(ft3 psi)/(R lbm)	0.37	0.37	0.37
molecular weight of air	lbm/lbmol	29	29	29
molecular weight of constituent	lbm/lbmol	133.4	96.94	88.11
density of air = P/(RT)= (psi R lbm)/(ft3 psi R) =lbm/ft3	lbm/ft3	0.0769	0.0769	0.0769
mass of air recovered per day= flow (ft3/day)*density (lb/ft3)	lbm/day	33710.7	33710.7	33710.7
moles of air recovered per day = mass air/day (lb/day) / mw (lbm/lbmol)	lbmol/ day	1162.44	1162.44	1162.44
moles of constituent recovered per day = ppmv/(10^6)* (lb mol/ day)	lbmol/day	6.74214E-06	3.37107E-05	0.000604468
mass of constituent recovered per day = (lbmol/day) * lbm/lbmol = lb/day	lbm/day	**0.0009**	**0.0033**	**0.0533**
June 2019 Recovery		**0.0243**	**0.0882**	**1.4379**

Appendix C
Ambient Air Sampling Laboratory
Analytical Results

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

March 12, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE In Plant Monitoring / KUH0-19-011

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on February 26, 2019. For your reference, these analyses have been assigned our service request number P1901009.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 12:57 pm, Mar 12, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1901009
Project: SVE In Plant Monitoring / KUH0-19-011

CASE NARRATIVE

The samples were received intact under chain of custody on February 26, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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Simi Valley, CA 93065
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1901009

Project ID: SVE In Plant Monitoring / KUH0-19-011

Date Received: 2/26/2019

Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
Air Mon 01-32	P1901009-001	Air	2/19/2019	07:47	1SC00521	-4.05	6.43	X
Air Mon 02-32	P1901009-002	Air	2/19/2019	07:43	1SC00552	-4.70	5.80	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: 1790009

Company Name & Address (Reporting Information)
Environmental Management Services
PO Box 15369
Hattiesburg MS 39404

Project Name: SVE In Plant Monitoring

Project Number: KUHO-19-04

ALS Contact:

Project Manager: Jeremy Van Slyke

P.O. # / Billing Information: KUHO-19-011 / Same As Reporting

Phone: 601 544 3674 Fax: 601 544 0504

Email Address for Result Reporting: jvanslyke@env-mgt.com

Sampler (Print & Sign): Jeremy Van Slyke / [signature]

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
Air Mon 01-32		2-19-19	0747	1SC00521	0A01049	-30.0	-9.0	1L	X		
Air Mon 02-32		2-19-19	0743	1SC00552	0A01004	-28.0	-9.0	1L	X		

Analysis Method: TO-15

Report Tier Levels - please select
Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required YES / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	2-20-19	1730	Fed Ex		
Fed Ex			[signature]	2/27/19	0830

Cooler / Blank Temperature ____ °C

5 of 25

ALS Environmental

Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1901009

Project: SVE In Plant Monitoring / KUH0-19-011

Sample(s) received on: 2/26/19 Date opened: 2/26/19 by: HAYDEN.AKERS

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1901009-001.01	1.0 L Source Can					
P1901009-002.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 01-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00521

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.43

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**300**	2.6	0.64	**170**	1.5	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.6	0.43	**0.44**	0.52	0.087	**J**
74-87-3	Chloromethane	**0.63**	2.5	0.43	**0.31**	1.2	0.21	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.5	0.42	ND	0.36	0.060	
75-01-4	Vinyl Chloride	ND	2.6	0.28	ND	1.0	0.11	
106-99-0	1,3-Butadiene	ND	2.6	0.44	ND	1.2	0.20	
74-83-9	Bromomethane	ND	2.5	0.37	ND	0.64	0.094	
75-00-3	Chloroethane	ND	2.5	0.33	ND	0.96	0.12	
64-17-5	Ethanol	**530**	25	1.8	**280**	13	0.97	
75-05-8	Acetonitrile	ND	2.6	0.64	ND	1.5	0.38	
107-02-8	Acrolein	**1.4**	5.0	0.74	**0.60**	2.2	0.32	**J**
67-64-1	Acetone	**290**	27	5.9	**120**	11	2.5	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	2.6	0.40	**0.19**	0.47	0.071	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**16**	10	1.1	**6.5**	4.2	0.44	
107-13-1	Acrylonitrile	ND	2.6	0.54	ND	1.2	0.25	
75-35-4	1,1-Dichloroethene	ND	2.7	0.37	ND	0.67	0.092	
75-09-2	Methylene Chloride	ND	2.7	0.74	ND	0.77	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.6	0.36	ND	0.84	0.11	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.48**	2.6	0.38	**0.063**	0.34	0.049	**J**
75-15-0	Carbon Disulfide	ND	5.4	0.79	ND	1.7	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	2.6	0.37	ND	0.66	0.092	
75-34-3	1,1-Dichloroethane	ND	2.6	0.39	ND	0.64	0.095	
1634-04-4	Methyl tert-Butyl Ether	ND	2.7	0.31	ND	0.74	0.087	
108-05-4	Vinyl Acetate	ND	26	5.9	ND	7.5	1.7	
78-93-3	2-Butanone (MEK)	**22**	5.0	0.54	**7.4**	1.7	0.18	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 01-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00521

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.43

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.6	0.37	ND	0.66	0.094	
141-78-6	Ethyl Acetate	**41**	5.4	1.4	**12**	1.5	0.38	
110-54-3	n-Hexane	**5.8**	2.7	0.54	**1.6**	0.76	0.15	
67-66-3	Chloroform	ND	2.7	0.35	ND	0.55	0.072	
109-99-9	Tetrahydrofuran (THF)	**13**	2.6	0.33	**4.3**	0.89	0.11	
107-06-2	1,2-Dichloroethane	ND	2.6	0.29	ND	0.65	0.072	
71-55-6	1,1,1-Trichloroethane	ND	2.7	0.33	ND	0.49	0.060	
71-43-2	Benzene	**0.82**	2.6	0.38	**0.26**	0.81	0.12	**J**
56-23-5	Carbon Tetrachloride	ND	2.6	0.37	ND	0.41	0.058	
110-82-7	Cyclohexane	**1.0**	5.0	0.74	**0.29**	1.4	0.22	**J**
78-87-5	1,2-Dichloropropane	ND	2.7	0.33	ND	0.58	0.071	
75-27-4	Bromodichloromethane	ND	2.6	0.38	ND	0.39	0.057	
79-01-6	Trichloroethene	**0.46**	2.6	0.36	**0.086**	0.49	0.066	**J**
123-91-1	1,4-Dioxane	ND	2.6	0.31	ND	0.73	0.087	
80-62-6	Methyl Methacrylate	**1.1**	5.4	0.94	**0.27**	1.3	0.23	**J**
142-82-5	n-Heptane	**2.6**	2.7	0.42	**0.64**	0.65	0.10	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.8	0.41	ND	0.61	0.091	
108-10-1	4-Methyl-2-pentanone	**13**	2.6	0.36	**3.3**	0.64	0.088	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	0.54	ND	0.58	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.7	0.27	ND	0.49	0.049	
108-88-3	Toluene	**290**	2.6	0.32	**78**	0.70	0.085	
591-78-6	2-Hexanone	**1.4**	2.7	0.33	**0.35**	0.65	0.080	**J**
124-48-1	Dibromochloromethane	ND	2.7	0.35	ND	0.31	0.041	
106-93-4	1,2-Dibromoethane	ND	2.7	0.31	ND	0.35	0.040	
123-86-4	n-Butyl Acetate	**30**	2.7	0.36	**6.3**	0.56	0.076	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 01-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-001

