Georgia Environmental Protection Division
Land Protection Branch
Response and Remediation Program
Response Development Units 1 – 3

2 Martin Luther King Jr. Dr. SE
Suite 1054 East Tower
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Document Submittal Form

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Name of Document:	March 2018 VRP Progress Report
Date of Document:	March 30, 2018
Site Name:	Cessna Aircraft Company GA1 Facility
Site ID Number:	VRP1460391735

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- ☐ laboratory data sheets
- ☐ manifests
- ☐ other: NA

I certify that the information I am submitting is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:	
Name (printed):	J. Thomas Duffey, PG
Date:	3/30/2018
Organization:	CDM Smith
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Receipt Date
(for EPD use only)

CDM Smith
9420 Bunsen Parkway, Suite 225
Louisville, Kentucky 40220
tel: 502 339-0988

March 30, 2018

Mr. Kevin Collins
Unit Coordinator
Response and Remediation Program
Georgia Environmental Protection Division Land Protection Branch
2 Martin Luther King, Jr. Drive SE
Suite 1054, East Tower
Atlanta, Georgia 30334

Subject: March 2018 Semi-Annual Voluntary Remediation Program Progress Report
Cessna Aircraft Company – Tax Parcel 112 003 002
Columbus, Muscogee County, Georgia

Dear Mr. Collins:

This Progress Report documents the activities completed for the Cessna Aircraft Company facility in Columbus, Georgia, from September 2017 through February 2018. This reporting schedule follows that prescribed by the Georgia Environmental Protection Division (EPD) in a letter dated September 27, 2016. This Progress Report includes the following:

- Work Performed This Period;
- Work Anticipated for the Next Period;
- Schedule; and
- Professional Certification.

Work Performed This Period

The following activities were performed during the current reporting period:

- Semi-annual groundwater monitoring;
- Soil vapor extraction (SVE) system operation and monitoring;
- EPD Remediation Plan comment response;
- Remediation Plan Addendum submittal;
- Obtaining offsite access agreement with Norfolk Southern Corporation (NSC);
- Requesting offsite access from Kemira Chemicals, Inc. (Kemira); and
- Pre-design investigation.

These activities are described further below.

Semi-Annual Groundwater Monitoring

Semi-annual groundwater sampling is required to monitor groundwater conditions. The first semi-annual groundwater monitoring event was conducted on February 27, 2018. The groundwater monitoring report is provided in **Attachment A**.

The groundwater levels and flow direction in February 2018 were consistent with previous observations with the flow to the east-southeast. Volatile organic compound (VOC) concentrations in groundwater continue to decline from the concentrations observed in 2016. Trichloroethene (TCE) continues to be the only VOC that exceeds the Risk Reduction Standards (RRSs). This trend is possibly a result of the former vapor degreaser being decommissioned in 2010. VOCs in bedrock groundwater were all below the RRSs.

SVE System Operation and Monitoring

CDM Smith began operation of the SVE system in February 2017. The third semi-annual SVE system monitoring event was conducted on March 9, 2018. The March 2018 SVE monitoring report is provided in **Attachment B**.

As to be expected, the VOC concentrations in the extracted soil vapors have decreased after SVE system operation for over 12 months and TCE is the VOC present in soil vapor at the highest concentration. TCE in the combined SVE system discharge has been reduced from 510 mg/m^3 in February 2017 to 9.9 mg/m^3 in February 2018. CDM Smith will continue to monitor the SVE system progress toward a potential endpoint in the future.

EPD Comment Response / Voluntary Remediation Plan Addendum

CDM Smith submitted responses to EPD's comments on the Voluntary Remediation Plan and an addendum to the plan on November 16, 2017. The submittal provided additional details of the remediation approach and the plan was modified based on the comments. EPD responded to the submittal in a letter dated February 7, 2018. In the letter EPD stated that sub-slab soil gas sampling should be performed if Cessna plans to terminate SVE system operation in the future. EPD also approved the groundwater RRSs for barium and manganese.

Offsite Access

A Right of Entry Agreement was obtained through NSC for the railroad property adjacent to the site. This agreement allows CDM Smith to install an additional offsite well at a shallower depth adjacent to MW-7A/B and allow access to the monitoring wells in the future.

At EPD's request, CDM Smith also requested offsite access to Kemira property. A draft agreement was provided to Kemira along with proposed well locations. Kemira informed CDM Smith on October 24, 2017, that "Kemira does not agree to provide access to our property for CDM Smith's scope of work." At EPD's request, CDM Smith provided the Kemira contact information to EPD on

February 16, 2018. As we understand, EPD intended to send Kemira a letter. We respectfully request that EPD keep us informed of any developments in obtaining access to the Kemira property.

Pre-Design Investigation

CDM Smith has initiated the pre-design investigation. The pre-design investigation includes installation of test injection wells, monitor wells, and conducting a tracer test. Completion of this investigation has been slightly delayed because the Underground Injection Control (UIC) program now requires a 30-day notice prior to pilot test injections. The pre-design investigation is planned to be completed by the end of April and the results will be reported to EPD by the end of May in a Design Criteria & Pre-Design Report.

Work Anticipated for the Next Period

The following activities are planned for the March 2018 - August 2018 reporting period:

- The pre-design investigation will be completed;
- The Design Criteria & Pre-Design Report will be submitted for EPD review;
- Remedial design and UIC permitting will be initiated;
- SVE system operation will continue;
- The second 2018 semi-annual SVE monitoring event will occur in August; and
- The second 2018 semi-annual groundwater monitoring event will occur in August.

Schedule

An updated schedule is shown on **Figure 1**. The work scheduled for 2018 has slipped because of the offsite access requirements, the UIC notification requirements, and our decision to submit a Design Criteria & Pre-Design Report for EPD review. We believe it appropriate for EPD to review this report prior to final remedial design because the pre-design investigation results will produce metals data for groundwater and additional details on the biobarrier injection parameters. As shown on Figure 1, the overall project schedule is within the VRP milestone schedule requirements.

Professional Certification

Attachment C contains the professional certification and summary of incurred professional engineer and geologist hours for the period from September 1, 2017 through March 17, 2018.

If you have any questions related to this Progress Report or other related matters do not hesitate to contact me at (502) 217-7924 or by email at Hendershotpt@cdmsmith.com.

Sincerely,

Philip T. Hendershot, CHMM
Principal Environmental Scientist
CDM Smith Inc.

cc: David Hayes, EPD
Greg Simpson, Textron
Tom Duffey, CDM Smith

Enclosures

Figures

Task	Start	End	Days	2018												2019												2020											
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Pre-Design Investigation	3/7/18	4/26/18	50																																		
Pre-Design Report	4/9/18	5/24/18	45																																		
EPD Design Criteria & Pre-Design Report Review	5/25/18	7/9/18	45																																		
Remedial Design	7/10/18	8/9/18	30																																		
EPD UIC Permit Review	7/24/18	9/4/18	42																																		
Remedial Construction																																					
Biobarrier Installation	10/1/18	10/19/18	18																																		
Initial Injection	10/22/18	11/5/18	14																																		
Bioaugmentation	1/7/19	1/21/19	14																																		
First EVO Injection	1/7/19	1/21/19	14																																		
Compliance Status Report	9/28/19	12/20/19	83																																		
Environmental Covenant	1/1/20	3/31/20	90																																		
VRP Progress Monitoring/Reporting	Semi-Annually																																				
Biobarrier O&M	As Needed																																				
SVE O&M	As Needed																																				

Voluntary Remediation Program Milestones	Due Date	Status
VRP Acceptance Date	9/27/2016	
Complete onsite horizontal delineation	9/28/2017	Completed ahead of schedule
Complete offsite horizontal delineation	9/28/2018	Completed ahead of schedule*
Complete vertical delineation & Final Remediation Plan	3/29/2019	Completed ahead of schedule
Submit Compliance Status Report	9/27/2021	On schedule

* - Offsite delineation excludes one property where access has been denied.

CDM Smith

Figure 1: VRP Schedule
Updated March 30, 2018
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment A: 1st 2018 Semi-Annual Groundwater Monitoring Report

1st 2018 Semi-Annual Groundwater Monitoring Report

Cessna Aircraft Company GA1 Facility
Columbus, Muscogee County, Georgia

The Georgia Environmental Protection Division (EPD) accepted this site into Georgia's Voluntary Remediation Program (VRP) on September 27, 2016, and approved the Voluntary Investigation and Remediation Plan (VIRP) and VRP application dated March 24, 2016. EPD's acceptance and approval conditions currently require semi-annual groundwater monitoring and reporting. This report fulfills the first 2018 semi-annual reporting requirement.

Monitoring Program Description

The groundwater monitoring well network consists of eleven wells (**Figure A-1**). Water level measurements are recorded from all wells. Groundwater samples for laboratory analyses are collected from nine wells. Monitoring well GW-8 is not sampled because of its shallow depth and MW-1A is not sampled because it is upgradient and historically below the reporting level. The groundwater samples are analyzed for volatile organic compounds. CDM Smith has identified three zones of hydrogeologic interest at the site, as summarized below.

- Unit A – Unconsolidated coastal plain sediments and recent alluvium. The upper 20-25 feet is interbedded sand, silty sand, and silty clay. The lower portion of Unit A is permeable sand and permeable sand and gravel to a depth of approximately 30-35 feet below land surface (bls).
- Unit B – Piedmont saprolite. Unit B is below Unit A at depths ranging from approximately 30-35 feet bls and ranges in thickness from less than 1 foot up to 15 feet. Unit B is primarily silt.
- Unit C – Piedmont biotite gneiss bedrock. The bedrock depth ranges from approximately 30 feet to 45 feet bls. One boring, MW-3C, has been completed into bedrock and the rock was dense biotite gneiss with few fractures.

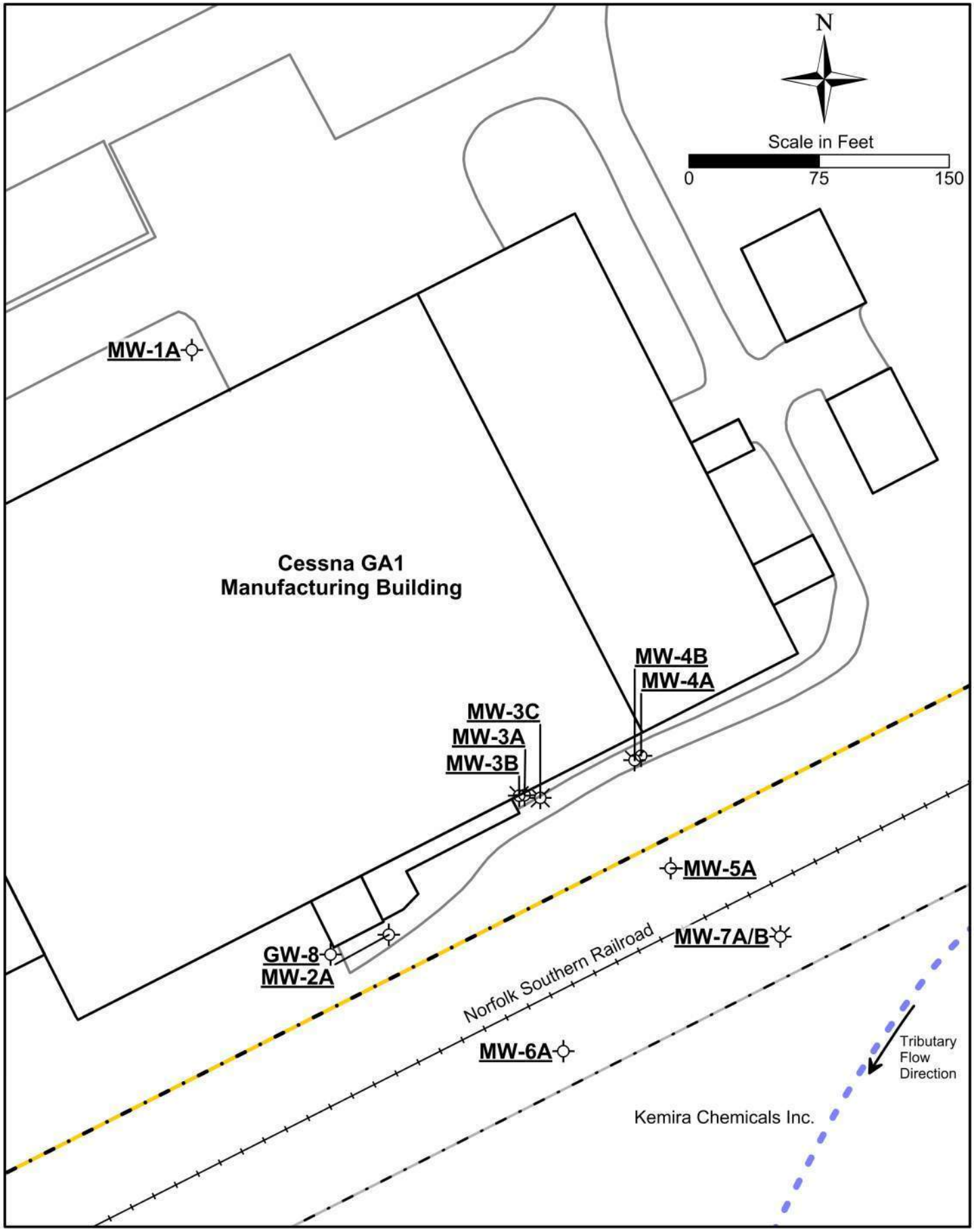
Results

Sampling for this event was completed on February 27, 2018. The water level records are summarized in **Table A-1** and the groundwater analytical results are summarized in **Table A-2**. The well purge records are in **Attachment A-1** and the full laboratory reports are in **Attachment A-2**.

Conclusions

Figure A-2 includes a potentiometric surface map prepared for combined Units A and B and shows the current trichloroethene (TCE) concentrations with the estimated extent of TCE exceeding the risk reduction standards reported in 2016 VIRP. The groundwater flow direction is southeast and consistent with previous events. The TCE extent in groundwater is also consistent with the 2016 mapping.