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00521

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.43

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**0.94**	2.7	0.59	**0.20**	0.57	0.13	**J**
127-18-4	Tetrachloroethene	**0.92**	2.6	0.34	**0.14**	0.39	0.050	**J**
108-90-7	Chlorobenzene	ND	2.6	0.35	ND	0.57	0.076	
100-41-4	Ethylbenzene	**6.1**	2.6	0.37	**1.4**	0.59	0.086	
179601-23-1	m,p-Xylenes	**14**	5.4	0.69	**3.3**	1.3	0.16	
75-25-2	Bromoform	ND	2.6	0.54	ND	0.25	0.053	
100-42-5	Styrene	**0.55**	2.6	0.43	**0.13**	0.62	0.10	**J**
95-47-6	o-Xylene	**3.3**	2.6	0.38	**0.76**	0.60	0.088	
111-84-2	n-Nonane	ND	2.7	0.44	ND	0.51	0.084	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	0.37	ND	0.38	0.053	
98-82-8	Cumene	ND	2.6	0.38	ND	0.53	0.078	
80-56-8	alpha-Pinene	**2.9**	2.6	0.41	**0.52**	0.46	0.073	
103-65-1	n-Propylbenzene	ND	2.7	0.38	ND	0.54	0.078	
622-96-8	4-Ethyltoluene	ND	2.6	0.42	ND	0.53	0.086	
108-67-8	1,3,5-Trimethylbenzene	ND	2.6	0.38	ND	0.53	0.078	
95-63-6	1,2,4-Trimethylbenzene	ND	2.6	0.37	ND	0.53	0.075	
100-44-7	Benzyl Chloride	ND	5.4	0.59	ND	1.1	0.11	
541-73-1	1,3-Dichlorobenzene	ND	2.7	0.40	ND	0.44	0.066	
106-46-7	1,4-Dichlorobenzene	ND	2.7	0.41	ND	0.44	0.068	
95-50-1	1,2-Dichlorobenzene	ND	2.7	0.39	ND	0.44	0.065	
5989-27-5	d-Limonene	ND	2.5	0.54	ND	0.45	0.098	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.6	0.50	ND	0.27	0.051	
120-82-1	1,2,4-Trichlorobenzene	ND	2.6	0.64	ND	0.35	0.087	
91-20-3	Naphthalene	ND	2.5	0.64	ND	0.48	0.12	
87-68-3	Hexachlorobutadiene	ND	2.6	0.54	ND	0.25	0.051	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00552

Initial Pressure (psig): -4.70 Final Pressure (psig): 5.80

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**100**	2.7	0.67	**60**	1.5	0.39	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.7	0.45	**0.46**	0.54	0.090	**J**
74-87-3	Chloromethane	**1.1**	2.6	0.44	**0.52**	1.2	0.21	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.6	0.43	ND	0.37	0.062	
75-01-4	Vinyl Chloride	ND	2.7	0.29	ND	1.1	0.11	
106-99-0	1,3-Butadiene	ND	2.7	0.45	ND	1.2	0.20	
74-83-9	Bromomethane	ND	2.6	0.38	ND	0.66	0.098	
75-00-3	Chloroethane	ND	2.6	0.34	ND	0.99	0.13	
64-17-5	Ethanol	**340**	26	1.9	**180**	14	1.0	
75-05-8	Acetonitrile	ND	2.7	0.67	ND	1.6	0.40	
107-02-8	Acrolein	**1.7**	5.1	0.77	**0.72**	2.2	0.34	**J**
67-64-1	Acetone	**200**	28	6.2	**86**	12	2.6	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	2.7	0.42	**0.20**	0.48	0.074	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**8.2**	11	1.1	**3.3**	4.4	0.46	**J**
107-13-1	Acrylonitrile	ND	2.7	0.56	ND	1.2	0.26	
75-35-4	1,1-Dichloroethene	ND	2.8	0.38	ND	0.70	0.096	
75-09-2	Methylene Chloride	ND	2.8	0.77	ND	0.80	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.7	0.37	ND	0.87	0.12	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.46**	2.7	0.39	**0.060**	0.35	0.051	**J**
75-15-0	Carbon Disulfide	**3.3**	5.6	0.82	**1.1**	1.8	0.26	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.7	0.38	ND	0.69	0.096	
75-34-3	1,1-Dichloroethane	ND	2.7	0.40	ND	0.66	0.099	
1634-04-4	Methyl tert-Butyl Ether	ND	2.8	0.32	ND	0.77	0.090	
108-05-4	Vinyl Acetate	ND	27	6.2	ND	7.7	1.7	
78-93-3	2-Butanone (MEK)	**31**	5.1	0.56	**11**	1.7	0.19	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00552

Initial Pressure (psig): -4.70 Final Pressure (psig): 5.80

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.7	0.38	ND	0.69	0.097	
141-78-6	Ethyl Acetate	**34**	5.6	1.4	**9.5**	1.6	0.40	
110-54-3	n-Hexane	**10**	2.8	0.56	**3.0**	0.79	0.16	
67-66-3	Chloroform	ND	2.8	0.36	ND	0.57	0.075	
109-99-9	Tetrahydrofuran (THF)	**11**	2.7	0.34	**3.6**	0.92	0.12	
107-06-2	1,2-Dichloroethane	ND	2.7	0.30	ND	0.67	0.075	
71-55-6	1,1,1-Trichloroethane	ND	2.8	0.34	ND	0.51	0.062	
71-43-2	Benzene	**0.90**	2.7	0.39	**0.28**	0.83	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.40**	2.7	0.38	**0.064**	0.42	0.060	**J**
110-82-7	Cyclohexane	**1.4**	5.1	0.77	**0.41**	1.5	0.22	**J**
78-87-5	1,2-Dichloropropane	ND	2.8	0.34	ND	0.60	0.073	
75-27-4	Bromodichloromethane	ND	2.7	0.39	ND	0.41	0.059	
79-01-6	Trichloroethene	ND	2.7	0.37	ND	0.51	0.069	
123-91-1	1,4-Dioxane	**0.76**	2.7	0.32	**0.21**	0.75	0.090	**J**
80-62-6	Methyl Methacrylate	ND	5.6	0.97	ND	1.4	0.24	
142-82-5	n-Heptane	**2.8**	2.8	0.44	**0.69**	0.68	0.11	
10061-01-5	cis-1,3-Dichloropropene	ND	2.9	0.43	ND	0.63	0.094	
108-10-1	4-Methyl-2-pentanone	**6.0**	2.7	0.37	**1.5**	0.66	0.091	
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	0.56	ND	0.60	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.8	0.28	ND	0.51	0.051	
108-88-3	Toluene	**50**	2.7	0.33	**13**	0.72	0.088	
591-78-6	2-Hexanone	**1.4**	2.8	0.34	**0.34**	0.68	0.083	**J**
124-48-1	Dibromochloromethane	ND	2.8	0.36	ND	0.32	0.042	
106-93-4	1,2-Dibromoethane	ND	2.8	0.32	ND	0.36	0.041	
123-86-4	n-Butyl Acetate	**19**	2.8	0.37	**4.0**	0.58	0.079	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-32** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1901009-002

Test Code: EPA TO-15 Date Collected: 2/19/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/26/19
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00552

Initial Pressure (psig): -4.70 Final Pressure (psig): 5.80

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.8**	2.8	0.62	**0.40**	0.59	0.13	**J**
127-18-4	Tetrachloroethene	**1.4**	2.7	0.35	**0.20**	0.40	0.052	**J**
108-90-7	Chlorobenzene	ND	2.7	0.36	ND	0.59	0.079	
100-41-4	Ethylbenzene	**13**	2.7	0.38	**3.0**	0.61	0.089	
179601-23-1	m,p-Xylenes	**51**	5.6	0.72	**12**	1.3	0.17	
75-25-2	Bromoform	ND	2.7	0.56	ND	0.26	0.055	
100-42-5	Styrene	ND	2.7	0.44	ND	0.64	0.10	
95-47-6	o-Xylene	**17**	2.7	0.39	**3.9**	0.63	0.091	
111-84-2	n-Nonane	**5.1**	2.8	0.46	**0.97**	0.53	0.087	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	0.38	ND	0.40	0.055	
98-82-8	Cumene	**0.88**	2.7	0.39	**0.18**	0.55	0.080	**J**
80-56-8	alpha-Pinene	ND	2.7	0.42	ND	0.48	0.075	
103-65-1	n-Propylbenzene	**2.1**	2.8	0.39	**0.43**	0.56	0.080	**J**
622-96-8	4-Ethyltoluene	**2.9**	2.7	0.44	**0.58**	0.55	0.089	
108-67-8	1,3,5-Trimethylbenzene	**3.0**	2.7	0.39	**0.61**	0.55	0.080	
95-63-6	1,2,4-Trimethylbenzene	**7.9**	2.7	0.38	**1.6**	0.55	0.077	
100-44-7	Benzyl Chloride	ND	5.6	0.62	ND	1.1	0.12	
541-73-1	1,3-Dichlorobenzene	ND	2.8	0.41	ND	0.46	0.068	
106-46-7	1,4-Dichlorobenzene	ND	2.8	0.42	ND	0.46	0.070	
95-50-1	1,2-Dichlorobenzene	ND	2.8	0.40	ND	0.46	0.067	
5989-27-5	d-Limonene	ND	2.6	0.56	ND	0.47	0.10	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.7	0.51	ND	0.28	0.053	
120-82-1	1,2,4-Trichlorobenzene	ND	2.7	0.67	ND	0.37	0.090	
91-20-3	Naphthalene	ND	2.6	0.67	ND	0.50	0.13	
87-68-3	Hexachlorobutadiene	ND	2.7	0.56	ND	0.25	0.053	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901009

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 3/1/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901009

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 3/1/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901009

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 3/1/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901009

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 3/4/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1901009