Figures



Stream Tributary
(Possibly Intermittent)

Offsite Properties

Site Boundary

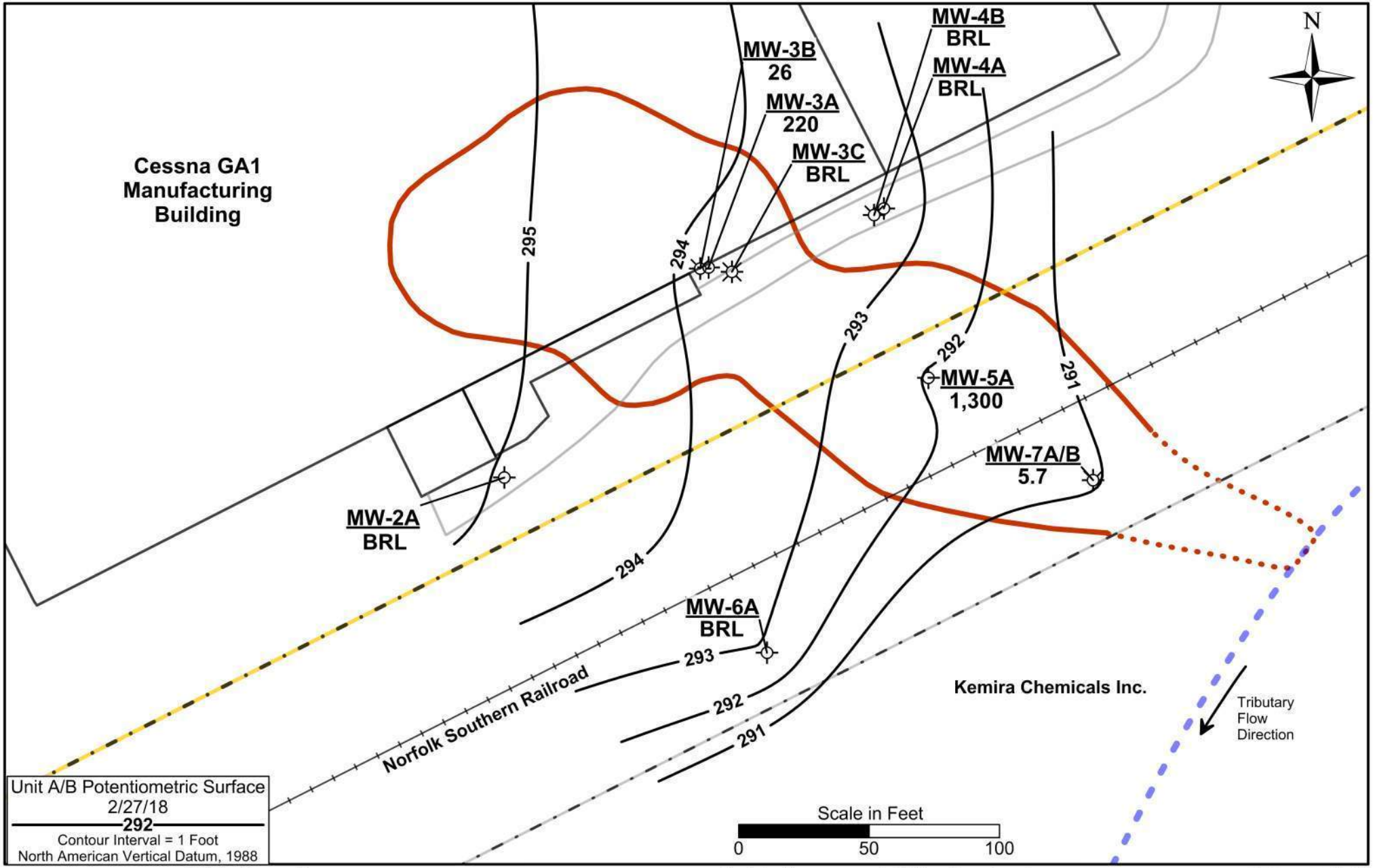
Montioring Wells

- Unit A (Coastal Plain/Recent Alluvium)
- Unit B (Piedmont Saprolite)
- Unit C (Upper Piedmont Bedrock)

Note: GW-8 monitored for water level only.

CDM Smith

Figure A-1
Groundwater Monitoring Network
Cessna GA1 Facility
Columbus, Muscogee County, Georgia



CDM Smith

Figure A-2
Groundwater Data Summary
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Tables

Well Construction and Water Levels

Well Code	Unit	Elevation TOC Feet	Screen Depth From	Screen Depth To	Water Level TOC (8/7/14) Depth	Water Level TOC (8/7/14) Elevation	Water Level TOC (1/19/16) Depth	Water Level TOC (1/19/16) Elevation	Water Level TOC (2/1/17) Depth	Water Level TOC (2/1/17) Elevation
MW-1A	A	311.09	17.5	27.5	15.15	295.94	14.73	296.36	15.30	295.79
MW-2A	A	311.89	23	33	18.17	293.72	16.71	295.18	17.37	294.52
MW-3A	A	312.09	25	30	19.41	292.68	18.12	293.97	18.72	293.37
MW-3B	B	312.32	36	41	19.43	292.89	18.14	294.18	18.69	293.63
MW-3C	C	312.32	77.5	87.5	--	--	82.5 (2)	229.82 (2)	43.10	269.22
MW-4A	A	313.17	25	30	20.51	292.66	19.28	293.89	19.72	293.45
MW-4B	B	313.11	42	47	21.14	291.97	18.95	294.16	19.81	293.30
MW-5A	A	299.59	20	30	--	--	6.34	293.25	6.79	292.80
MW-6A	A	298.34	11.5	21.5	--	--	5.42	292.92	5.80	292.54
MW-7A/B (1)	B	297.88	20	30	--	--	15.40 (2)	282.48 (2)	6.03	291.85
GW-8	A	314.34	8	18	20.26	294.08	17.92	296.42	18.48	295.86

Well Code	Unit	Elevation TOC Feet	Screen Depth From	Screen Depth To	Water Level TOC (8/15/17) Depth	Water Level TOC (8/15/17) Elevation	Water Level TOC (2/27/18) Depth	Water Level TOC (2/27/18) Elevation	Water Level TOC Depth	Water Level TOC Elevation
MW-1A	A	311.09	17.5	27.5	14.29	296.8	15.25	295.84		
MW-2A	A	311.89	23	33	16.59	295.3	17.00	294.89		
MW-3A	A	312.09	25	30	18.03	294.06	18.38	293.71		
MW-3B	B	312.32	36	41	18.04	294.28	18.45	293.87		
MW-3C	C	312.32	77.5	87.5	37.54	274.78	45.61	266.71		
MW-4A	A	313.17	25	30	19.17	294	19.59	293.58		
MW-4B	B	313.11	42	47	18.18	294.93	19.82	293.29		
MW-5A	A	299.59	20	30	6.32	293.27	7.68	291.91		
MW-6A	A	298.34	11.5	21.5	5.11	293.23	5.44	292.90		
MW-7A/B (1)	B	297.88	20	30	6.09	291.79	6.42	291.46		
GW-8	A	314.34	8	18	18.84	295.5	18.81	295.53		

Well Code	Unit	Elevation TOC Feet	Screen Depth From	Screen Depth To	Water Level TOC Depth	Water Level TOC Elevation	Water Level TOC Depth	Water Level TOC Elevation	Water Level TOC Depth	Water Level TOC Elevation
MW-1A	A	311.09	17.5	27.5						
MW-2A	A	311.89	23	33						
MW-3A	A	312.09	25	30						
MW-3B	B	312.32	36	41						
MW-3C	C	312.32	77.5	87.5						
MW-4A	A	313.17	25	30						
MW-4B	B	313.11	42	47						
MW-5A	A	299.59	20	30						
MW-6A	A	298.34	11.5	21.5						
MW-7A/B (1)	B	297.88	20	30						
GW-8	A	314.34	8	18						

All measurements are in feet

A - Unconsolidated Coastal Plain sediments and recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

1 - Previously designated as MW-7A

Elevation is NGVD 1929

All wells are 2-inch diameter

TOC - Top of casing

-- No measurement

2 - Suspected to not be equilibrated

Table A-1

Well Construction and Water Levels

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

CDM Smith

Compound		1,1-DCA	1,1-DCE	MEK	CD	cis-1,2-DCE	TCE
On-Site RRS		4,000	520	12,000	4,000	200	5.2
MW-2A	8/4/2014	BRL	BRL	BRL	BRL	BRL	BRL
	Duplicate	BRL	BRL	BRL	BRL	BRL	BRL
	1/19/2016	BRL	BRL	BRL	BRL	BRL	BRL
	2/1/2017	BRL	BRL	BRL	BRL	BRL	BRL
	Duplicate	BRL	BRL	BRL	BRL	BRL	BRL
	8/15/2017	BRL	BRL	BRL	BRL	BRL	BRL
	2/27/2018	BRL	BRL	BRL	BRL	BRL	BRL
MW-3A	8/4/2014	BRL	BRL	BRL	BRL	BRL	**160**
	1/20/2016	8.6	BRL	BRL	BRL	12	**1,000**
	2/1/2017	6.6	BRL	BRL	BRL	16	**1,300**
	8/15/2017	5.1	BRL	BRL	BRL	11	**710**
	2/27/2018	BRL	BRL	BRL	BRL	6.7	**220**
MW-3B	8/4/2014	BRL	BRL	BRL	BRL	BRL	**71**
	1/20/2016	BRL	BRL	BRL	BRL	BRL	**11**
	2/1/2017	BRL	BRL	BRL	BRL	BRL	**23**
	8/15/2017	BRL	BRL	BRL	BRL	BRL	**25**
	Duplicate	BRL	BRL	BRL	BRL	BRL	**24**
	2/27/2018	BRL	BRL	BRL	BRL	BRL	**26**
MW-3C	1/20/2016	BRL	BRL	BRL	BRL	BRL	BRL
	2/1/2017	BRL	BRL	BRL	18	BRL	**12**
	8/15/2017	BRL	BRL	BRL	63	BRL	BRL
	2/27/2018	BRL	BRL	BRL	37	BRL	BRL
MW-4A	8/4/2014	BRL	BRL	BRL	BRL	BRL	BRL
	1/20/2016	BRL	BRL	BRL	BRL	BRL	BRL
	2/1/2017	BRL	BRL	BRL	BRL	BRL	BRL
	8/15/2017	BRL	BRL	BRL	BRL	BRL	BRL
	2/27/2018	BRL	BRL	BRL	BRL	BRL	BRL
MW-4B	8/4/2014	BRL	BRL	BRL	6.8	BRL	BRL
	1/20/2016	BRL	BRL	BRL	BRL	BRL	BRL
	2/1/2017	BRL	BRL	BRL	BRL	BRL	BRL
	8/15/2017	BRL	BRL	BRL	BRL	BRL	BRL
	2/27/2018	BRL	BRL	BRL	BRL	BRL	BRL
MW-5A	1/19/2016	10	6.9	BRL	BRL	30	**1,900**
	2/1/2017	6	5.7	BRL	BRL	18	**1,500**
	8/15/2017	5.1	BRL	BRL	BRL	24	**1,400**
	2/27/2018	BRL	BRL	BRL	BRL	17	**1,300**

Compound		1,1-DCA	1,1-DCE	MEK	CD	cis-1,2-DCE	TCE
Off-Site RRS		4,000	100	2,300	4,000	70	5
MW-6A	1/19/2016	BRL	BRL	BRL	BRL	BRL	BRL
	2/1/2017	BRL	BRL	BRL	BRL	BRL	BRL
	8/15/2017	BRL	BRL	BRL	BRL	BRL	BRL
	2/27/2018	BRL	BRL	BRL	BRL	BRL	BRL
MW-7A/B[(1)]	1/19/2016	BRL	BRL	190	BRL	49	**100**
	Duplicate	BRL	BRL	110	BRL	34	**120**
	2/1/2017	BRL	BRL	BRL	BRL	8	**17**
	8/15/2017	BRL	BRL	BRL	BRL	BRL	**8.2**
	2/27/2018	BRL	BRL	BRL	BRL	BRL	**5.7**

1 - Previously designated as MW-7A

RRS - Risk Reduction Standard

DCA - Dichloroethane MEK - 2-Butanone

DCE - Dichloroethene CD - Carbon Disulfide

Shaded values exceed the RRS.

Concentrations are µg/L

BRL - Below reporting level

TCE - Trichloroethene

Table A-2: Groundwater Monitoring Analytical Results

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

CDM Smith

Attachment A-1

Well Purge Records

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-2A	SAMPLE ID: MW-2A	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 23 to 33 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 16.96	PURGE PUMP TYPE: PP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☒ Low-Flow ☐ Traditional (3 Well Volume)

(33 feet TOC – 16.96 feet TOC) X .16 gallons/foot = 2.56 gallons X 3 = 7.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	PURGING INITIATED AT: 1615	PURGING ENDED AT: 1650	TOTAL VOLUME PURGED (gallons): 2.33

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1615			250	17.10	6.93	19.33	0.146	188	5.82	187.8	
1620	0.33	0.33		17.10	5.40	20.15	0.113	68.0	3.13	181.0	
1625		0.66		17.10	5.25	20.04	0.117	21.4	2.82	194.5	
1630		1.0		17.10	5.16	19.96	0.114	12.6	2.24	199.2	
1635		0.33		17.10	5.11	19.98	0.112	8.36	2.20	198.4	
1640		0.66		17.10	5.10	19.89	0.108	7.35	1.85	197.4	
1645		2.0		17.10	5.09	19.93	0.109	8.19	1.22	199.5	
1650		2.33		17.10	5.07	19.91	0.107	6.84	1.13	201	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Gaal /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1650	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	Filtration Equipment Type:	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40	HCl	80		VOCs	RFPP	

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO_2, mg/L Final MNO_4, mg/L

Final Total Iron, mg/L Final Nitrate, mg/L Final Alkalinity, mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3A	SAMPLE ID: MW-3A	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 25 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.46	PURGE PUMP TYPE: PP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☒ Low-Flow ☐ Traditional (3 Well Volume)

(30 ~~feet TOC~~ 22.5 − 18.46 feet TOC) X 0.16 gallons/foot = 1.84 gallons X 3 = 5.5

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 22.5	PURGING INITIATED AT: 1425	PURGING ENDED AT: 1455	TOTAL VOLUME PURGED (gallons): 2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~mL/min~~ (gpm)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1425	–	0.	250	18.64	5.15	20.79	0.054	247	7.81	182.9	
1430	0.33	0.33		18.64	4.96	20.91	0.049	104	4.99	196.8	
1435		0.66		18.64	4.83	20.98	0.046	56.5	4.21	203.4	
1440				18.64	4.77	20.95	0.048	15.1	3.40	205.0	
1445		1.33		16.64	4.68	21.00	0.048	7.94	3.31	204.6	
1450		1.66		18.64	4.63	20.96	0.049	6.39	3.39	206.1	
1455		2			4.61	20.96	0.049	5.18	3.34	210.7	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Good /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1455	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 22.5	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME 250	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1	~~CG~~ PP	1L	HNO_3	~~to~~ 250mL		VOCs, Metals		APP
	1	PP	1L		1L		DHL		APP
	2	CG	40	HCl	80		VOCs		RFPP

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Einal CO_2, mg/L Final MNO_4, mg/L

Final Total Iron, mg/L Final Nitrate, mg/L Final Alkalinity, mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3B	SAMPLE ID: MW-3B	DATE: 2/27/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 36 to 41 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.45	PURGE PUMP TYPE: ESP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☐ Low-Flow ☐ Traditional (3 Well Volume)

(41 feet TOC – 18.45 feet TOC) X 0.163 gallons/foot = 3.68 gallons X 3 = 11.04

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 38	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 38	PURGING INITIATED AT: 1514	PURGING ENDED AT: 1551	TOTAL VOLUME PURGED (gallons): 9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1517	1	1	0.33	26.50	6.44	19.50	0.113	157	6.00	130.0	cloudy
1520	1	2	0.33	29.19	6.29	19.50	0.120	62.6	6.01	148.1	cloudy
1523	1	3	0.33	31.78	6.20	19.51	0.119	52.2	5.68	155.2	cloudy
1527	1	4	0.25	32.81	6.10	19.64	0.113	32.4	5.17	160.2	clear
1531	1	5	0.25	33.02	6.09	19.69	0.107	26.9	4.87	164.0	clear
1535	1	6	0.25	33.40	6.01	19.77	0.101	18.7	4.65	170.0	clear
1541	1	7	0.17	33.81	6.06	19.76	0.099	11.7	5.22	176.8	clear
1546	1	8	0.20	34.00	6.00	19.76	0.098	8.1	5.65	183.0	clear
1551	1	9	0.20	34.11	6.00	19.77	0.097	7.97	5.69	185.7	clear

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nicholas Fillers /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1551	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 38	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N) FILTER SIZE: ____ mm; Filtration Equipment Type:	

FIELD DECONTAMINATION: PUMP (Y) N TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40ml	Hcl	80 ~~120~~ ml		VOCs		
	1	PP	250ml	HNO3	250ml		Metals		

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.18 mg/L Final Sulfate, 3 mg/L Final CO_2, 55 mg/L Final MNO_4, mg/L