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 3/4/19

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Project ID: P1901009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 2/19/19
Analyst: Lusine Hakobyan Date(s) Received: 2/26/19
Sample Type: 1.0 L Summa Canister(s) Date(s) Analyzed: 3/1 - 3/4/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190301-MB	**90**	**122**	**114**	70-130	
Method Blank	P190304-MB	**89**	**125**	**113**	70-130	
Lab Control Sample	P190301-LCS	**91**	**122**	**115**	70-130	
Lab Control Sample	P190304-LCS	**88**	**124**	**114**	70-130	
Air Mon 01-32	P1901009-001	**89**	**123**	**115**	70-130	
Air Mon 02-32	P1901009-002	**90**	**122**	**114**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**184**	**87**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**187**	**89**	62-103	
74-87-3	Chloromethane	211	**188**	**89**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**196**	**93**	56-111	
75-01-4	Vinyl Chloride	214	**177**	**83**	57-117	
106-99-0	1,3-Butadiene	210	**197**	**94**	53-134	
74-83-9	Bromomethane	212	**207**	**98**	65-110	
75-00-3	Chloroethane	214	**190**	**89**	64-111	
64-17-5	Ethanol	1,020	**873**	**86**	57-124	
75-05-8	Acetonitrile	206	**173**	**84**	57-126	
107-02-8	Acrolein	205	**176**	**86**	62-121	
67-64-1	Acetone	1,060	**836**	**79**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**186**	**88**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**375**	**91**	60-124	
107-13-1	Acrylonitrile	207	**186**	**90**	66-125	
75-35-4	1,1-Dichloroethene	218	**203**	**93**	68-107	
75-09-2	Methylene Chloride	217	**190**	**88**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**195**	**90**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**209**	**97**	59-109	
75-15-0	Carbon Disulfide	218	**201**	**92**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**187**	**87**	70-115	
75-34-3	1,1-Dichloroethane	216	**189**	**88**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**195**	**91**	67-109	
108-05-4	Vinyl Acetate	1,060	**1100**	**104**	68-136	
78-93-3	2-Butanone (MEK)	208	**193**	**93**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**183**	**87**	67-110	
141-78-6	Ethyl Acetate	436	**410**	**94**	64-127	
110-54-3	n-Hexane	216	**195**	**90**	60-115	
67-66-3	Chloroform	217	**191**	**88**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**192**	**89**	65-110	
107-06-2	1,2-Dichloroethane	215	**182**	**85**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**196**	**91**	64-108	
71-43-2	Benzene	211	**179**	**85**	67-106	
56-23-5	Carbon Tetrachloride	212	**199**	**94**	64-112	
110-82-7	Cyclohexane	416	**390**	**94**	67-110	
78-87-5	1,2-Dichloropropane	216	**195**	**90**	66-112	
75-27-4	Bromodichloromethane	215	**204**	**95**	67-113	
79-01-6	Trichloroethene	213	**209**	**98**	66-108	
123-91-1	1,4-Dioxane	214	**189**	**88**	70-116	
80-62-6	Methyl Methacrylate	431	**439**	**102**	73-118	
142-82-5	n-Heptane	215	**193**	**90**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**209**	**98**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**195**	**93**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**212**	**100**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**206**	**96**	68-112	
108-88-3	Toluene	212	**200**	**94**	62-111	
591-78-6	2-Hexanone	214	**189**	**88**	59-128	
124-48-1	Dibromochloromethane	213	**220**	**103**	67-123	
106-93-4	1,2-Dibromoethane	216	**209**	**97**	66-122	
123-86-4	n-Butyl Acetate	219	**208**	**95**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/1/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**190**	**88**	65-114	
127-18-4	Tetrachloroethene	213	**212**	**100**	55-120	
108-90-7	Chlorobenzene	215	**203**	**94**	61-114	
100-41-4	Ethylbenzene	212	**193**	**91**	64-113	
179601-23-1	m,p-Xylenes	426	**390**	**92**	64-114	
75-25-2	Bromoform	213	**235**	**110**	65-132	
100-42-5	Styrene	212	**209**	**99**	67-124	
95-47-6	o-Xylene	214	**196**	**92**	65-114	
111-84-2	n-Nonane	215	**185**	**86**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**199**	**93**	66-119	
98-82-8	Cumene	214	**199**	**93**	61-116	
80-56-8	alpha-Pinene	211	**197**	**93**	65-120	
103-65-1	n-Propylbenzene	218	**202**	**93**	63-117	
622-96-8	4-Ethyltoluene	214	**216**	**101**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**196**	**92**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**201**	**93**	61-122	
100-44-7	Benzyl Chloride	217	**239**	**110**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**214**	**99**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**210**	**97**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**216**	**100**	61-126	
5989-27-5	d-Limonene	211	**205**	**97**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**228**	**109**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**222**	**104**	62-141	
91-20-3	Naphthalene	203	**200**	**99**	62-145	
87-68-3	Hexachlorobutadiene	209	**205**	**98**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**187**	**89**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**182**	**87**	62-103	
74-87-3	Chloromethane	211	**185**	**88**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**200**	**95**	56-111	
75-01-4	Vinyl Chloride	214	**185**	**86**	57-117	
106-99-0	1,3-Butadiene	210	**189**	**90**	53-134	
74-83-9	Bromomethane	212	**213**	**100**	65-110	
75-00-3	Chloroethane	214	**198**	**93**	64-111	
64-17-5	Ethanol	1,020	**908**	**89**	57-124	
75-05-8	Acetonitrile	206	**171**	**83**	57-126	
107-02-8	Acrolein	205	**175**	**85**	62-121	
67-64-1	Acetone	1,060	**817**	**77**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**187**	**89**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**360**	**87**	60-124	
107-13-1	Acrylonitrile	207	**182**	**88**	66-125	
75-35-4	1,1-Dichloroethene	218	**202**	**93**	68-107	
75-09-2	Methylene Chloride	217	**187**	**86**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**192**	**89**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**208**	**96**	59-109	
75-15-0	Carbon Disulfide	218	**200**	**92**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**185**	**86**	70-115	
75-34-3	1,1-Dichloroethane	216	**186**	**86**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**191**	**89**	67-109	
108-05-4	Vinyl Acetate	1,060	**1090**	**103**	68-136	
78-93-3	2-Butanone (MEK)	208	**189**	**91**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	211	**181**	**86**	67-110	
141-78-6	Ethyl Acetate	436	**403**	**92**	64-127	
110-54-3	n-Hexane	216	**195**	**90**	60-115	
67-66-3	Chloroform	217	**188**	**87**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**187**	**87**	65-110	
107-06-2	1,2-Dichloroethane	215	**180**	**84**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**195**	**91**	64-108	
71-43-2	Benzene	211	**177**	**84**	67-106	
56-23-5	Carbon Tetrachloride	212	**199**	**94**	64-112	
110-82-7	Cyclohexane	416	**389**	**94**	67-110	
78-87-5	1,2-Dichloropropane	216	**194**	**90**	66-112	
75-27-4	Bromodichloromethane	215	**203**	**94**	67-113	
79-01-6	Trichloroethene	213	**209**	**98**	66-108	
123-91-1	1,4-Dioxane	214	**187**	**87**	70-116	
80-62-6	Methyl Methacrylate	431	**439**	**102**	73-118	
142-82-5	n-Heptane	215	**195**	**91**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**209**	**98**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**193**	**92**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**211**	**99**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**205**	**95**	68-112	
108-88-3	Toluene	212	**205**	**97**	62-111	
591-78-6	2-Hexanone	214	**195**	**91**	59-128	
124-48-1	Dibromochloromethane	213	**229**	**108**	67-123	
106-93-4	1,2-Dibromoethane	216	**216**	**100**	66-122	
123-86-4	n-Butyl Acetate	219	**212**	**97**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1901009
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190304-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/4/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	217	**198**	**91**	65-114	
127-18-4	Tetrachloroethene	213	**218**	**102**	55-120	
108-90-7	Chlorobenzene	215	**209**	**97**	61-114	
100-41-4	Ethylbenzene	212	**199**	**94**	64-113	
179601-23-1	m,p-Xylenes	426	**401**	**94**	64-114	
75-25-2	Bromoform	213	**243**	**114**	65-132	
100-42-5	Styrene	212	**214**	**101**	67-124	
95-47-6	o-Xylene	214	**200**	**93**	65-114	
111-84-2	n-Nonane	215	**190**	**88**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**204**	**95**	66-119	
98-82-8	Cumene	214	**204**	**95**	61-116	
80-56-8	alpha-Pinene	211	**201**	**95**	65-120	
103-65-1	n-Propylbenzene	218	**205**	**94**	63-117	
622-96-8	4-Ethyltoluene	214	**221**	**103**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**197**	**92**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**204**	**95**	61-122	
100-44-7	Benzyl Chloride	217	**235**	**108**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**217**	**100**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**215**	**100**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**216**	**100**	61-126	
5989-27-5	d-Limonene	211	**195**	**92**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**231**	**111**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**230**	**107**	62-141	
91-20-3	Naphthalene	203	**205**	**101**	62-145	
87-68-3	Hexachlorobutadiene	209	**212**	**101**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

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LABORATORY REPORT

June 13, 2019

Jeremy Van Slyke
Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404

RE: SVE In Plant Monitoring / KUH0-19-011

Dear Jeremy:

Enclosed are the results of the samples submitted to our laboratory on May 30, 2019. For your reference, these analyses have been assigned our service request number P1903117.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 9:43 am, Jun 13, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Environmental Management Services, Inc. Service Request No: P1903117
Project: SVE In Plant Monitoring / KUH0-19-011

CASE NARRATIVE

The samples were received intact under chain of custody on May 30, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environmental Management Services, Inc. Service Request: P1903117