Final Total Iron, 0.38 mg/L Final Nitrate, 1.3 mg/L Final Alkalinity, 20 mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3C	SAMPLE ID: MW-3C	DATE: 2/27/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 77.5 to 87.5 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 45.61	PURGE PUMP TYPE: ESP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☐ Low-Flow ☒ Traditional (3 Well Volume)

(87.5 feet TOC – 45.61 feet TOC) X 0.163 gallons/foot = 6.82 gallons X 3 = 20.46

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 82.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 87.5	PURGING INITIATED AT: 1300	PURGING ENDED AT: 1328	TOTAL VOLUME PURGED (gallons): 7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1304	1	1	0.25	53.50	10.13	19.39	0.394	6.22	4.17	-133.0	Clear
1308	1	2	0.25	57.91	10.09	19.64	0.393	5.00	3.26	-141.7	Clear
1314	1	3	0.10	64.91	9.96	20.42	0.393	4.81	2.84	-137.7	Clear
1320	1	4	0.50	69.55	9.93	20.07	0.391	4.56	2.49	-136.8	Clear
1322	1	5	0.50	73.37	9.83	20.14	0.387	4.31	2.39	-134.5	Clear
1325	1	6	0.33	81.37	9.83	20.41	0.384	4.29	2.26	-137.8	Clear
1328	1	7	0.33	87.48	9.87	20.36	0.382	4.41	2.30	-135.7	Clear

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nicholas Fuller/CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 87.5	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N) FILTER SIZE: ____ mm Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	2	CG	40ml	HCl	~~80~~ 120ml	9.87	VOCs		

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO_2, mg/L Final MNO_4, mg/L

Final Total Iron, mg/L Final Nitrate, mg/L Final Alkalinity, mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-4B	SAMPLE ID: MW-4B	DATE: 2/27/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 42 to 47 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 19.82	PURGE PUMP TYPE: ESP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☐ Low-Flow ☒ Traditional (3 Well Volume)

(47 feet TOC – 19.82 feet TOC) X 0.163 gallons/foot = 4.43 gallons . X 3 = 13.29

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 45	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 47	PURGING INITIATED AT: 1414	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons): 5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1419	1	1	0.20	28.30	6.86	19.56	0.229	9.59	3.79	67.2	clear
1424	1	2	0.20	38.50	6.86	19.50	0.185	11.50	5.08	79.8	clear
1428	1	3	0.25	40.41	6.86	19.65	0.201	8.53	4.63	82.2	Clear
1432	1	4	0.25	43.51	6.86	19.68	0.218	7.19	4.62	41.9	Clear
1439	1	5	0.50	46.81	6.87	19.68	0.226	6.81	4.55	38.8	Clear
					DRY						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: N. Chvles Tiller / CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1455	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 47	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ mm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40ml	HCl	80 ~~120~~	6.87	VOCs		
	~~2~~ 1	PP	250ml	HNO3	250ml	6.87	Metals		

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.10 mg/L Final Sulfate, 2. mg/L Final CO_2, 45 mg/L Final MNO_4, mg/L

Final Total Iron, 0.63 mg/L Final Nitrate, 1.1 mg/L Final Alkalinity, 40 mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-4A	SAMPLE ID: MW-4A	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 25 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 19.51	PURGE PUMP TYPE: PP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☒ Low-Flow ☐ Traditional (3 Well Volume)

(30 feet TOC − 19.51 feet TOC) X gallons/foot = 1.67 gallons X 3 = 5.03

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 22.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 22.5	PURGING INITIATED AT: 1525	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons): 2.18

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1525			300	~~19.70~~ 19.76	5.55	21.02	0.119	237	1.24	160.5	
1530	0.4	0.4		19.80	5.46	20.90	0.121	26.8	1.30	172.1	
1535		0.6		19.80	5.41	20.83	0.122	15.7	1.66	170.1	
1540		1.2		19.80	5.40	20.93	0.122	8.25	1.59	167.6	
1545		1.6		19.80	5.44	21.85	0.122	6.83	1.61	184.4	
1550		2.0		19.80	5.47	21.01	0.122	5.50	1.33	185.1	
~~1620~~ 1555		2.4		19.80	5.49	21.12	0.122	6.49	1.38	186.7	
1600	↓	2.8		19.80	5.48	21.16	0.122	4.02	1.36	189.6	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Crowe/TOM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1600	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl):	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N) FILTER SIZE: ____ mm Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME mL	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40	HCl	80		VOCs	RFPP	
	1	PP	250	HNO_3	250		metals	APP	

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.05 mg/L Final Sulfate, 2 mg/L Final CO_2, 50 mg/L Final MNO_4, mg/L

Final Total Iron, 0.51 mg/L Final Nitrate, 1.2 mg/L Final Alkalinity, 20 mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Tellon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-5A	SAMPLE ID: MW-5A	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 20 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 7.68	PURGE PUMP TYPE: PP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☒ Low-Flow ☐ Traditional (3 Well Volume)

(30 feet TOC − 7.68 feet TOC) X .16 gallons/foot = 3.57 gallons X 3 = 10.71

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	PURGING INITIATED AT: 1255	PURGING ENDED AT: 1332	TOTAL VOLUME PURGED (gallons): 2.33

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/Min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1255			250	7.61	~~3023~~ 6.10	20.03	0.065	46.9	5.19	165.7	
1300	2.33	0.93		7.81	5.11	19.85	0.062	44.1	4.98	181.3	
1305		0.66		7.81	5.07	19.83	0.060	30.0	4.30	189.5	
1310		1		7.61	5.44	19.80	0.059	18.8	4.34	193.3	
1315		1.33		7.81	4.95	19.77	0.057	12.1	4.39	197.2	
1320		1.66		7.61	4.86	19.78	0.057	10.3	4.40	197.0	
1325		2.0		7.81	4.84	19.76	0.057	9.84	4.31	198.4	
1330	↓	2.33	↓	7.61	4.82	19.80	0.057	6.96	4.33	199.9	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Cole / CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1330	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	Filtration Equipment Type:	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1	PP	1 L		1000		DHC	APP	
	1	PP	250	HNO_3	250		Metals	APP	
	4	CG	40	HCl	160		VOCs	RFPP	

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.10 mg/L Final Sulfate, 1 mg/L Final CO_2, 30 mg/L Final MNO_4, mg/L

Final Total Iron, 2.37 mg/L Final Nitrate, 1.4 mg/L Final Alkalinity, 40 mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 11.5 to 21.5 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 5.44	PURGE PUMP TYPE: PP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ☑ Low-Flow ☐ Traditional (3 Well Volume)

(21.5 feet TOC – 5.44 feet TOC) X 0.16 gallons/foot = 2.57 gallons X 3 = 7.71

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 16.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 16.5	PURGING INITIATED AT: 0855	PURGING ENDED AT: 0930	TOTAL VOLUME PURGED (gallons): 3.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
0855	~~0.4~~	0.4	350	5.70	6.02	17.42	0.064	30.7	5.11	174.9	
0900	0.4	0.8		5.70	5.47	17.44	0.059	12.4	3.43	177.2	
0905	↓	1.2	↓	5.70	5.35	17.33	0.057	45.3	2.89	172.5	
0900		1.6		5.70	5.25	17.09	0.055	48.9	3.01	167.9	
0915		2.0		5.70	5.09	17.02	0.055	39.6	2.90	166.1	
0920		2.4		5.70	4.99	17.02	0.055	27.1	2.78	165.3	
0925		2.8		5.70	4.96	17.01	0.054	13.0	2.79	166.8	
0930	↓	3.2	↓	5.70	4.97	16.97	0.054	8.38	2.81	169.2	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Good /CDM Smith	SAMPLER(S) SIGNATURE(S): Daniel Good	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 16.5	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) FILTER SIZE: ____ mm Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	2	CG	40	HCl	120		VOCs	RFPP	150

REMARK/NOTES:

Hach Field Data: **Final Ferrous Iron,** mg/L **Final Sulfate,** mg/L **Final CO_2,** mg/L **Final MNO_4,** mg/L

Final Total Iron, mg/L **Final Nitrate,** mg/L **Final Alkalinity,** mg/L **Dilution Ratio:**

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).

2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-7B	SAMPLE ID: MW-7B	DATE: 2-27-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 20 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 6.42	PURGE PUMP TYPE: ESP

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY PURGE METHOD: ~~Low Flow~~ X Traditional (3 Well Volume)

(30 feet TOC – 6.42 feet TOC) X 0.16 gallons/foot = 3.77 gallons X 3 = 11.32

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 30	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (~~gpm~~) mL/min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1020				6.48	5.84	18.00	0.107	48.1	2.41	172.2	
1025	0.25	0.25	200	7.95	5.91	18.01	0.107	12.3	2.29	167.0	
1030	↓	0.5	↓	8.84	5.95	18.21	0.110	11.4	2.13	164.8	
1035		0.75		10.05	5.95	19.04	0.111	6.06	2.02	165.7	
1040	↓	1	↓ 13	~~15.23~~	6.03	18.88	0.111	8.99	1.94	146.7	
1045	1	2	700	18.91	6.05	18.99	0.111	7.01	1.95	143.8	
1050	↓	3	↓	25.16	6.06	19.00	0.111	9.11	1.93	148.1	
1055	↓	4	↓	27.91	6.06	19.01	0.111	8.48	1.94	150.2	
1058	↓	4.5	↓	Dry	6.06	19.04	0.111	5.07	1.93	153.6	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel Goode/CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1058	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 30	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ mm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (Including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40	HCl	120		VOCs	ESP	
	1	PP	250	HNO3	250		Metals	ESP	

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.01 mg/L Final Sulfate, 1 mg/L Final CO_2, 25 mg/L Final MNO_4, mg/L

Final Total Iron, 1.77 mg/L Final Nitrate, 3.1 mg/L Final Alkalinity, 100 mg/L Dilution Ratio:

Field Instruments:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Stabilization criteria for range of variation of at least three consecutive readings (required parameters in bold).
2. pH: ± 0.1 units; Specific Conductance: ± 5%; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

Attachment A-2

Laboratory Reports

CDM Smith

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 08, 2018

Nicholas Fuller
CDM Smith Inc.

3200 Windy Hill Road
Atlanta GA 30339

RE: Cessna

Dear Nicholas Fuller: Order No: 1802P24

Analytical Environmental Services, Inc. received 11 samples on 2/28/2018 7:43:00 AM
for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/19.
These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Ioana Pacurar

Ioana Pacurar

Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1802824

Date: 2-28 Page ____ of ____

COMPANY: CDM Smith
ADDRESS: 3200 Windy Hill Rd SE ste 210 W Atlanta, GA 30339
PHONE: ~~404 720-7330~~ 7703297143 EMAIL: jtduffey@CDMsmith.com
SAMPLED BY: Daniel Good / Nick Fuller SIGNATURE: Daniel Good

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	ANALYSIS REQUESTED: VOCs	ANALYSIS REQUESTED: Metals *	PRESERVATION (see codes)	REMARKS	Number of Containers
1	MW-2A	2-27-18	1650	V		GW	V				
2	MW-3A		1455				V	V			
3	MW-3C		1340				V				
4	MW-3B		1551				V	V			
5	MW-4A		1600				V	V			
6	MW-4B		1455				V	V			
7	MW-5A		1332				V	V			
8	MW-6A		0930				V				
9	MW 7B		1058				V				
10	Dup1		0900				V				
11	Trip Blank										
12											
13											
14											

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Daniel Good	2-28-18	1. [signature]	2/28/2018 7:45 AM
2.		2.	
3.		3.	

PROJECT INFORMATION
PROJECT NAME: Cessna
PROJECT #:
SITE ADDRESS: 4800 Cargo Dr. Columbus GA
SEND REPORT TO: ndfuller@CDMsmith.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers

Turnaround Time (TAT) Request
- ☐ Standard 5 Business Days
- ☐ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other ____

STATE PROGRAM (if any): ____
E-mail? ☐ Fax? ☐
DATA PACKAGE: I ○ II ○ III ○ IV ○

SPECIAL INSTRUCTIONS/COMMENTS:
*-We are only looking for Arsenic, barium, chromium, lead, and manganese

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
(client) FedEx UPS US mail courier Greyhound
other: ____

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-2A
Project Name:	Cessna	**Collection Date:**	2/27/2018 4:50:00 PM
Lab ID:	1802P24-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 14:19	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 14:19	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 14:19	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-2A
Project Name:	Cessna	**Collection Date:**	2/27/2018 4:50:00 PM
Lab ID:	1802P24-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:19	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 14:19	NP
Surr: 4-Bromofluorobenzene	86.3	68-127		%REC	256811	1	03/03/2018 14:19	NP
Surr: Dibromofluoromethane	110	84.4-122		%REC	256811	1	03/03/2018 14:19	NP
Surr: Toluene-d8	102	80.1-116		%REC	256811	1	03/03/2018 14:19	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3A
Project Name:	Cessna	**Collection Date:**	2/27/2018 2:55:00 PM
Lab ID:	1802P24-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 14:43	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 14:43	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
cis-1,2-Dichloroethene	6.7	5.0		ug/L	256811	1	03/03/2018 14:43	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 14:43	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3A
Project Name:	Cessna	**Collection Date:**	2/27/2018 2:55:00 PM
Lab ID:	1802P24-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Trichloroethene	220	50		ug/L	256811	10	03/03/2018 15:07	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 14:43	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 14:43	NP
Surr: 4-Bromofluorobenzene	85.2	68-127		%REC	256811	1	03/03/2018 14:43	NP
Surr: 4-Bromofluorobenzene	84.2	68-127		%REC	256811	10	03/03/2018 15:07	NP
Surr: Dibromofluoromethane	104	84.4-122		%REC	256811	10	03/03/2018 15:07	NP
Surr: Dibromofluoromethane	108	84.4-122		%REC	256811	1	03/03/2018 14:43	NP
Surr: Toluene-d8	104	80.1-116		%REC	256811	1	03/03/2018 14:43	NP
Surr: Toluene-d8	103	80.1-116		%REC	256811	10	03/03/2018 15:07	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	256343	1	03/06/2018 18:10	JR
Barium	0.0861	0.0200		mg/L	256343	1	03/06/2018 18:10	JR
Chromium	BRL	0.0100		mg/L	256343	1	03/06/2018 18:10	JR
Lead	BRL	0.0100		mg/L	256343	1	03/06/2018 18:10	JR
Manganese	0.0489	0.0150		mg/L	256343	1	03/06/2018 18:10	JR

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3C
Project Name:	Cessna	**Collection Date:**	2/27/2018 1:40:00 PM
Lab ID:	1802P24-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 15:31	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 15:31	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Carbon disulfide	37	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 15:31	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3C
Project Name:	Cessna	**Collection Date:**	2/27/2018 1:40:00 PM
Lab ID:	1802P24-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:31	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 15:31	NP
Surr: 4-Bromofluorobenzene	85.1	68-127		%REC	256811	1	03/03/2018 15:31	NP
Surr: Dibromofluoromethane	105	84.4-122		%REC	256811	1	03/03/2018 15:31	NP
Surr: Toluene-d8	101	80.1-116		%REC	256811	1	03/03/2018 15:31	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3B
Project Name:	Cessna	**Collection Date:**	2/27/2018 3:51:00 PM
Lab ID:	1802P24-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 15:55	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 15:55	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 15:55	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3B
Project Name:	Cessna	**Collection Date:**	2/27/2018 3:51:00 PM
Lab ID:	1802P24-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Trichloroethene	26	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 15:55	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 15:55	NP
Surr: 4-Bromofluorobenzene	84.3	68-127		%REC	256811	1	03/03/2018 15:55	NP
Surr: Dibromofluoromethane	104	84.4-122		%REC	256811	1	03/03/2018 15:55	NP
Surr: Toluene-d8	101	80.1-116		%REC	256811	1	03/03/2018 15:55	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	256343	1	03/06/2018 18:13	JR
Barium	0.155	0.0200		mg/L	256343	1	03/06/2018 18:13	JR
Chromium	BRL	0.0100		mg/L	256343	1	03/06/2018 18:13	JR
Lead	BRL	0.0100		mg/L	256343	1	03/06/2018 18:13	JR
Manganese	0.0166	0.0150		mg/L	256343	1	03/06/2018 18:13	JR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4A
Project Name:	Cessna	**Collection Date:**	2/27/2018 4:00:00 PM
Lab ID:	1802P24-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 16:19	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 16:19	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 16:19	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4A
Project Name:	Cessna	**Collection Date:**	2/27/2018 4:00:00 PM
Lab ID:	1802P24-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:19	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 16:19	NP
Surr: 4-Bromofluorobenzene	84.1	68-127		%REC	256811	1	03/03/2018 16:19	NP
Surr: Dibromofluoromethane	105	84.4-122		%REC	256811	1	03/03/2018 16:19	NP
Surr: Toluene-d8	102	80.1-116		%REC	256811	1	03/03/2018 16:19	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	256343	1	03/06/2018 18:17	JR
Barium	0.176	0.0200		mg/L	256343	1	03/06/2018 18:17	JR
Chromium	BRL	0.0100		mg/L	256343	1	03/06/2018 18:17	JR
Lead	BRL	0.0100		mg/L	256343	1	03/06/2018 18:17	JR
Manganese	0.701	0.0150		mg/L	256343	1	03/06/2018 18:17	JR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4B
Project Name:	Cessna	**Collection Date:**	2/27/2018 2:55:00 PM
Lab ID:	1802P24-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 16:44	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 16:44	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 16:44	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4B
Project Name:	Cessna	**Collection Date:**	2/27/2018 2:55:00 PM
Lab ID:	1802P24-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 16:44	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 16:44	NP
Surr: 4-Bromofluorobenzene	85.2	68-127		%REC	256811	1	03/03/2018 16:44	NP
Surr: Dibromofluoromethane	106	84.4-122		%REC	256811	1	03/03/2018 16:44	NP
Surr: Toluene-d8	101	80.1-116		%REC	256811	1	03/03/2018 16:44	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	256343	1	03/06/2018 18:20	JR
Barium	0.655	0.0200		mg/L	256343	1	03/06/2018 18:20	JR
Chromium	BRL	0.0100		mg/L	256343	1	03/06/2018 18:20	JR
Lead	BRL	0.0100		mg/L	256343	1	03/06/2018 18:20	JR
Manganese	0.224	0.0150		mg/L	256343	1	03/06/2018 18:20	JR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-5A
Project Name:	Cessna	**Collection Date:**	2/27/2018 1:32:00 PM
Lab ID:	1802P24-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 17:08	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 17:08	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
cis-1,2-Dichloroethene	17	5.0		ug/L	256811	1	03/03/2018 17:08	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 17:08	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-5A
Project Name:	Cessna	**Collection Date:**	2/27/2018 1:32:00 PM
Lab ID:	1802P24-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Trichloroethene	1300	50		ug/L	256811	10	03/03/2018 17:32	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:08	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 17:08	NP
Surr: 4-Bromofluorobenzene	82.6	68-127		%REC	256811	1	03/03/2018 17:08	NP
Surr: 4-Bromofluorobenzene	83.8	68-127		%REC	256811	10	03/03/2018 17:32	NP
Surr: Dibromofluoromethane	108	84.4-122		%REC	256811	1	03/03/2018 17:08	NP
Surr: Dibromofluoromethane	109	84.4-122		%REC	256811	10	03/03/2018 17:32	NP
Surr: Toluene-d8	102	80.1-116		%REC	256811	1	03/03/2018 17:08	NP
Surr: Toluene-d8	103	80.1-116		%REC	256811	10	03/03/2018 17:32	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	256343	1	03/06/2018 18:23	JR
Barium	0.140	0.0200		mg/L	256343	1	03/06/2018 18:23	JR
Chromium	BRL	0.0100		mg/L	256343	1	03/06/2018 18:23	JR
Lead	BRL	0.0100		mg/L	256343	1	03/06/2018 18:23	JR
Manganese	0.0946	0.0150		mg/L	256343	1	03/06/2018 18:23	JR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-6A
Project Name:	Cessna	**Collection Date:**	2/27/2018 9:30:00 AM
Lab ID:	1802P24-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 17:56	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 17:56	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 17:56	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-6A
Project Name:	Cessna	**Collection Date:**	2/27/2018 9:30:00 AM
Lab ID:	1802P24-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 17:56	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 17:56	NP
Surr: 4-Bromofluorobenzene	85.4	68-127		%REC	256811	1	03/03/2018 17:56	NP
Surr: Dibromofluoromethane	110	84.4-122		%REC	256811	1	03/03/2018 17:56	NP
Surr: Toluene-d8	102	80.1-116		%REC	256811	1	03/03/2018 17:56	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7B
Project Name:	Cessna	**Collection Date:**	2/27/2018 10:58:00 AM
Lab ID:	1802P24-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 19:09	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 19:09	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 19:09	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7B
Project Name:	Cessna	**Collection Date:**	2/27/2018 10:58:00 AM
Lab ID:	1802P24-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Trichloroethene	5.7	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 19:09	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 19:09	NP
Surr: 4-Bromofluorobenzene	82.6	68-127		%REC	256811	1	03/03/2018 19:09	NP
Surr: Dibromofluoromethane	105	84.4-122		%REC	256811	1	03/03/2018 19:09	NP
Surr: Toluene-d8	101	80.1-116		%REC	256811	1	03/03/2018 19:09	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	Dup 1
Project Name:	Cessna	**Collection Date:**	2/27/2018 8:00:00 AM
Lab ID:	1802P24-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 18:20	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 18:20	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
cis-1,2-Dichloroethene	20	5.0		ug/L	256811	1	03/03/2018 18:20	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 18:20	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	Dup 1
Project Name:	Cessna	**Collection Date:**	2/27/2018 8:00:00 AM
Lab ID:	1802P24-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Trichloroethene	1300	50		ug/L	256811	10	03/03/2018 18:45	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 18:20	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 18:20	NP
Surr: 4-Bromofluorobenzene	84.2	68-127		%REC	256811	1	03/03/2018 18:20	NP
Surr: 4-Bromofluorobenzene	84.4	68-127		%REC	256811	10	03/03/2018 18:45	NP
Surr: Dibromofluoromethane	106	84.4-122		%REC	256811	1	03/03/2018 18:20	NP
Surr: Dibromofluoromethane	107	84.4-122		%REC	256811	10	03/03/2018 18:45	NP
Surr: Toluene-d8	100	80.1-116		%REC	256811	1	03/03/2018 18:20	NP
Surr: Toluene-d8	102	80.1-116		%REC	256811	10	03/03/2018 18:45	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	Trip Blank
Project Name:	Cessna	**Collection Date:**	2/27/2018
Lab ID:	1802P24-011	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,1-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,1-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2-Dibromoethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2-Dichloroethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,2-Dichloropropane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
2-Butanone	BRL	50		ug/L	256811	1	03/03/2018 13:54	NP
2-Hexanone	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
4-Methyl-2-pentanone	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
Acetone	BRL	50		ug/L	256811	1	03/03/2018 13:54	NP
Benzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Bromodichloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Bromoform	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Bromomethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Carbon disulfide	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Carbon tetrachloride	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Chlorobenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Chloroethane	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
Chloroform	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Chloromethane	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Cyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Dibromochloromethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Dichlorodifluoromethane	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
Ethylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Freon-113	BRL	10		ug/L	256811	1	03/03/2018 13:54	NP
Isopropylbenzene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
m,p-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Methyl acetate	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Methylcyclohexane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Methylene chloride	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
o-Xylene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	Trip Blank
Project Name:	Cessna	**Collection Date:**	2/27/2018
Lab ID:	1802P24-011	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Tetrachloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Toluene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Trichloroethene	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Trichlorofluoromethane	BRL	5.0		ug/L	256811	1	03/03/2018 13:54	NP
Vinyl chloride	BRL	2.0		ug/L	256811	1	03/03/2018 13:54	NP
Surr: 4-Bromofluorobenzene	84.8	68-127		%REC	256811	1	03/03/2018 13:54	NP
Surr: Dibromofluoromethane	107	84.4-122		%REC	256811	1	03/03/2018 13:54	NP
Surr: Toluene-d8	103	80.1-116		%REC	256811	1	03/03/2018 13:54	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Clear | Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **CDM Smith Inc.** AES Work Order Number: **1802P24**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

		Yes	No	N/A	Details	Comments
3.	Shipping container/cooler received in good condition?	◉	○	○	damaged ☐ leaking ☐ other ☐	
4.	Custody seals present on shipping container?	○	◉	○		
5.	Custody seals intact on shipping container?	○	○	◉		
6.	Temperature blanks present?	○	◉	○		
7.	Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	◉	○	○	Cooling initiated for recently collected samples / ice present ☐	
8.	Chain of Custody (COC) present?	◉	○	○		
9.	Chain of Custody signed, dated, and timed when relinquished and received?	◉	○	○		Signed and dated
10.	Sampler name and/or signature on COC?	◉	○	○		
11.	Were all samples received within holding time?	◉	○	○		
12.	TAT marked on the COC?	○	◉	○	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. ■	

13. Cooler 1 Temperature 0.5 °C Cooler 2 Temperature _____ °C Cooler 3 Temperature _____ °C Cooler 4 Temperature _____ °C

14. Cooler 5 Temperature _____ °C Cooler 6 Temperature _____ °C Cooler 7 Temperature _____ °C Cooler 8 Temperature _____ °C

15. Comments: _____

I certify that I have completed sections 1-15 (dated initials). T D 2/28/18

		Yes	No	N/A	Details	Comments
16.	Were sample containers intact upon receipt?	◉	○	○		
17.	Custody seals present on sample containers?	○	◉	○		
18.	Custody seals intact on sample containers?	○	○	◉		
19.	Do sample container labels match the COC?	◉	○	○	incomplete info ☐ illegible ☐ no label ☐ other ☐	
20.	Are analyses requested indicated on the COC?	◉	○	○		
21.	Were all of the samples listed on the COC received?	◉	○	○	samples received but not listed on COC ☐ samples listed on COC not received ☐	
22.	Was the sample collection date/time noted?	◉	○	○		
23.	Did we receive sufficient sample volume for indicated analyses?	◉	○	○		
24.	Were samples received in appropriate containers?	◉	○	○		
25.	Were VOA samples received without headspace (< 1/4" bubble)?	◉	○	○		
26.	Were trip blanks submitted?	◉	○	○	listed on COC ☐ not listed on COC ☐	

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). MJ 3/1/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	◉	○	○		
29.	Containers meet preservation guidelines?	◉	○	○		
30.	Was pH adjusted at Sample Receipt?	○	○	◉		

* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.

I certify that I have completed sections 28-30 (dated initials). BU 3/1/18

Locked

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256343

Sample ID: **MB-256343** Client ID: Units: **mg/L** Prep Date: **03/05/2018** Run No: **364611**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **256343** Analysis Date: **03/06/2018** Seq No: **8059767**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Chromium	BRL	0.0100									
Lead	BRL	0.0100									
Manganese	BRL	0.0150									

Sample ID: **LCS-256343** Client ID: Units: **mg/L** Prep Date: **03/05/2018** Run No: **364611**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **256343** Analysis Date: **03/06/2018** Seq No: **8059773**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.013	0.0500	1.000		101	80	120				
Barium	0.9605	0.0200	1.000		96.0	80	120				
Chromium	0.9605	0.0100	1.000		96.1	80	120				
Lead	0.9241	0.0100	1.000		92.4	80	120				
Manganese	0.9335	0.0150	1.000		93.4	80	120				

Sample ID: **1803290-001AMS** Client ID: Units: **mg/L** Prep Date: **03/05/2018** Run No: **364611**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **256343** Analysis Date: **03/06/2018** Seq No: **8059780**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.001	0.0500	1.000		100	75	125				
Barium	1.061	0.0200	1.000	0.09488	96.7	75	125				
Chromium	0.9720	0.0100	1.000		97.2	75	125				
Lead	0.9292	0.0100	1.000		92.9	75	125				
Manganese	1.099	0.0150	1.000	0.1619	93.7	75	125				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256343

Sample ID: **1803290-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D**
Units: **mg/L** Prep Date: **03/05/2018** Run No: **364611**
BatchID: **256343** Analysis Date: **03/06/2018** Seq No: **8059781**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.018	0.0500	1.000		102	75	125	1.001	1.75	20	
Barium	1.053	0.0200	1.000	0.09488	95.8	75	125	1.061	0.836	20	
Chromium	0.9634	0.0100	1.000		96.3	75	125	0.9720	0.892	20	
Lead	0.9318	0.0100	1.000		93.2	75	125	0.9292	0.276	20	
Manganese	1.085	0.0150	1.000	0.1619	92.3	75	125	1.099	1.24	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256811

Sample ID: **MB-256811** Client ID: Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055630**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256811

Sample ID: **MB-256811** Client ID: Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055630**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	42.11	0	50.00		84.2	68	127				
Surr: Dibromofluoromethane	53.09	0	50.00		106	84.4	122				
Surr: Toluene-d8	50.89	0	50.00		102	80.1	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256811

Sample ID: **LCS-256811** Client ID: Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055627**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	45.85	5.0	50.00		91.7	69	136				
Benzene	38.10	5.0	50.00		76.2	73.7	126				
Chlorobenzene	41.72	5.0	50.00		83.4	73.5	124				
Toluene	39.69	5.0	50.00		79.4	76.8	125				
Trichloroethene	38.07	5.0	50.00		76.1	70.9	124				
Surr: 4-Bromofluorobenzene	41.96	0	50.00		83.9	68	127				
Surr: Dibromofluoromethane	52.20	0	50.00		104	84.4	122				
Surr: Toluene-d8	50.76	0	50.00		102	80.1	116				

Sample ID: **1802O80-002AMS** Client ID: Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	31210	2500	25000		125	65.7	143				
Benzene	28460	2500	25000	2960	102	66.1	137				
Chlorobenzene	27500	2500	25000		110	70.9	132				
Toluene	26600	2500	25000	1245	101	63.8	141				
Trichloroethene	24060	2500	25000		96.2	70.6	128				
Surr: 4-Bromofluorobenzene	20780	0	25000		83.1	68	127				
Surr: Dibromofluoromethane	25680	0	25000		103	84.4	122				
Surr: Toluene-d8	24660	0	25000		98.6	80.1	116				

Sample ID: **1802O80-002AMSD** Client ID: Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	32310	2500	25000		129	65.7	143	31210	3.46	17.7	
Benzene	29230	2500	25000	2960	105	66.1	137	28460	2.65	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1802P24

ANALYTICAL QC SUMMARY REPORT

BatchID: 256811

Sample ID: **1802O80-002AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **03/03/2018** Run No: **364411**
BatchID: **256811** Analysis Date: **03/03/2018** Seq No: **8055641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	28040	2500	25000		112	70.9	132	27500	1.93	20	
Toluene	27420	2500	25000	1245	105	63.8	141	26600	3.04	20	
Trichloroethene	24580	2500	25000		98.3	70.6	128	24060	2.16	20	
Surr: 4-Bromofluorobenzene	21330	0	25000		85.3	68	127	20780	0	0	
Surr: Dibromofluoromethane	26340	0	25000		105	84.4	122	25680	0	0	
Surr: Toluene-d8	24980	0	25000		99.9	80.1	116	24660	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Attachment B: 1st 2018 SVE System Monitoring Report

1st 2018 Semi-Annual SVE System Monitoring Report

Cessna Aircraft Company GA1 Facility
Columbus, Muscogee County, Georgia

The Georgia Environmental Protection Division (EPD) accepted this site into Georgia's Voluntary Remediation Program (VRP) on September 27, 2016, and approved the Voluntary Investigation and Remediation Plan (VIRP) and VRP application dated March 24, 2016. As part of Cessna's voluntary remediation efforts, a soil vapor extraction (SVE) system was installed beneath the building to mitigate volatile organic compounds (VOCs) in soil gas from potentially migrating into the building. The SVE system began operation on February 1, 2017. This report summarizes the SVE system monitoring data for the first 2018 semi-annual reporting period.