Project ID: SVE In Plant Monitoring / KUH0-19-011

Date Received: 5/30/2019

Time Received: 10:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
Air Mon 01-33	P1903117-001	Air	5/22/2019	07:31	1SS00879	-3.75	5.76	X
Air Mon 02-33	P1903117-002	Air	5/22/2019	07:35	1SS00902	-3.97	6.14	X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P1903117

ALS Contact:

Company Name & Address (Reporting Information)
Environmental Management Services
P O Box 15369
Hattiesburg, MS 39402

Project Name: SVE In Plant Monitoring

Project Number: KUHO-19-011

Project Manager: Jeremy Van Slyke

P.O. # / Billing Information: KUHO-19-011 / Same As Reporting

Phone: 601 544 3674

Fax: 601 544 0504

Email Address for Result Reporting: jvanslyke@env-mgt.com

Sampler (Print & Sign)

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	10-15		Comments e.g. Actual Preservative or specific instructions
Air Mon 01-33		5-22-19	0731	15500879	0A00404	-27.0	-8.0	1L	X		
Air Mon 02-33		5-22-19	0735	15500902	0A01004	-28.0	-8.5	1L	X		

5 of 25

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____

Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No

Type: _____ Units: _____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Jay VanMe	5.24.19	930	— Fed Ex		
— Fed Ex				5-30-19	1000

Cooler / Blank Temperature ____ °C

ALS Environmental

Sample Acceptance Check Form

Client: Environmental Management Services, Inc. Work order: P1903117

Project: SVE In Plant Monitoring / KUH0-19-011

Sample(s) received on: 5/30/19 Date opened: 5/30/19 by: CHRIS.GLEASON

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1903117-001.01	1.0 L Source Silonite Canister					
P1903117-002.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 01-33** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-001

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/30/19
Analyst: Topacio De Leon Date Analyzed: 6/10 - 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00879

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.76

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**470**	24	6.1	**280**	14	3.5	**D**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.4	0.41	**0.46**	0.49	0.082	**J**
74-87-3	Chloromethane	**0.56**	2.3	0.40	**0.27**	1.1	0.19	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.4	0.39	ND	0.34	0.056	
75-01-4	Vinyl Chloride	ND	2.5	0.27	ND	0.97	0.10	
106-99-0	1,3-Butadiene	ND	2.4	0.41	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.3	0.35	ND	0.60	0.089	
75-00-3	Chloroethane	ND	2.4	0.31	ND	0.90	0.12	
64-17-5	Ethanol	**950**	24	1.7	**500**	13	0.92	
75-05-8	Acetonitrile	**0.89**	2.4	0.61	**0.53**	1.4	0.36	**J**
107-02-8	Acrolein	**1.7**	4.7	0.70	**0.75**	2.0	0.31	**J**
67-64-1	Acetone	**1,300**	25	5.6	**560**	11	2.4	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	2.5	0.38	**0.20**	0.44	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**16**	9.8	1.0	**6.5**	4.0	0.42	
107-13-1	Acrylonitrile	**0.91**	2.4	0.51	**0.42**	1.1	0.24	**J**
75-35-4	1,1-Dichloroethene	ND	2.5	0.35	ND	0.64	0.087	
75-09-2	Methylene Chloride	ND	2.5	0.70	ND	0.73	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.5	0.34	ND	0.79	0.11	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.45**	2.5	0.36	**0.059**	0.32	0.046	**J**
75-15-0	Carbon Disulfide	**2.7**	5.1	0.75	**0.86**	1.7	0.24	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.35	ND	0.63	0.087	
75-34-3	1,1-Dichloroethane	ND	2.4	0.36	ND	0.60	0.090	
1634-04-4	Methyl tert-Butyl Ether	ND	2.5	0.29	ND	0.70	0.082	
108-05-4	Vinyl Acetate	ND	25	5.6	ND	7.0	1.6	
78-93-3	2-Butanone (MEK)	**19**	4.7	0.51	**6.4**	1.6	0.17	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

D = The reported result is from a dilution.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 01-33** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-001

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/30/19
Analyst: Topacio De Leon Date Analyzed: 6/10 - 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00879

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.76

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.35	ND	0.63	0.088	
141-78-6	Ethyl Acetate	**25**	5.1	1.3	**6.9**	1.4	0.36	
110-54-3	n-Hexane	**3.3**	2.5	0.51	**0.92**	0.72	0.15	
67-66-3	Chloroform	**0.42**	2.5	0.33	**0.086**	0.52	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	2.5	0.31	**5.6**	0.84	0.11	
107-06-2	1,2-Dichloroethane	ND	2.5	0.28	ND	0.61	0.068	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.31	ND	0.46	0.057	
71-43-2	Benzene	**0.65**	2.4	0.36	**0.20**	0.76	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.35**	2.4	0.35	**0.056**	0.39	0.055	**J**
110-82-7	Cyclohexane	ND	4.7	0.70	ND	1.4	0.20	
78-87-5	1,2-Dichloropropane	ND	2.5	0.31	ND	0.55	0.067	
75-27-4	Bromodichloromethane	ND	2.5	0.36	ND	0.37	0.054	
79-01-6	Trichloroethene	ND	2.5	0.34	ND	0.46	0.063	
123-91-1	1,4-Dioxane	ND	2.5	0.29	ND	0.69	0.082	
80-62-6	Methyl Methacrylate	ND	5.1	0.89	ND	1.3	0.22	
142-82-5	n-Heptane	**2.6**	2.5	0.40	**0.63**	0.62	0.097	
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	0.39	ND	0.58	0.086	
108-10-1	4-Methyl-2-pentanone	**18**	2.5	0.34	**4.3**	0.60	0.083	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.51	ND	0.55	0.11	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.25	ND	0.46	0.046	
108-88-3	Toluene	**160**	2.5	0.30	**43**	0.66	0.081	
591-78-6	2-Hexanone	**0.36**	2.5	0.31	**0.089**	0.62	0.075	**J**
124-48-1	Dibromochloromethane	ND	2.5	0.33	ND	0.30	0.038	
106-93-4	1,2-Dibromoethane	ND	2.5	0.29	ND	0.33	0.038	
123-86-4	n-Butyl Acetate	**180**	2.5	0.34	**38**	0.53	0.072	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Air Mon 01-33** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-001

Test Code:	EPA TO-15	Date Collected:	5/22/19
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	5/30/19
Analyst:	Topacio De Leon	Date Analyzed:	6/10 - 6/11/19
Sample Type:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00879		