SVE System Description

The SVE system consists of four SVE wells and three vapor monitoring points (**Figure B-1**). The SVE wells are 2-inch diameter PVC and screened from 5 to 15 feet below the floor slab. The vapor monitoring points are small diameter tubes that are sealed and extend beneath the floor slab. The extracted vapors are carried in PVC piping from floor level up to the roof rafters and then to the exterior wall and down to ground level to the SVE blower located on the exterior of the building. System monitoring is performed semi-annually.

Results

The SVE system logged 4,583 hours from August 15, 2017, through March 9, 2018. This represents approximately 360 hours of downtime, or approximately 7 percent. Minor downtime was incurred because a full condensate knockout tank and required emptying on five occasions. Additional downtime was incurred because of electrical problems that have been resolved.

SVE well sampling was completed on March 9, 2018. The analytical results for each SVE well are summarized in **Table B-1** through **Table B-4**. The combined flow at the SVE discharge is sampled to calculate emission rates (**Table B-5**). The full laboratory reports are in **Attachment B-1**. The following vacuum measurements were recorded from the vapor monitoring points.

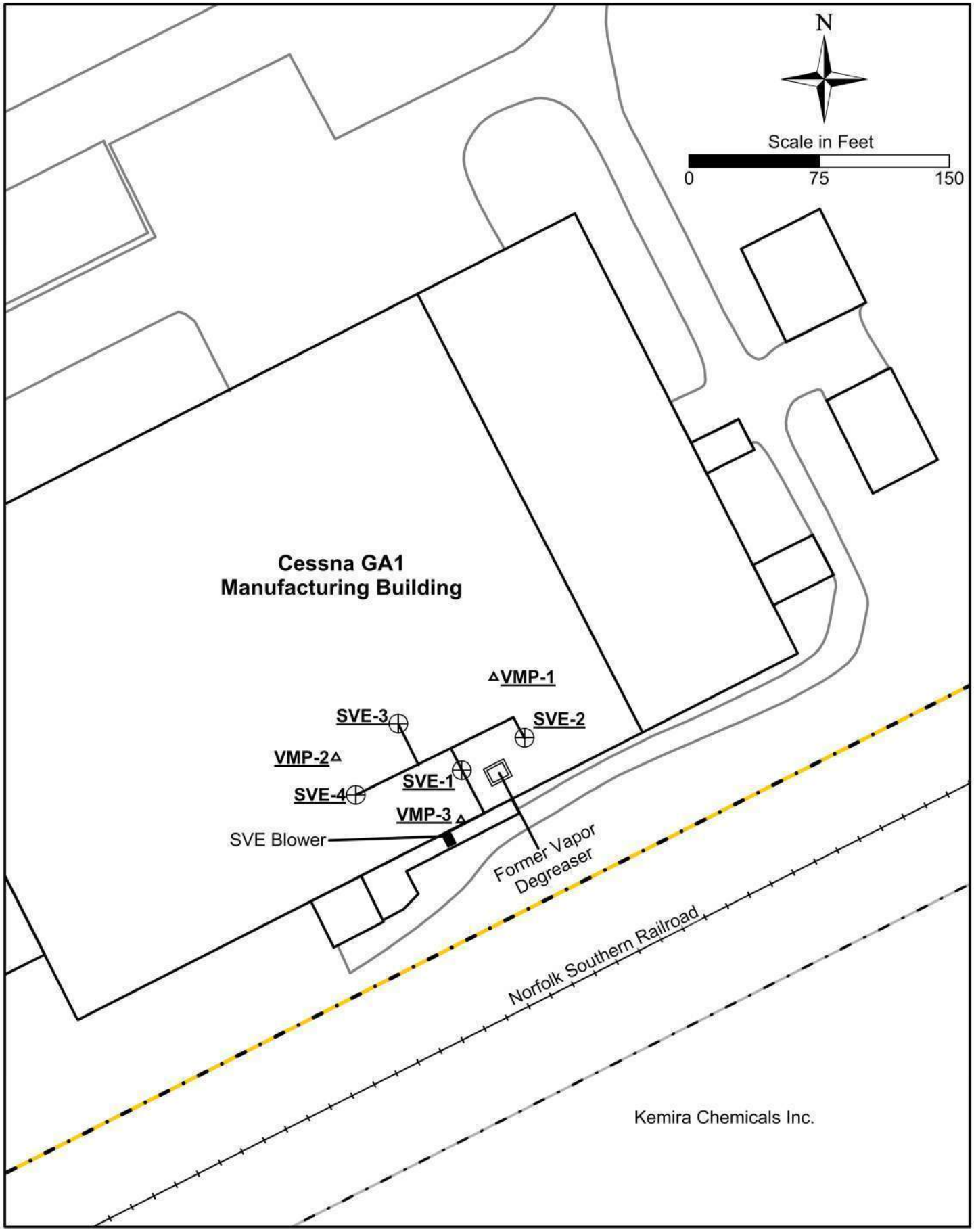
- VMP-1 – 4.43 Inches of water
- VMP-2 – 0.98 Inches of water
- VMP-3 – 0.01 Inches of water

Conclusions

The measured vacuums continue to show that the SVE system is creating negative pressure beneath the floor slab, which should reduce or eliminate sub-slab vapor intrusion into the building. The laboratory analyses show that trichloroethene continues to be the dominant VOC in soil gas and it remains the highest at SVE-1 near the former vapor degreaser location. 1,1,2-Trichloroethane in SVE-1 also exceeded the EPA's soil gas Vapor Intrusion Screening Levels (VISLs). The updated output from the VISL Calculator are in **Attachment B-2**. The combined discharge from the system remains below the permitting requirements.

CDM Smith

Figures



CDM Smith

Offsite Properties

Site Boundary

Soil Vapor Extraction Well

Sub-Slab Vapor Monitoring Point

Figure B-1
SVE System
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Tables

Constituent (ug/m^3)	$VISL_{SG}$	Pre-SVE	SVE-1 Operation							
			02/01/17	08/15/17	03/09/18					
1,1,1-Trichloroethane	73,000	<2.5	1,700	10	<5.5					
1,1,2-Trichloroethane	2.92	<2.1	**2,200**	**31**	**10**					
1,1-Dichloroethane	2,560	<1.0	**17,000**	170	130					
1,1-Dichloroethene	2,920	120	**34,000**	140	130					
1,2,4-Trimethylbenzene	876	9.6	<49	15	<4.9					
2-Butanone	73,000	14 J	74	10	5					
2-Propanol	2,920	54 J	<180	130	58					
Acetone	451,000	320	<120	57	36					
Benzene	438	10	89	6.9	<3.2					
Carbon Disulfide	10,200	10 J	86	17	<3.1					
Chloroform	178	<4.0	**3,800**	28	13					
Chloromethane	1,310	<1.9	<21	8.1	<2.1					
cis-1,2-Dichloroethene	NC	<1.4	38,000	950	580					
Cyclohexane	87,600	10	<34	7.2	<3.4					
Ethyl Acetate	1,020	-	<36	140	<3.6					
Ethyl Benzene	1,640	9.4	<43	9.3	<4.3					
Methylene Chloride	8,760	11 J	68	<3.5	3.8					
Styrene	14,600	2.8 J	<43	<4.3	<4.3					
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6					
Trichlorotrifluoroethane	73,000	-	170	<7.7	<7.7					
Tetrachloroethene	584	<1.6	550	<6.8	<6.8					
Tetrahydrofuran	29,200	<42	3,200	10	8.8					
Toluene	73,000	79	62	62	3.8					
trans-1,2-Dichloroethene	NC	<1.6	3,400	56	34					
Trichloroethene	29.2	**160**	**6,100,000**	**26,000**	**26,000**					
Vinyl Chloride	929	150	180	4	<2.6					
Xylene, m&p	1,460	33	<87	24	<8.7					
Xylene, o	1,460	12	<43	9.6	<4.3					

$VISL_{SG}$ - Soil gas vapor intrusion screening level

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the dtection limit

J - Estimated concentration below the reporting level

Bold/shaded values exceed the $VISL_{SG}$

- Not analyzed

CDM Smith

Table B-1: SVE-1 Data Summary

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Constituent (ug/m^3)	$VISL_{SG}$	Pre-SVE	SVE-2 Operation							
			02/01/17	08/15/17	03/09/18					
1,1,1-Trichloroethane	73,000	<3,600	580	<5.5	<5.5					
1,1,2-Trichloroethane	2.92	<3,000	<55	<5.5	8.5					
1,1-Dichloroethane	2,560	5,800 J	**2,600**	16	26					
1,1-Dichloroethene	2,920	8,300 J	**2,900**	12	14					
1,2,4-Trimethylbenzene	876	<3,000	<49	15	<4.9					
2-Butanone	73,000	<2,200	<29	11	5.9					
2-Propanol	2,920	<34,000	<180	110	51					
Acetone	451,000	<29,000	<120	52	41					
Benzene	438	<1,900	<32	5.4	3.5					
Carbon Disulfide	10,200	<1,900	<31	16	<3.1					
Chloroform	178	<5,700	**700**	14	8.1					
Chloromethane	1,310	<2,700	<21	7.7	<2.1					
cis-1,2-Dichloroethene	NC	22,000	15,000	77	75					
Cyclohexane	87,600	<1,900	<34	6.7	20					
Ethyl Acetate	1,020	-	420	120	<3.6					
Ethyl Benzene	1,640	<2,000	<43	8.7	<4.3					
Methylene Chloride	8,760	<8,900	<35	<3.5	<3.5					
Styrene	14,600	<2,600	<43	<4.3	<4.3					
Trichlorofluoromethane	NC	<3,000	<56	<5.6	<5.6					
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7					
Tetrachloroethene	584	<2,200	<68	<6.8	<6.8					
Tetrahydrofuran	29,200	<59,000	2,400	14	9.6					
Toluene	73,000	<5,000	38	57	4.9					
trans-1,2-Dichloroethene	NC	<2,400	840	<4.0	<4.0					
Trichloroethene	29.2	**2,600,000**	**700,000**	**2,100**	**9,700**					
Vinyl Chloride	929	<1,200	60	<2.6	<2.6					
Xylene, m&p	1,460	<4,400	<87	22	<8.7					
Xylene, o	1,460	<2,300	<43	8.9	<4.3					

$VISL_{SG}$ - Soil gas vapor intrusion screening level

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the dtection limit

J - Estimated concentration below the reporting level

Bold/shaded values exceed the $VISL_{SG}$

- Not analyzed

CDM Smith

Table B-2: SVE-2 Data Summary

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Constituent (ug/m^3)	$VISL_{SG}$	Pre-SVE	SVE-3 Operation							
			02/01/17	08/15/17	03/09/18					
1,1,1-Trichloroethane	73,000	<2.6	140	<5.5	<5.5					
1,1,2-Trichloroethane	2.92	<2.2	<55	<5.5	<5.5					
1,1-Dichloroethane	2,560	1.9 J	1,100	11	4					
1,1-Dichloroethene	2,920	120	**3,900**	12	7.1					
1,2,4-Trimethylbenzene	876	<2.2	<49	16	8.8					
2-Butanone	73,000	15 J	<29	8	19					
2-Propanol	2,920	52 J	<180	110	41					
Acetone	451,000	380	<120	50	91					
Benzene	438	1.8 J	<32	5.8	21					
Carbon Disulfide	10,200	8 J	<31	14	<3.1					
Chloroform	178	<4.1	78	11	<4.9					
Chloromethane	1,310	<2.0	<21	2.8	<2.1					
cis-1,2-Dichloroethene	NC	15	46	<4.0	<4.0					
Cyclohexane	87,600	6.4 J	<34	6.4	6.5					
Ethyl Acetate	1,020	-	280	110	<3.6					
Ethyl Benzene	1,640	<1.5	<43	9.6	11					
Methylene Chloride	8,760	<6.4	<35	<3.5	<3.5					
Styrene	14,600	<1.9	<43	<4.3	6.8					
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6					
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7					
Tetrachloroethene	584	<1.6	<68	<6.8	<6.8					
Tetrahydrofuran	29,200	<42	960	4.9	14					
Toluene	73,000	<3.6	<38	59	290					
trans-1,2-Dichloroethene	NC	<1.7	<40	<4.0	<4.0					
Trichloroethene	29.2	**110**	**81,000**	**260**	**32**					
Vinyl Chloride	929	3.3 J	<26	<2.6	<2.6					
Xylene, m&p	1,460	<3.1	<87	24	35					
Xylene, o	1,460	<1.6	<43	10	12					

$VISL_{SG}$ - Soil gas vapor intrusion screening level

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the dtection limit

J - Estimated concentration below the reporting level

Bold/shaded values exceed the $VISL_{SG}$

- Not analyzed

CDM Smith

Table B-3: SVE-3 Data Summary

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Constituent (ug/m^3)	$VISL_{SG}$	Pre-SVE	SVE-4 Operation							
			02/01/17	08/15/17	03/09/18					
1,1,1-Trichloroethane	73,000	44	32	<5.5	<5.5					
1,1,2-Trichloroethane	2.92	<7.4	<5.5	<5.5	<5.5					
1,1-Dichloroethane	2,560	54	110	4.5	<4.0					
1,1-Dichloroethene	2,920	1,400	1,700	14	<4.0					
1,2,4-Trimethylbenzene	876	16 J	<4.9	14	<4.9					
2-Butanone	73,000	<5.3	5.9	7.5	<2.9					
2-Propanol	2,920	<83	33	96	25					
Acetone	451,000	<71	34	41	20					
Benzene	438	7.8 J	7.8	5.4	<3.2					
Carbon Disulfide	10,200	<4.6	<3.1	13	<3.1					
Chloroform	178	<14	15	<4.9	<4.9					
Chloromethane	1,310	<6.6	<2.1	5.9	5.8					
cis-1,2-Dichloroethene	NC	<4.8	<4.0	5	<4.0					
Cyclohexane	87,600	<4.6	<3.4	5.3	<3.4					
Ethyl Acetate	1,020	-	470	100	<3.6					
Ethyl Benzene	1,640	13 J	7.2	8.5	<4.3					
Methylene Chloride	8,760	<22	<3.5	<3.5	<3.5					
Styrene	14,600	<6.3	<4.3	<4.3	<4.3					
Trichlorofluoromethane	NC	80	69	<5.6	<5.6					
Trichlorotrifluoroethane	73,000	20 J	95	<7.7	<7.7					
Tetrachloroethene	584	11 J	<6.8	<6.8	<6.8					
Tetrahydrofuran	29,200	530	290	3.8	6					
Toluene	73,000	77	61	54	<3.8					
trans-1,2-Dichloroethene	NC	<5.9	<4.0	<4.0	<4.0					
Trichloroethene	29.2	**4,600**	**2,000**	**200**	**150**					
Vinyl Chloride	929	<2.8	<2.6	<2.6	<2.6					
Xylene, m&p	1,460	45 J	31	23	<8.7					
Xylene, o	1,460	17 J	6.3	8.9	<4.3					

$VISL_{SG}$ - Soil gas vapor intrusion screening level

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the dtection limit

J - Estimated concentration below the reporting level

Bold/shaded values exceed the $VISL_{SG}$

- Not analyzed

CDM Smith

Table B-4: SVE-4 Data Summary

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Hazardous Air Pollutants, mg/m^3	CAS #	Combined SVE System Discharge			
		2/1/2017	8/15/2017	3/9/2018	
1,1,1-Trichloroethane	71556	0.24	BRL	BRL	
1,1,2,2-Tetrachloroethane	79345	BRL	BRL	BRL	
1,1,2-Trichloroethane	79005	0.057	BRL	BRL	
1,1-Dichloroethane	75343	2.6	0.017	0.041	
1,1-Dichloroethene	75354	5	0.019	0.034	
1,2,4-Trichlorobenzene	120821	BRL	BRL	BRL	
1,2-Dibromoethane	106934	BRL	BRL	BRL	
1,2-Dichloroethane	107062	BRL	BRL	BRL	
1,2-Dichloropropane	78875	BRL	BRL	BRL	
1,3-Butadiene	106990	BRL	BRL	BRL	
1,4-Dichlorobenzene	106467	BRL	BRL	BRL	
1,4-Dioxane	123911	BRL	BRL	BRL	
2,2,4-Trimethylpentane	540841	BRL	BRL	0.039	
Allyl Chloride	107051	BRL	BRL	BRL	
Benzene	71432	BRL	BRL	0.0059	
Benzyl Chloride	100447	BRL	BRL	BRL	
Bromoform	75252	BRL	BRL	BRL	
Bromomethane (Methyl Bromide)	74839	BRL	BRL	BRL	
Carbon Disulfide	75150	BRL	BRL	BRL	
Carbon Tetrachloride	56235	BRL	BRL	BRL	
Chlorobenzene	108907	BRL	BRL	BRL	
Chloroethane (Ethyl Chloride)	75003	BRL	BRL	BRL	
Chloroform	67663	0.36	0.0076	0.0085	
Chloromethane (Methyl Chloride)	74873	BRL	BRL	BRL	
Ethylbenzene	100414	BRL	BRL	0.0048	
Hexachlorobutadiene	87683	BRL	BRL	BRL	
Methyl Ethyl Ketone (2-Butanone)	78933	BRL	BRL	0.0069	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108101	BRL	BRL	BRL	
Methyl Tert-Butyl Ether (MTBE)	1634044	BRL	BRL	BRL	
Methylene Chloride (Dichloromethane)	75092	BRL	BRL	BRL	
n-Hexane	110543	BRL	BRL	0.042	
Styrene	100425	BRL	BRL	BRL	
Tetrachloroethene	127184	BRL	0.0078	BRL	
Toluene	108883	BRL	BRL	0.096	
Trichloroethene	79016	510	3.5	9.9	
Vinyl Bromide (Bromoethene)	593602	BRL	BRL	BRL	
Vinyl Chloride	75014	BRL	BRL	BRL	
Xylenes, Total	1330207	BRL	BRL	0.021	
	Total HAPs	518	3.55	10	0
	Flowrate, cubic feet/minute	115	131	114	
	Daily Emission Rate, pounds/day	**5.4**	**0.04**	**0.1**	**0.0**

BRL - Below reporting level

Table B-5: SVE Emissions Calculations

Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment B-1

Laboratory Reports

CDM Smith

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 14, 2018

Nicholas Fuller
CDM Smith Inc.

3200 Windy Hill Road, Suite 210 West
Atlanta GA 30339

RE: Cessna Site

Dear Nicholas Fuller: Order No: 1803B26

Analytical Environmental Services, Inc. received 5 samples on 3/9/2018 4:11:00 PM
for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Air & Emissions for Volatile Organics effective 07/01/17-06/30/18.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Ioana Pacurar

Ioana Pacurar

Project Manager

APPENDIX

Compound	CAS #	Alternate Name	TO-14A	TO-15	SOP
Acetone	67-64-1				X
Allyl chloride	107-05-1	3-Chloropropene		X	
Benzene	71-43-2		X	X	
Benzyl chloride	100-44-7		X	X	
Bromodichloromethane	75-27-4	Dichlorobromomethane			X
Bromoform	75-25-2	Tribromomethane		X	
Bromomethane	74-83-9	Methyl bromide	X	X	
1,3-Butadiene	106-99-0			X	
Carbon disulfide	75-15-0			X	
Carbon tetrachloride	56-23-5		X	X	
Chlorobenzene	108-90-7		X	X	
Chloroethane	75-00-3	Ethyl chloride	X	X	
Chloroform	67-66-3		X	X	
Chloromethane	74-87-3	Methyl chloride	X	X	
Cyclohexane	110-82-7				X
Dibromochloromethane	124-48-1	Chlorodibromomethane			X
1,2-Dibromoethane	106-93-4	EDB/Ethylene dibromide	X	X	
1,2-Dichlorobenzene	95-50-1	*o*-Dichlorobenzene	X	X	
1,3-Dichlorobenzene	541-73-1	*m*-Dichlorobenzene	X	X	
1,4-Dichlorobenzene	106-46-7	p-Dichlorobenzene	X	X	
Dichlorodifluoromethane	75-71-8	Freon-12	X		
1,1-Dichloroethane	75-34-3		X	X	
1,2-Dichloroethane	107-06-2		X	X	
1,1-Dichloroethene	75-35-4	1,1-Dichloroethylene	X	X	
cis-1,2-Dichloroethene	156-59-2	*cis*-1,2-Dichloroethylene	X	X	
trans-1,2-Dichloroethene	156-60-5	*trans*-1,2-Dichloroethylene		X	
1,2-Dichloropropane	78-87-5		X	X	
cis-1,3-Dichloropropene	10061-01-5		X	X	
trans-1,3-Dichloropropene	10061-02-6		X	X	
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	Freon-114	X		
1,4-Dioxane	123-91-1	1,4-Diethylene oxide		X	
Ethyl acetate	141-78-6	Acetic acid, ethyl ester			X
Ethylbenzene	100-41-4		X	X	
4-Ethyltoluene	622-96-8				X
n-Heptane	142-82-5	Heptane			X
Hexachlorobutadiene	87-68-3	Hexachloro-1,3-butadiene	X	X	

n-Hexane	110-54-3	Hexane		X	
Compound	**CAS #**	**Alternate Name**	**TO-14A**	**TO-15**	**SOP**
2-Hexanone	591-78-6	Methyl butyl ketone			X
Methylene chloride	75-09-2	Dichloromethane	X	X	
Methyl tert-butyl ether	1634-04-4	MTBE		X	
Methyl ethyl ketone	78-93-3	MEK/2-Butanone		X	
Methyl isobutyl ketone	108-10-1	4-Methyl-2-pentanone		X	
2-Propanol	67-63-0	Isopropanol/Isopropyl alcohol			X
Propene	115-07-1	Propylene			X
Styrene	100-42-5			X	
1,1,2,2-Tetrachloroethane	79-34-5		X	X	
Tetrachloroethene	127-18-4	Tetrachloroethylene	X	X	
Tetrahydrofuran	109-99-9				X
Toluene	108-88-3			X	
1,2,4-Trichlorobenzene	120-82-1			X	
1,1,1-Trichloroethane	74-55-6			X	
1,1,2-Trichloroethane	79-00-5			X	
Trichloroethene	79-01-6	Trichloroethylene		X	
Trichlorofluoromethane	75-69-4	Freon-11	X		
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	Freon-113	X		
1,2,4-Trimethylbenzene	95-63-6		X	X	
1,3,5-Trimethylbenzene	108-67-8		X	X	
2,2,4-Trimethylpentane	540-84-1	Isooctane		X	
Vinyl acetate	108-05-04			X	
Vinyl bromide	593-60-2	Bromoethene		X	
Vinyl chloride	75-01-4	Chloroethene	X	X	
Xylenes, Total	1330-20-7		X	X	
m/p-Xylene	179601-23-1		X	X	
o-Xylene	95-47-6		X	X	

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

VAPOR/AIR CHAIN OF CUSTODY

Work Order #: 1803B26

Page 1 of 1

Company: CDM Smith

Address: 3200 Windy Hill Rd SE ste 210 W Atlanta, GA 30339

Bottle Order #:

Turnaround Time (Circle One): (Standard) 3 Day Rush 2 Day Rush Other

Phone: 404 720 1380

Fax:

Sampled by: Daniel Good

Signature:

#	Sample ID	Sample Start Date	Sample Start Time (24hr)	Sample Finish Date	Sample Finish Time (24 hr)	Sample Matrix*	Canister Serial #	Flow Controller ID	Canister Pressure In Field ("Hg) Start	Canister Pressure In Field ("Hg) Stop	ANALYSIS REQUESTED TO-15	Remarks
1	System	3-9-18	1123	3-9-18	1131	SV	3982	01078	-30	-5	✓	
2	SVE-1		1127		1216	SV	3182	01134	-29	-5	✓	
3	SVE-2		1128		1219	SV	3977	01112	-30	-4	✓	
4	SVE-3		1126		1220	SV	3974	01079	-29	~~-8~~ -4	✓	
5	SVE-4		1125	~~1125~~	1132	SV	3969	01114	-29	-3	✓	
6												
7												
8												
9												
10												

SPECIAL INSTRUCTIONS/COMMENTS:
If specialized list is required, list analytes here:

RELINQUISHED BY: DATE/TIME:
1: 3-9-18 16:15
2:
3:

RECEIVED BY: DATE/TIME:
1: Monique Alonso 3/9/18 21:11pm
2:
3:

PROJECT INFORMATION
PROJECT NAME:
PROJECT #:
SITE ADDRESS:
SEND REPORT TO:
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
PO#:
STATE PROGRAM (if any): _____ E-mail? Y / N Fax? Y / N
QUOTE #:_____ DATA PACKAGE: I II III IV

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC, AES WILL PROCEED AS STANDARD TAT.
Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

*SAMPLE MATRIX: IA = Indoor Air AA = Ambient Air SS = Subslab SV = Soil Vapor O = Other (specify)

AES, Inc., assumes no liability with respect to the collection and shipment of these samples.