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.76

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**2.1**	2.5	0.56	**0.45**	0.54	0.12	**J**
127-18-4	Tetrachloroethene	**1.0**	2.5	0.32	**0.15**	0.37	0.048	**J**
108-90-7	Chlorobenzene	ND	2.5	0.33	ND	0.54	0.072	
100-41-4	Ethylbenzene	**8.7**	2.4	0.35	**2.0**	0.56	0.081	
179601-23-1	m,p-Xylenes	**36**	5.1	0.65	**8.4**	1.2	0.15	
75-25-2	Bromoform	ND	2.5	0.51	ND	0.24	0.050	
100-42-5	Styrene	**3.0**	2.5	0.40	**0.71**	0.58	0.094	
95-47-6	o-Xylene	**14**	2.5	0.36	**3.2**	0.57	0.083	
111-84-2	n-Nonane	**1.2**	2.5	0.42	**0.24**	0.48	0.079	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.35	ND	0.36	0.050	
98-82-8	Cumene	**0.78**	2.5	0.36	**0.16**	0.50	0.073	**J**
80-56-8	alpha-Pinene	**8.6**	2.4	0.38	**1.5**	0.44	0.069	
103-65-1	n-Propylbenzene	**2.8**	2.5	0.36	**0.56**	0.51	0.073	
622-96-8	4-Ethyltoluene	**3.8**	2.5	0.40	**0.78**	0.50	0.081	
108-67-8	1,3,5-Trimethylbenzene	**4.0**	2.5	0.36	**0.82**	0.50	0.073	
95-63-6	1,2,4-Trimethylbenzene	**14**	2.5	0.35	**2.8**	0.50	0.070	
100-44-7	Benzyl Chloride	ND	5.1	0.56	ND	0.99	0.11	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.37	ND	0.42	0.062	
106-46-7	1,4-Dichlorobenzene	**0.39**	2.5	0.38	**0.065**	0.42	0.064	**J**
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.37	ND	0.42	0.061	
5989-27-5	d-Limonene	**4.3**	2.4	0.51	**0.76**	0.43	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	0.47	ND	0.25	0.048	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.61	ND	0.33	0.082	
91-20-3	Naphthalene	**1.4**	2.4	0.61	**0.27**	0.46	0.12	**J**
87-68-3	Hexachlorobutadiene	ND	2.5	0.51	ND	0.23	0.048	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-33** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/30/19
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00902

Initial Pressure (psig): -3.97 Final Pressure (psig): 6.14

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**120**	2.5	0.63	**71**	1.5	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.5	0.42	**0.48**	0.51	0.085	**J**
74-87-3	Chloromethane	**0.60**	2.4	0.42	**0.29**	1.2	0.20	**J**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.5	0.41	ND	0.35	0.058	
75-01-4	Vinyl Chloride	ND	2.6	0.28	ND	1.0	0.11	
106-99-0	1,3-Butadiene	ND	2.5	0.43	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.4	0.36	ND	0.62	0.092	
75-00-3	Chloroethane	ND	2.5	0.32	ND	0.94	0.12	
64-17-5	Ethanol	**1,200**	25	1.8	**620**	13	0.95	
75-05-8	Acetonitrile	**0.94**	2.5	0.63	**0.56**	1.5	0.38	**J**
107-02-8	Acrolein	**1.6**	4.9	0.73	**0.70**	2.1	0.32	**J**
67-64-1	Acetone	**2,500**	26	5.8	**1,000**	11	2.5	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.6	0.39	**0.21**	0.46	0.070	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.1**	10	1.1	**2.1**	4.1	0.43	**J**
107-13-1	Acrylonitrile	**1.3**	2.5	0.53	**0.59**	1.2	0.25	**J**
75-35-4	1,1-Dichloroethene	ND	2.6	0.36	ND	0.66	0.091	
75-09-2	Methylene Chloride	ND	2.6	0.73	ND	0.75	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.6	0.35	ND	0.82	0.11	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.48**	2.6	0.37	**0.062**	0.34	0.048	**J**
75-15-0	Carbon Disulfide	**3.0**	5.3	0.78	**0.95**	1.7	0.25	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.6	0.36	ND	0.65	0.091	
75-34-3	1,1-Dichloroethane	ND	2.5	0.38	ND	0.62	0.094	
1634-04-4	Methyl tert-Butyl Ether	ND	2.6	0.31	ND	0.73	0.085	
108-05-4	Vinyl Acetate	ND	26	5.8	ND	7.3	1.7	
78-93-3	2-Butanone (MEK)	**24**	4.9	0.53	**8.0**	1.6	0.18	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-33** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/30/19
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00902

Initial Pressure (psig): -3.97 Final Pressure (psig): 6.14

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.6	0.36	ND	0.65	0.092	
141-78-6	Ethyl Acetate	**51**	5.3	1.4	**14**	1.5	0.38	
110-54-3	n-Hexane	**4.6**	2.6	0.53	**1.3**	0.74	0.15	
67-66-3	Chloroform	ND	2.6	0.34	ND	0.54	0.071	
109-99-9	Tetrahydrofuran (THF)	**20**	2.6	0.32	**6.7**	0.87	0.11	
107-06-2	1,2-Dichloroethane	ND	2.6	0.29	ND	0.64	0.071	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.32	ND	0.48	0.059	
71-43-2	Benzene	**0.54**	2.5	0.37	**0.17**	0.79	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.38**	2.5	0.36	**0.060**	0.40	0.057	**J**
110-82-7	Cyclohexane	ND	4.9	0.73	ND	1.4	0.21	
78-87-5	1,2-Dichloropropane	ND	2.6	0.32	ND	0.57	0.069	
75-27-4	Bromodichloromethane	ND	2.6	0.37	ND	0.38	0.056	
79-01-6	Trichloroethene	ND	2.6	0.35	ND	0.48	0.065	
123-91-1	1,4-Dioxane	ND	2.6	0.31	ND	0.71	0.085	
80-62-6	Methyl Methacrylate	ND	5.3	0.92	ND	1.3	0.23	
142-82-5	n-Heptane	**3.1**	2.6	0.41	**0.76**	0.64	0.10	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.40	ND	0.60	0.089	
108-10-1	4-Methyl-2-pentanone	**22**	2.6	0.35	**5.5**	0.63	0.086	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	0.53	ND	0.57	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.26	ND	0.48	0.048	
108-88-3	Toluene	**63**	2.6	0.32	**17**	0.68	0.084	
591-78-6	2-Hexanone	**0.37**	2.6	0.32	**0.090**	0.64	0.078	**J**
124-48-1	Dibromochloromethane	ND	2.6	0.34	ND	0.31	0.040	
106-93-4	1,2-Dibromoethane	ND	2.6	0.30	ND	0.34	0.039	
123-86-4	n-Butyl Acetate	**370**	2.6	0.35	**78**	0.55	0.075	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Air Mon 02-33** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P1903117-002

Test Code: EPA TO-15 Date Collected: 5/22/19
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/30/19
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00902