White Copy - Original; Blue Copy - Client

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SYSTEM
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 11:31:00 AM
Lab ID:	1803B26-001	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 23:18	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	257228	2	03/13/2018 23:18	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 23:18	MD
1,1-Dichloroethane	41	4.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,1-Dichloroethene	34	4.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	257228	2	03/13/2018 23:18	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 23:18	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	257228	2	03/13/2018 23:18	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	257228	2	03/13/2018 23:18	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 23:18	MD
1,3-Butadiene	BRL	2.2		ug/m3	257228	2	03/13/2018 23:18	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 23:18	MD
1,4-Dioxane	BRL	3.6		ug/m3	257228	2	03/13/2018 23:18	MD
2,2,4-Trimethylpentane	39	4.7		ug/m3	257228	2	03/13/2018 23:18	MD
2-Butanone	6.9	2.9		ug/m3	257228	2	03/13/2018 23:18	MD
2-Hexanone	BRL	4.1		ug/m3	257228	2	03/13/2018 23:18	MD
4-Ethyltoluene	BRL	4.9		ug/m3	257228	2	03/13/2018 23:18	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	257228	2	03/13/2018 23:18	MD
Acetone	68	12		ug/m3	257228	2	03/13/2018 23:18	MD
Allyl chloride	BRL	3.1		ug/m3	257228	2	03/13/2018 23:18	MD
Benzene	5.9	3.2		ug/m3	257228	2	03/13/2018 23:18	MD
Benzyl chloride	BRL	5.2		ug/m3	257228	2	03/13/2018 23:18	MD
Bromodichloromethane	BRL	6.7		ug/m3	257228	2	03/13/2018 23:18	MD
Bromoform	BRL	10		ug/m3	257228	2	03/13/2018 23:18	MD
Bromomethane	BRL	3.9		ug/m3	257228	2	03/13/2018 23:18	MD
Carbon disulfide	BRL	3.1		ug/m3	257228	2	03/13/2018 23:18	MD
Carbon tetrachloride	BRL	6.3		ug/m3	257228	2	03/13/2018 23:18	MD
Chlorobenzene	BRL	4.6		ug/m3	257228	2	03/13/2018 23:18	MD
Chloroethane	BRL	2.6		ug/m3	257228	2	03/13/2018 23:18	MD
Chloroform	8.5	4.9		ug/m3	257228	2	03/13/2018 23:18	MD
Chloromethane	BRL	2.1		ug/m3	257228	2	03/13/2018 23:18	MD
cis-1,2-Dichloroethene	160	4.0		ug/m3	257228	2	03/13/2018 23:18	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 23:18	MD
Cyclohexane	13	3.4		ug/m3	257228	2	03/13/2018 23:18	MD
Dibromochloromethane	BRL	8.5		ug/m3	257228	2	03/13/2018 23:18	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	257228	2	03/13/2018 23:18	MD
Ethyl acetate	BRL	3.6		ug/m3	257228	2	03/13/2018 23:18	MD
Ethylbenzene	4.8	4.3		ug/m3	257228	2	03/13/2018 23:18	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SYSTEM
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 11:31:00 AM
Lab ID:	1803B26-001	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	257228	2	03/13/2018 23:18	MD
Freon-114	BRL	7.0		ug/m3	257228	2	03/13/2018 23:18	MD
Hexachlorobutadiene	BRL	11		ug/m3	257228	2	03/13/2018 23:18	MD
Isopropyl alcohol	19	18		ug/m3	257228	2	03/13/2018 23:18	MD
m,p-Xylene	15	8.7		ug/m3	257228	2	03/13/2018 23:18	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	257228	2	03/13/2018 23:18	MD
Methylene chloride	BRL	3.5		ug/m3	257228	2	03/13/2018 23:18	MD
n-Heptane	7.0	4.1		ug/m3	257228	2	03/13/2018 23:18	MD
n-Hexane	42	3.5		ug/m3	257228	2	03/13/2018 23:18	MD
o-Xylene	5.4	4.3		ug/m3	257228	2	03/13/2018 23:18	MD
Propene	BRL	1.7		ug/m3	257228	2	03/13/2018 23:18	MD
Styrene	BRL	4.3		ug/m3	257228	2	03/13/2018 23:18	MD
Tetrachloroethene	BRL	6.8		ug/m3	257228	2	03/13/2018 23:18	MD
Tetrahydrofuran	5.3	2.9		ug/m3	257228	2	03/13/2018 23:18	MD
Toluene	96	3.8		ug/m3	257228	2	03/13/2018 23:18	MD
trans-1,2-Dichloroethene	8.5	4.0		ug/m3	257228	2	03/13/2018 23:18	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 23:18	MD
Trichloroethene	9900	210		ug/m3	257228	2	03/13/2018 16:51	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	257228	2	03/13/2018 23:18	MD
Vinyl acetate	BRL	3.5		ug/m3	257228	2	03/13/2018 23:18	MD
Vinyl bromide	BRL	4.4		ug/m3	257228	2	03/13/2018 23:18	MD
Vinyl chloride	BRL	2.6		ug/m3	257228	2	03/13/2018 23:18	MD
Xylenes, Total	21	13		ug/m3	257228	2	03/13/2018 23:18	MD
Surr: 4-Bromofluorobenzene	98	70-130		%REC	257228	2	03/13/2018 23:18	MD
Surr: 4-Bromofluorobenzene	96.8	70-130		%REC	257228	2	03/13/2018 16:51	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-1
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:18:00 PM
Lab ID:	1803B26-002	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS	**TO-15**			**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 20:41	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	257228	2	03/13/2018 20:41	MD
1,1,2-Trichloroethane	10	5.5		ug/m3	257228	2	03/13/2018 20:41	MD
1,1-Dichloroethane	130	4.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,1-Dichloroethene	130	4.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	257228	2	03/13/2018 20:41	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 20:41	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	257228	2	03/13/2018 20:41	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	257228	2	03/13/2018 20:41	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 20:41	MD
1,3-Butadiene	BRL	2.2		ug/m3	257228	2	03/13/2018 20:41	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 20:41	MD
1,4-Dioxane	BRL	3.6		ug/m3	257228	2	03/13/2018 20:41	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	257228	2	03/13/2018 20:41	MD
2-Butanone	5.0	2.9		ug/m3	257228	2	03/13/2018 20:41	MD
2-Hexanone	BRL	4.1		ug/m3	257228	2	03/13/2018 20:41	MD
4-Ethyltoluene	BRL	4.9		ug/m3	257228	2	03/13/2018 20:41	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	257228	2	03/13/2018 20:41	MD
Acetone	36	12		ug/m3	257228	2	03/13/2018 20:41	MD
Allyl chloride	BRL	3.1		ug/m3	257228	2	03/13/2018 20:41	MD
Benzene	BRL	3.2		ug/m3	257228	2	03/13/2018 20:41	MD
Benzyl chloride	BRL	5.2		ug/m3	257228	2	03/13/2018 20:41	MD
Bromodichloromethane	BRL	6.7		ug/m3	257228	2	03/13/2018 20:41	MD
Bromoform	BRL	10		ug/m3	257228	2	03/13/2018 20:41	MD
Bromomethane	BRL	3.9		ug/m3	257228	2	03/13/2018 20:41	MD
Carbon disulfide	BRL	3.1		ug/m3	257228	2	03/13/2018 20:41	MD
Carbon tetrachloride	BRL	6.3		ug/m3	257228	2	03/13/2018 20:41	MD
Chlorobenzene	6.4	4.6		ug/m3	257228	2	03/13/2018 20:41	MD
Chloroethane	BRL	2.6		ug/m3	257228	2	03/13/2018 20:41	MD
Chloroform	13	4.9		ug/m3	257228	2	03/13/2018 20:41	MD
Chloromethane	BRL	2.1		ug/m3	257228	2	03/13/2018 20:41	MD
cis-1,2-Dichloroethene	580	4.0		ug/m3	257228	2	03/13/2018 20:41	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 20:41	MD
Cyclohexane	BRL	3.4		ug/m3	257228	2	03/13/2018 20:41	MD
Dibromochloromethane	BRL	8.5		ug/m3	257228	2	03/13/2018 20:41	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	257228	2	03/13/2018 20:41	MD
Ethyl acetate	BRL	3.6		ug/m3	257228	2	03/13/2018 20:41	MD
Ethylbenzene	BRL	4.3		ug/m3	257228	2	03/13/2018 20:41	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-1
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:18:00 PM
Lab ID:	1803B26-002	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	257228	2	03/13/2018 20:41	MD
Freon-114	BRL	7.0		ug/m3	257228	2	03/13/2018 20:41	MD
Hexachlorobutadiene	BRL	11		ug/m3	257228	2	03/13/2018 20:41	MD
Isopropyl alcohol	58	18		ug/m3	257228	2	03/13/2018 20:41	MD
m,p-Xylene	BRL	8.7		ug/m3	257228	2	03/13/2018 20:41	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	257228	2	03/13/2018 20:41	MD
Methylene chloride	3.8	3.5		ug/m3	257228	2	03/13/2018 20:41	MD
n-Heptane	BRL	4.1		ug/m3	257228	2	03/13/2018 20:41	MD
n-Hexane	BRL	3.5		ug/m3	257228	2	03/13/2018 20:41	MD
o-Xylene	BRL	4.3		ug/m3	257228	2	03/13/2018 20:41	MD
Propene	BRL	1.7		ug/m3	257228	2	03/13/2018 20:41	MD
Styrene	BRL	4.3		ug/m3	257228	2	03/13/2018 20:41	MD
Tetrachloroethene	BRL	6.8		ug/m3	257228	2	03/13/2018 20:41	MD
Tetrahydrofuran	8.8	2.9		ug/m3	257228	2	03/13/2018 20:41	MD
Toluene	3.8	3.8		ug/m3	257228	2	03/13/2018 20:41	MD
trans-1,2-Dichloroethene	34	4.0		ug/m3	257228	2	03/13/2018 20:41	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 20:41	MD
Trichloroethene	26000	210		ug/m3	257228	2	03/13/2018 17:29	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	257228	2	03/13/2018 20:41	MD
Vinyl acetate	BRL	3.5		ug/m3	257228	2	03/13/2018 20:41	MD
Vinyl bromide	BRL	4.4		ug/m3	257228	2	03/13/2018 20:41	MD
Vinyl chloride	BRL	2.6		ug/m3	257228	2	03/13/2018 20:41	MD
Xylenes, Total	BRL	13		ug/m3	257228	2	03/13/2018 20:41	MD
Surr: 4-Bromofluorobenzene	98	70-130		%REC	257228	2	03/13/2018 20:41	MD
Surr: 4-Bromofluorobenzene	98	70-130		%REC	257228	2	03/13/2018 17:29	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-2
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:19:00 PM
Lab ID:	1803B26-003	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS	**TO-15**			**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 21:20	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	257228	2	03/13/2018 21:20	MD
1,1,2-Trichloroethane	8.5	5.5		ug/m3	257228	2	03/13/2018 21:20	MD
1,1-Dichloroethane	26	4.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,1-Dichloroethene	14	4.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	257228	2	03/13/2018 21:20	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 21:20	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	257228	2	03/13/2018 21:20	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	257228	2	03/13/2018 21:20	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 21:20	MD
1,3-Butadiene	BRL	2.2		ug/m3	257228	2	03/13/2018 21:20	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:20	MD
1,4-Dioxane	BRL	3.6		ug/m3	257228	2	03/13/2018 21:20	MD
2,2,4-Trimethylpentane	68	4.7		ug/m3	257228	2	03/13/2018 21:20	MD
2-Butanone	5.9	2.9		ug/m3	257228	2	03/13/2018 21:20	MD
2-Hexanone	BRL	4.1		ug/m3	257228	2	03/13/2018 21:20	MD
4-Ethyltoluene	BRL	4.9		ug/m3	257228	2	03/13/2018 21:20	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	257228	2	03/13/2018 21:20	MD
Acetone	41	12		ug/m3	257228	2	03/13/2018 21:20	MD
Allyl chloride	BRL	3.1		ug/m3	257228	2	03/13/2018 21:20	MD
Benzene	3.5	3.2		ug/m3	257228	2	03/13/2018 21:20	MD
Benzyl chloride	BRL	5.2		ug/m3	257228	2	03/13/2018 21:20	MD
Bromodichloromethane	BRL	6.7		ug/m3	257228	2	03/13/2018 21:20	MD
Bromoform	BRL	10		ug/m3	257228	2	03/13/2018 21:20	MD
Bromomethane	BRL	3.9		ug/m3	257228	2	03/13/2018 21:20	MD
Carbon disulfide	BRL	3.1		ug/m3	257228	2	03/13/2018 21:20	MD
Carbon tetrachloride	BRL	6.3		ug/m3	257228	2	03/13/2018 21:20	MD
Chlorobenzene	BRL	4.6		ug/m3	257228	2	03/13/2018 21:20	MD
Chloroethane	BRL	2.6		ug/m3	257228	2	03/13/2018 21:20	MD
Chloroform	8.1	4.9		ug/m3	257228	2	03/13/2018 21:20	MD
Chloromethane	BRL	2.1		ug/m3	257228	2	03/13/2018 21:20	MD
cis-1,2-Dichloroethene	75	4.0		ug/m3	257228	2	03/13/2018 21:20	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 21:20	MD
Cyclohexane	20	3.4		ug/m3	257228	2	03/13/2018 21:20	MD
Dibromochloromethane	BRL	8.5		ug/m3	257228	2	03/13/2018 21:20	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	257228	2	03/13/2018 21:20	MD
Ethyl acetate	BRL	3.6		ug/m3	257228	2	03/13/2018 21:20	MD
Ethylbenzene	BRL	4.3		ug/m3	257228	2	03/13/2018 21:20	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-2
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:19:00 PM
Lab ID:	1803B26-003	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	257228	2	03/13/2018 21:20	MD
Freon-114	BRL	7.0		ug/m3	257228	2	03/13/2018 21:20	MD
Hexachlorobutadiene	BRL	11		ug/m3	257228	2	03/13/2018 21:20	MD
Isopropyl alcohol	51	18		ug/m3	257228	2	03/13/2018 21:20	MD
m,p-Xylene	BRL	8.7		ug/m3	257228	2	03/13/2018 21:20	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	257228	2	03/13/2018 21:20	MD
Methylene chloride	BRL	3.5		ug/m3	257228	2	03/13/2018 21:20	MD
n-Heptane	BRL	4.1		ug/m3	257228	2	03/13/2018 21:20	MD
n-Hexane	67	3.5		ug/m3	257228	2	03/13/2018 21:20	MD
o-Xylene	BRL	4.3		ug/m3	257228	2	03/13/2018 21:20	MD
Propene	BRL	1.7		ug/m3	257228	2	03/13/2018 21:20	MD
Styrene	BRL	4.3		ug/m3	257228	2	03/13/2018 21:20	MD
Tetrachloroethene	BRL	6.8		ug/m3	257228	2	03/13/2018 21:20	MD
Tetrahydrofuran	9.6	2.9		ug/m3	257228	2	03/13/2018 21:20	MD
Toluene	4.9	3.8		ug/m3	257228	2	03/13/2018 21:20	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 21:20	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 21:20	MD
Trichloroethene	9700	210		ug/m3	257228	2	03/13/2018 18:06	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	257228	2	03/13/2018 21:20	MD
Vinyl acetate	BRL	3.5		ug/m3	257228	2	03/13/2018 21:20	MD
Vinyl bromide	BRL	4.4		ug/m3	257228	2	03/13/2018 21:20	MD
Vinyl chloride	BRL	2.6		ug/m3	257228	2	03/13/2018 21:20	MD
Xylenes, Total	BRL	13		ug/m3	257228	2	03/13/2018 21:20	MD
Surr: 4-Bromofluorobenzene	96.8	70-130		%REC	257228	2	03/13/2018 21:20	MD
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	257228	2	03/13/2018 18:06	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-3
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:20:00 PM
Lab ID:	1803B26-004	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS	**TO-15**			**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 21:59	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	257228	2	03/13/2018 21:59	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 21:59	MD
1,1-Dichloroethane	4.0	4.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,1-Dichloroethene	7.1	4.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	257228	2	03/13/2018 21:59	MD
1,2,4-Trimethylbenzene	8.8	4.9		ug/m3	257228	2	03/13/2018 21:59	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	257228	2	03/13/2018 21:59	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	257228	2	03/13/2018 21:59	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 21:59	MD
1,3-Butadiene	BRL	2.2		ug/m3	257228	2	03/13/2018 21:59	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 21:59	MD
1,4-Dioxane	BRL	3.6		ug/m3	257228	2	03/13/2018 21:59	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	257228	2	03/13/2018 21:59	MD
2-Butanone	19	2.9		ug/m3	257228	2	03/13/2018 21:59	MD
2-Hexanone	BRL	4.1		ug/m3	257228	2	03/13/2018 21:59	MD
4-Ethyltoluene	BRL	4.9		ug/m3	257228	2	03/13/2018 21:59	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	257228	2	03/13/2018 21:59	MD
Acetone	91	12		ug/m3	257228	2	03/13/2018 21:59	MD
Allyl chloride	BRL	3.1		ug/m3	257228	2	03/13/2018 21:59	MD
Benzene	21	3.2		ug/m3	257228	2	03/13/2018 21:59	MD
Benzyl chloride	BRL	5.2		ug/m3	257228	2	03/13/2018 21:59	MD
Bromodichloromethane	BRL	6.7		ug/m3	257228	2	03/13/2018 21:59	MD
Bromoform	BRL	10		ug/m3	257228	2	03/13/2018 21:59	MD
Bromomethane	BRL	3.9		ug/m3	257228	2	03/13/2018 21:59	MD
Carbon disulfide	BRL	3.1		ug/m3	257228	2	03/13/2018 21:59	MD
Carbon tetrachloride	BRL	6.3		ug/m3	257228	2	03/13/2018 21:59	MD
Chlorobenzene	BRL	4.6		ug/m3	257228	2	03/13/2018 21:59	MD
Chloroethane	BRL	2.6		ug/m3	257228	2	03/13/2018 21:59	MD
Chloroform	BRL	4.9		ug/m3	257228	2	03/13/2018 21:59	MD
Chloromethane	BRL	2.1		ug/m3	257228	2	03/13/2018 21:59	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 21:59	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 21:59	MD
Cyclohexane	6.5	3.4		ug/m3	257228	2	03/13/2018 21:59	MD
Dibromochloromethane	BRL	8.5		ug/m3	257228	2	03/13/2018 21:59	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	257228	2	03/13/2018 21:59	MD
Ethyl acetate	BRL	3.6		ug/m3	257228	2	03/13/2018 21:59	MD
Ethylbenzene	11	4.3		ug/m3	257228	2	03/13/2018 21:59	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-3
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 12:20:00 PM
Lab ID:	1803B26-004	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	257228	2	03/13/2018 21:59	MD
Freon-114	BRL	7.0		ug/m3	257228	2	03/13/2018 21:59	MD
Hexachlorobutadiene	BRL	11		ug/m3	257228	2	03/13/2018 21:59	MD
Isopropyl alcohol	41	18		ug/m3	257228	2	03/13/2018 21:59	MD
m,p-Xylene	35	8.7		ug/m3	257228	2	03/13/2018 21:59	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	257228	2	03/13/2018 21:59	MD
Methylene chloride	BRL	3.5		ug/m3	257228	2	03/13/2018 21:59	MD
n-Heptane	16	4.1		ug/m3	257228	2	03/13/2018 21:59	MD
n-Hexane	23	3.5		ug/m3	257228	2	03/13/2018 21:59	MD
o-Xylene	12	4.3		ug/m3	257228	2	03/13/2018 21:59	MD
Propene	BRL	1.7		ug/m3	257228	2	03/13/2018 21:59	MD
Styrene	6.8	4.3		ug/m3	257228	2	03/13/2018 21:59	MD
Tetrachloroethene	BRL	6.8		ug/m3	257228	2	03/13/2018 21:59	MD
Tetrahydrofuran	14	2.9		ug/m3	257228	2	03/13/2018 21:59	MD
Toluene	290	3.8		ug/m3	257228	2	03/13/2018 21:59	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 21:59	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 21:59	MD
Trichloroethene	32	5.4		ug/m3	257228	2	03/13/2018 21:59	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	257228	2	03/13/2018 21:59	MD
Vinyl acetate	BRL	3.5		ug/m3	257228	2	03/13/2018 21:59	MD
Vinyl bromide	BRL	4.4		ug/m3	257228	2	03/13/2018 21:59	MD
Vinyl chloride	BRL	2.6		ug/m3	257228	2	03/13/2018 21:59	MD
Xylenes, Total	47	13		ug/m3	257228	2	03/13/2018 21:59	MD
Surr: 4-Bromofluorobenzene	98.2	70-130		%REC	257228	2	03/13/2018 21:59	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-4
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 11:32:00 AM
Lab ID:	1803B26-005	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS	**TO-15**			**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 22:39	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	257228	2	03/13/2018 22:39	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	257228	2	03/13/2018 22:39	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	257228	2	03/13/2018 22:39	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 22:39	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	257228	2	03/13/2018 22:39	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	257228	2	03/13/2018 22:39	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	257228	2	03/13/2018 22:39	MD
1,3-Butadiene	BRL	2.2		ug/m3	257228	2	03/13/2018 22:39	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	257228	2	03/13/2018 22:39	MD
1,4-Dioxane	BRL	3.6		ug/m3	257228	2	03/13/2018 22:39	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	257228	2	03/13/2018 22:39	MD
2-Butanone	BRL	2.9		ug/m3	257228	2	03/13/2018 22:39	MD
2-Hexanone	BRL	4.1		ug/m3	257228	2	03/13/2018 22:39	MD
4-Ethyltoluene	BRL	4.9		ug/m3	257228	2	03/13/2018 22:39	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	257228	2	03/13/2018 22:39	MD
Acetone	20	12		ug/m3	257228	2	03/13/2018 22:39	MD
Allyl chloride	BRL	3.1		ug/m3	257228	2	03/13/2018 22:39	MD
Benzene	BRL	3.2		ug/m3	257228	2	03/13/2018 22:39	MD
Benzyl chloride	BRL	5.2		ug/m3	257228	2	03/13/2018 22:39	MD
Bromodichloromethane	BRL	6.7		ug/m3	257228	2	03/13/2018 22:39	MD
Bromoform	BRL	10		ug/m3	257228	2	03/13/2018 22:39	MD
Bromomethane	BRL	3.9		ug/m3	257228	2	03/13/2018 22:39	MD
Carbon disulfide	BRL	3.1		ug/m3	257228	2	03/13/2018 22:39	MD
Carbon tetrachloride	BRL	6.3		ug/m3	257228	2	03/13/2018 22:39	MD
Chlorobenzene	BRL	4.6		ug/m3	257228	2	03/13/2018 22:39	MD
Chloroethane	BRL	2.6		ug/m3	257228	2	03/13/2018 22:39	MD
Chloroform	BRL	4.9		ug/m3	257228	2	03/13/2018 22:39	MD
Chloromethane	5.8	2.1		ug/m3	257228	2	03/13/2018 22:39	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 22:39	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 22:39	MD
Cyclohexane	BRL	3.4		ug/m3	257228	2	03/13/2018 22:39	MD
Dibromochloromethane	BRL	8.5		ug/m3	257228	2	03/13/2018 22:39	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	257228	2	03/13/2018 22:39	MD
Ethyl acetate	BRL	3.6		ug/m3	257228	2	03/13/2018 22:39	MD
Ethylbenzene	BRL	4.3		ug/m3	257228	2	03/13/2018 22:39	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 14-Mar-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-4
Project Name:	Cessna Site	**Collection Date:**	3/9/2018 11:32:00 AM
Lab ID:	1803B26-005	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	257228	2	03/13/2018 22:39	MD
Freon-114	BRL	7.0		ug/m3	257228	2	03/13/2018 22:39	MD
Hexachlorobutadiene	BRL	11		ug/m3	257228	2	03/13/2018 22:39	MD
Isopropyl alcohol	25	18		ug/m3	257228	2	03/13/2018 22:39	MD
m,p-Xylene	BRL	8.7		ug/m3	257228	2	03/13/2018 22:39	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	257228	2	03/13/2018 22:39	MD
Methylene chloride	BRL	3.5		ug/m3	257228	2	03/13/2018 22:39	MD
n-Heptane	BRL	4.1		ug/m3	257228	2	03/13/2018 22:39	MD
n-Hexane	BRL	3.5		ug/m3	257228	2	03/13/2018 22:39	MD
o-Xylene	BRL	4.3		ug/m3	257228	2	03/13/2018 22:39	MD
Propene	BRL	1.7		ug/m3	257228	2	03/13/2018 22:39	MD
Styrene	BRL	4.3		ug/m3	257228	2	03/13/2018 22:39	MD
Tetrachloroethene	BRL	6.8		ug/m3	257228	2	03/13/2018 22:39	MD
Tetrahydrofuran	6.0	2.9		ug/m3	257228	2	03/13/2018 22:39	MD
Toluene	BRL	3.8		ug/m3	257228	2	03/13/2018 22:39	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	257228	2	03/13/2018 22:39	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	257228	2	03/13/2018 22:39	MD
Trichloroethene	150	5.4		ug/m3	257228	2	03/13/2018 22:39	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	257228	2	03/13/2018 22:39	MD
Vinyl acetate	BRL	3.5		ug/m3	257228	2	03/13/2018 22:39	MD
Vinyl bromide	BRL	4.4		ug/m3	257228	2	03/13/2018 22:39	MD
Vinyl chloride	BRL	2.6		ug/m3	257228	2	03/13/2018 22:39	MD
Xylenes, Total	BRL	13		ug/m3	257228	2	03/13/2018 22:39	MD
Surr: 4-Bromofluorobenzene	97.2	70-130		%REC	257228	2	03/13/2018 22:39	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc TO-15 Report