Initial Pressure (psig): -3.97 Final Pressure (psig): 6.14

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	**1.9**	2.6	0.58	**0.41**	0.56	0.12	**J**
127-18-4	Tetrachloroethene	ND	2.6	0.33	ND	0.38	0.049	
108-90-7	Chlorobenzene	ND	2.6	0.34	ND	0.56	0.075	
100-41-4	Ethylbenzene	**13**	2.5	0.36	**3.0**	0.58	0.084	
179601-23-1	m,p-Xylenes	**54**	5.3	0.68	**12**	1.2	0.16	
75-25-2	Bromoform	ND	2.6	0.53	ND	0.25	0.052	
100-42-5	Styrene	**2.6**	2.6	0.42	**0.61**	0.60	0.098	
95-47-6	o-Xylene	**18**	2.6	0.37	**4.1**	0.59	0.086	
111-84-2	n-Nonane	**1.4**	2.6	0.43	**0.26**	0.50	0.082	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	0.36	ND	0.37	0.052	
98-82-8	Cumene	**1.1**	2.6	0.37	**0.22**	0.52	0.076	**J**
80-56-8	alpha-Pinene	**9.6**	2.5	0.40	**1.7**	0.45	0.071	
103-65-1	n-Propylbenzene	**4.0**	2.6	0.37	**0.81**	0.53	0.076	
622-96-8	4-Ethyltoluene	**5.6**	2.6	0.41	**1.1**	0.52	0.084	
108-67-8	1,3,5-Trimethylbenzene	**5.7**	2.6	0.37	**1.2**	0.52	0.076	
95-63-6	1,2,4-Trimethylbenzene	**18**	2.6	0.36	**3.7**	0.52	0.073	
100-44-7	Benzyl Chloride	ND	5.3	0.58	ND	1.0	0.11	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.39	ND	0.44	0.065	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.40	ND	0.44	0.066	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.38	ND	0.44	0.064	
5989-27-5	d-Limonene	**3.7**	2.5	0.53	**0.66**	0.44	0.096	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.49	ND	0.26	0.050	
120-82-1	1,2,4-Trichlorobenzene	ND	2.6	0.63	ND	0.35	0.085	
91-20-3	Naphthalene	**1.1**	2.5	0.63	**0.22**	0.47	0.12	**J**
87-68-3	Hexachlorobutadiene	ND	2.6	0.53	ND	0.24	0.050	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Wida Ang Date Analyzed: 6/10/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Wida Ang Date Analyzed: 6/10/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Wida Ang Date Analyzed: 6/10/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.52	0.13	ND	0.30	0.076	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
64-17-5	Ethanol	ND	5.1	0.37	ND	2.7	0.20	
75-05-8	Acetonitrile	ND	0.52	0.13	ND	0.31	0.077	
107-02-8	Acrolein	ND	1.0	0.15	ND	0.44	0.065	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	0.22	ND	0.85	0.090	
107-13-1	Acrylonitrile	ND	0.52	0.11	ND	0.24	0.051	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	0.072	ND	0.17	0.023	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	ND	1.1	0.16	ND	0.35	0.051	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Topacio De Leon Date Analyzed: 6/11/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
80-62-6	Methyl Methacrylate	ND	1.1	0.19	ND	0.27	0.046	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
123-86-4	n-Butyl Acetate	ND	0.54	0.073	ND	0.11	0.015	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Environmental Management Services, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P1903117

Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Topacio De Leon Date Analyzed: 6/11/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	0.12	ND	0.12	0.026	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
111-84-2	n-Nonane	ND	0.54	0.089	ND	0.10	0.017	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
98-82-8	Cumene	ND	0.53	0.077	ND	0.11	0.016	
80-56-8	alpha-Pinene	ND	0.52	0.082	ND	0.093	0.015	
103-65-1	n-Propylbenzene	ND	0.54	0.077	ND	0.11	0.016	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
100-44-7	Benzyl Chloride	ND	1.1	0.12	ND	0.21	0.023	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	
5989-27-5	d-Limonene	ND	0.51	0.11	ND	0.092	0.020	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	0.10	ND	0.054	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	0.13	ND	0.071	0.018	
91-20-3	Naphthalene	ND	0.51	0.13	ND	0.097	0.025	
87-68-3	Hexachlorobutadiene	ND	0.53	0.11	ND	0.050	0.010	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Environmental Management Services, Inc.**
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Project ID: P1903117

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 5/22/19
Analyst: Wida Ang Date(s) Received: 5/30/19
Sample Type: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 6/10 - 6/11/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190610-MB	**107**	**97**	**86**	70-130	
Method Blank	P190611-MB	**105**	**95**	**90**	70-130	
Lab Control Sample	P190610-LCS	**104**	**94**	**90**	70-130	
Lab Control Sample	P190611-LCS	**102**	**93**	**92**	70-130	
Air Mon 01-33	P1903117-001	**102**	**96**	**91**	70-130	
Air Mon 02-33	P1903117-002	**104**	**96**	**93**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
115-07-1	Propene	211	**245**	**116**	53-112	**L**
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**184**	**88**	62-103	
74-87-3	Chloromethane	211	**161**	**76**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**156**	**74**	56-111	
75-01-4	Vinyl Chloride	214	**198**	**93**	57-117	
106-99-0	1,3-Butadiene	210	**211**	**100**	53-134	
74-83-9	Bromomethane	212	**192**	**91**	65-110	
75-00-3	Chloroethane	214	**213**	**100**	64-111	
64-17-5	Ethanol	1,020	**1260**	**124**	57-124	
75-05-8	Acetonitrile	206	**254**	**123**	57-126	
107-02-8	Acrolein	205	**233**	**114**	62-121	
67-64-1	Acetone	1,060	**1170**	**110**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**186**	**88**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**482**	**117**	60-124	
107-13-1	Acrylonitrile	207	**261**	**126**	66-125	**L**
75-35-4	1,1-Dichloroethene	218	**207**	**95**	68-107	
75-09-2	Methylene Chloride	217	**214**	**99**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**280**	**130**	63-127	**L**
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**188**	**87**	59-109	
75-15-0	Carbon Disulfide	218	**217**	**100**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**228**	**107**	70-115	
75-34-3	1,1-Dichloroethane	216	**219**	**101**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**211**	**99**	67-109	
108-05-4	Vinyl Acetate	1,060	**1180**	**111**	68-136	
78-93-3	2-Butanone (MEK)	208	**233**	**112**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**226**	**107**	67-110	
141-78-6	Ethyl Acetate	436	**527**	**121**	64-127	
110-54-3	n-Hexane	216	**240**	**111**	60-115	
67-66-3	Chloroform	217	**206**	**95**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**218**	**101**	65-110	
107-06-2	1,2-Dichloroethane	215	**204**	**95**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**187**	**87**	64-108	
71-43-2	Benzene	211	**204**	**97**	67-106	
56-23-5	Carbon Tetrachloride	212	**189**	**89**	64-112	
110-82-7	Cyclohexane	416	**409**	**98**	67-110	
78-87-5	1,2-Dichloropropane	216	**227**	**105**	66-112	
75-27-4	Bromodichloromethane	215	**207**	**96**	67-113	
79-01-6	Trichloroethene	213	**188**	**88**	66-108	
123-91-1	1,4-Dioxane	214	**211**	**99**	70-116	
80-62-6	Methyl Methacrylate	431	**430**	**100**	73-118	
142-82-5	n-Heptane	215	**220**	**102**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**226**	**106**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**251**	**120**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**235**	**110**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**207**	**96**	68-112	
108-88-3	Toluene	212	**194**	**92**	62-111	
591-78-6	2-Hexanone	214	**263**	**123**	59-128	
124-48-1	Dibromochloromethane	213	**203**	**95**	67-123	
106-93-4	1,2-Dibromoethane	216	**202**	**94**	66-122	
123-86-4	n-Butyl Acetate	219	**266**	**121**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190610-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
111-65-9	n-Octane	217	**234**	**108**	65-114	
127-18-4	Tetrachloroethene	213	**177**	**83**	55-120	
108-90-7	Chlorobenzene	215	**189**	**88**	61-114	
100-41-4	Ethylbenzene	212	**199**	**94**	64-113	
179601-23-1	m,p-Xylenes	426	**414**	**97**	64-114	
75-25-2	Bromoform	213	**198**	**93**	65-132	
100-42-5	Styrene	212	**212**	**100**	67-124	
95-47-6	o-Xylene	214	**206**	**96**	65-114	
111-84-2	n-Nonane	215	**258**	**120**	64-117	**L**
79-34-5	1,1,2,2-Tetrachloroethane	214	**219**	**102**	66-119	
98-82-8	Cumene	214	**203**	**95**	61-116	
80-56-8	alpha-Pinene	211	**202**	**96**	65-120	
103-65-1	n-Propylbenzene	218	**219**	**100**	63-117	
622-96-8	4-Ethyltoluene	214	**226**	**106**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**202**	**94**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**207**	**96**	61-122	
100-44-7	Benzyl Chloride	217	**209**	**96**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**209**	**97**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**201**	**93**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**197**	**91**	61-126	
5989-27-5	d-Limonene	211	**246**	**117**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**201**	**96**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**210**	**98**	62-141	
91-20-3	Naphthalene	203	**208**	**102**	62-145	
87-68-3	Hexachlorobutadiene	209	**170**	**81**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	211	**230**	**109**	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**179**	**85**	62-103	
74-87-3	Chloromethane	211	**165**	**78**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**149**	**71**	56-111	
75-01-4	Vinyl Chloride	214	**189**	**88**	57-117	
106-99-0	1,3-Butadiene	210	**205**	**98**	53-134	
74-83-9	Bromomethane	212	**190**	**90**	65-110	
75-00-3	Chloroethane	214	**212**	**99**	64-111	
64-17-5	Ethanol	1,020	**1220**	**120**	57-124	
75-05-8	Acetonitrile	206	**246**	**119**	57-126	
107-02-8	Acrolein	205	**225**	**110**	62-121	
67-64-1	Acetone	1,060	**1110**	**105**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**181**	**86**	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	**475**	**115**	60-124	
107-13-1	Acrylonitrile	207	**250**	**121**	66-125	
75-35-4	1,1-Dichloroethene	218	**202**	**93**	68-107	
75-09-2	Methylene Chloride	217	**206**	**95**	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**268**	**124**	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**186**	**86**	59-109	
75-15-0	Carbon Disulfide	218	**210**	**96**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**220**	**103**	70-115	
75-34-3	1,1-Dichloroethane	216	**213**	**99**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**205**	**96**	67-109	
108-05-4	Vinyl Acetate	1,060	**1110**	**105**	68-136	
78-93-3	2-Butanone (MEK)	208	**223**	**107**	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
156-59-2	cis-1,2-Dichloroethene	211	**216**	**102**	67-110	
141-78-6	Ethyl Acetate	436	**498**	**114**	64-127	
110-54-3	n-Hexane	216	**223**	**103**	60-115	
67-66-3	Chloroform	217	**198**	**91**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**211**	**98**	65-110	
107-06-2	1,2-Dichloroethane	215	**196**	**91**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**182**	**85**	64-108	
71-43-2	Benzene	211	**195**	**92**	67-106	
56-23-5	Carbon Tetrachloride	212	**184**	**87**	64-112	
110-82-7	Cyclohexane	416	**391**	**94**	67-110	
78-87-5	1,2-Dichloropropane	216	**220**	**102**	66-112	
75-27-4	Bromodichloromethane	215	**199**	**93**	67-113	
79-01-6	Trichloroethene	213	**183**	**86**	66-108	
123-91-1	1,4-Dioxane	214	**204**	**95**	70-116	
80-62-6	Methyl Methacrylate	431	**410**	**95**	73-118	
142-82-5	n-Heptane	215	**210**	**98**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**218**	**102**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**241**	**115**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**228**	**107**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**200**	**93**	68-112	
108-88-3	Toluene	212	**183**	**86**	62-111	
591-78-6	2-Hexanone	214	**247**	**115**	59-128	
124-48-1	Dibromochloromethane	213	**195**	**92**	67-123	
106-93-4	1,2-Dibromoethane	216	**193**	**89**	66-122	
123-86-4	n-Butyl Acetate	219	**250**	**114**	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Environmental Management Services, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1903117
Client Project ID: **SVE In Plant Monitoring / KUH0-19-011** ALS Sample ID: P190611-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 6/11/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
111-65-9	n-Octane	217	**220**	**101**	65-114	
127-18-4	Tetrachloroethene	213	**170**	**80**	55-120	
108-90-7	Chlorobenzene	215	**180**	**84**	61-114	
100-41-4	Ethylbenzene	212	**188**	**89**	64-113	
179601-23-1	m,p-Xylenes	426	**387**	**91**	64-114	
75-25-2	Bromoform	213	**189**	**89**	65-132	
100-42-5	Styrene	212	**199**	**94**	67-124	
95-47-6	o-Xylene	214	**193**	**90**	65-114	
111-84-2	n-Nonane	215	**242**	**113**	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	**205**	**96**	66-119	
98-82-8	Cumene	214	**192**	**90**	61-116	
80-56-8	alpha-Pinene	211	**191**	**91**	65-120	
103-65-1	n-Propylbenzene	218	**205**	**94**	63-117	
622-96-8	4-Ethyltoluene	214	**210**	**98**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**189**	**88**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**192**	**89**	61-122	
100-44-7	Benzyl Chloride	217	**196**	**90**	77-142	
541-73-1	1,3-Dichlorobenzene	216	**196**	**91**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**190**	**88**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**183**	**85**	61-126	
5989-27-5	d-Limonene	211	**229**	**109**	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	**193**	**92**	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	**201**	**94**	62-141	
91-20-3	Naphthalene	203	**197**	**97**	62-145	
87-68-3	Hexachlorobutadiene	209	**164**	**78**	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.