Date: 14-Mar-18

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SYSTEM				**Lab ID:** 1803B26-001			
Collection Date: 3/9/2018 11:31:00 AM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
1,1-Dichloroethane	41		0.34	4.0	ug/m3	257228	2
1,1-Dichloroethene	34		0.24	4.0	ug/m3	257228	2
2,2,4-Trimethylpentane	39		0.51	4.7	ug/m3	257228	2
2-Butanone	6.9		0.35	2.9	ug/m3	257228	2
Acetone	68		0.34	12	ug/m3	257228	2
Benzene	5.9		0.19	3.2	ug/m3	257228	2
Chloroform	8.5		0.29	4.9	ug/m3	257228	2
cis-1,2-Dichloroethene	160		0.24	4.0	ug/m3	257228	2
Cyclohexane	13		0.20	3.4	ug/m3	257228	2
Ethylbenzene	4.8		0.36	4.3	ug/m3	257228	2
Isopropyl alcohol	19		3.3	18	ug/m3	257228	2
m,p-Xylene	15		1.5	8.7	ug/m3	257228	2
n-Heptane	7.0		0.32	4.1	ug/m3	257228	2
n-Hexane	42		0.29	3.5	ug/m3	257228	2
o-Xylene	5.4		0.26	4.3	ug/m3	257228	2
Tetrahydrofuran	5.3		0.23	2.9	ug/m3	257228	2
Toluene	96		0.29	3.8	ug/m3	257228	2
trans-1,2-Dichloroethene	8.5		0.24	4.0	ug/m3	257228	2
Trichloroethene	9900		23	210	ug/m3	257228	2
Xylenes, Total	21		0.54	13	ug/m3	257228	2
Client Sample ID: SVE-1				**Lab ID:** 1803B26-002			
Collection Date: 3/9/2018 12:18:00 PM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
1,1,2-Trichloroethane	10		0.46	5.5	ug/m3	257228	2
1,1-Dichloroethane	130		0.34	4.0	ug/m3	257228	2
1,1-Dichloroethene	130		0.24	4.0	ug/m3	257228	2
2-Butanone	5.0		0.35	2.9	ug/m3	257228	2
Acetone	36		0.34	12	ug/m3	257228	2
Chlorobenzene	6.4		0.35	4.6	ug/m3	257228	2
Chloroform	13		0.29	4.9	ug/m3	257228	2
cis-1,2-Dichloroethene	580		0.24	4.0	ug/m3	257228	2
Isopropyl alcohol	58		3.3	18	ug/m3	257228	2
Methylene chloride	3.8		0.21	3.5	ug/m3	257228	2
Tetrahydrofuran	8.8		0.23	2.9	ug/m3	257228	2
Toluene	3.8		0.29	3.8	ug/m3	257228	2
trans-1,2-Dichloroethene	34		0.24	4.0	ug/m3	257228	2
Trichloroethene	26000		23	210	ug/m3	257228	2
Client Sample ID: SVE-2				**Lab ID:** 1803B26-003			
Collection Date: 3/9/2018 12:19:00 PM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
1,1,2-Trichloroethane	8.5		0.46	5.5	ug/m3	257228	2
1,1-Dichloroethane	26		0.34	4.0	ug/m3	257228	2
1,1-Dichloroethene	14		0.24	4.0	ug/m3	257228	2
2,2,4-Trimethylpentane	68		0.51	4.7	ug/m3	257228	2
2-Butanone	5.9		0.35	2.9	ug/m3	257228	2
Acetone	41		0.34	12	ug/m3	257228	2

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SVE-2				**Lab ID:** 1803B26-003			
Collection Date: 3/9/2018 12:19:00 PM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
Benzene	3.5		0.19	3.2	ug/m3	257228	2
Chloroform	8.1		0.29	4.9	ug/m3	257228	2
cis-1,2-Dichloroethene	75		0.24	4.0	ug/m3	257228	2
Cyclohexane	20		0.20	3.4	ug/m3	257228	2
Isopropyl alcohol	51		3.3	18	ug/m3	257228	2
n-Hexane	67		0.29	3.5	ug/m3	257228	2
Tetrahydrofuran	9.6		0.23	2.9	ug/m3	257228	2
Toluene	4.9		0.29	3.8	ug/m3	257228	2
Trichloroethene	9700		23	210	ug/m3	257228	2
Client Sample ID: SVE-3				**Lab ID:** 1803B26-004			
Collection Date: 3/9/2018 12:20:00 PM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
1,1-Dichloroethane	4.0		0.34	4.0	ug/m3	257228	2
1,1-Dichloroethene	7.1		0.24	4.0	ug/m3	257228	2
1,2,4-Trimethylbenzene	8.8		0.41	4.9	ug/m3	257228	2
2-Butanone	19		0.35	2.9	ug/m3	257228	2
Acetone	91		0.34	12	ug/m3	257228	2
Benzene	21		0.19	3.2	ug/m3	257228	2
Cyclohexane	6.5		0.20	3.4	ug/m3	257228	2
Ethylbenzene	11		0.36	4.3	ug/m3	257228	2
Isopropyl alcohol	41		3.3	18	ug/m3	257228	2
m,p-Xylene	35		1.5	8.7	ug/m3	257228	2
n-Heptane	16		0.32	4.1	ug/m3	257228	2
n-Hexane	23		0.29	3.5	ug/m3	257228	2
o-Xylene	12		0.26	4.3	ug/m3	257228	2
Styrene	6.8		0.36	4.3	ug/m3	257228	2
Tetrahydrofuran	14		0.23	2.9	ug/m3	257228	2
Toluene	290		0.29	3.8	ug/m3	257228	2
Trichloroethene	32		0.58	5.4	ug/m3	257228	2
Xylenes, Total	47		0.54	13	ug/m3	257228	2
Client Sample ID: SVE-4				**Lab ID:** 1803B26-005			
Collection Date: 3/9/2018 11:32:00 AM				**Matrix:** Air			
Toxic Organic Compounds in Air by GCMS TO-15				**(TO-15)**			
Acetone	20		0.34	12	ug/m3	257228	2
Chloromethane	5.8		0.16	2.1	ug/m3	257228	2
Isopropyl alcohol	25		3.3	18	ug/m3	257228	2
Tetrahydrofuran	6.0		0.23	2.9	ug/m3	257228	2
Trichloroethene	150		0.58	5.4	ug/m3	257228	2

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample Receipt Checklist for Air Canisters

Client CDM Smith, Inc. Work Order Number 1803B26

Checklist completed by Adrienne Johnson 3/10/18
Signature Date

Carrier name: FedEx____ UPS____ Courier____ Client✓ US Mail____ Other_____

Shipping container in good condition?	Yes✓ No___ Not Present___
Custody seals intact on shipping container?	Yes✓ No___ Not Present___
Chain of custody present?	Yes✓ No___
Chain of custody signed when relinquished and received?	Yes✓ No___
Chain of custody agrees with sample labels?	Yes✓ No___
Field data sheets present?	Yes___ No✓
Sample containers intact?	Yes✓ No___

If no, explain: _____

All samples received within holding time?	Yes✓ No___
Was TAT marked on the COC?	Yes✓ No___
Proceed with Standard TAT as per project history?	Yes___ No___ Not Applicable✓
All canisters received per Bottle Order issued?	Yes✓ No___

See Case Narrative for resolution of the Non-Conformance.

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **MB-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
SampleType: **MBLK** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8070691**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	1.1									
1,1,2,2-Tetrachloroethane	BRL	1.4									
1,1,2-Trichloroethane	BRL	1.1									
1,1-Dichloroethane	BRL	0.81									
1,1-Dichloroethene	BRL	0.79									
1,2,4-Trichlorobenzene	BRL	1.5									
1,2,4-Trimethylbenzene	BRL	0.98									
1,2-Dibromoethane	BRL	1.5									
1,2-Dichlorobenzene	BRL	1.2									
1,2-Dichloroethane	BRL	0.81									
1,2-Dichloropropane	BRL	0.92									
1,3,5-Trimethylbenzene	BRL	0.98									
1,3-Butadiene	BRL	0.44									
1,3-Dichlorobenzene	BRL	1.2									
1,4-Dichlorobenzene	BRL	1.2									
1,4-Dioxane	BRL	0.72									
2,2,4-Trimethylpentane	BRL	0.93									
2-Butanone	BRL	0.59									
2-Hexanone	BRL	0.82									
4-Ethyltoluene	BRL	0.98									
4-Methyl-2-pentanone	BRL	0.82									
Acetone	BRL	2.4									
Allyl chloride	BRL	0.63									
Benzene	BRL	0.64									
Benzyl chloride	BRL	1.0									
Bromodichloromethane	BRL	1.3									
Bromoform	BRL	2.1									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **MB-257228** Client ID:
SampleType: **MBLK** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15**
Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8070691**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Bromomethane	BRL	0.78									
Carbon disulfide	BRL	0.62									
Carbon tetrachloride	BRL	1.3									
Chlorobenzene	BRL	0.92									
Chloroethane	BRL	0.53									
Chloroform	BRL	0.98									
Chloromethane	BRL	0.41									
cis-1,2-Dichloroethene	BRL	0.79									
cis-1,3-Dichloropropene	BRL	0.91									
Cyclohexane	BRL	0.69									
Dibromochloromethane	BRL	1.7									
Dichlorodifluoromethane	BRL	0.99									
Ethyl acetate	BRL	0.72									
Ethylbenzene	BRL	0.87									
Freon-113	BRL	1.5									
Freon-114	BRL	1.4									
Hexachlorobutadiene	BRL	2.1									
Isopropyl alcohol	BRL	3.7									
m,p-Xylene	BRL	1.7									
Methyl tert-butyl ether	BRL	0.72									
Methylene chloride	BRL	0.69									
n-Heptane	BRL	0.82									
n-Hexane	BRL	0.70									
o-Xylene	BRL	0.87									
Propene	BRL	0.34									
Styrene	BRL	0.85									
Tetrachloroethene	BRL	1.4									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **MB-257228**	Client ID:		Units: **ug/m3**	Prep Date: **03/12/2018**	Run No: **365062**
SampleType: **MBLK**	TestCode: **Toxic Organic Compounds in Air by GCMS TO-15**		BatchID: **257228**	Analysis Date: **03/12/2018**	Seq No: **8070691**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Tetrahydrofuran	BRL	0.59									
Toluene	BRL	0.75									
trans-1,2-Dichloroethene	BRL	0.79									
trans-1,3-Dichloropropene	BRL	0.91									
Trichloroethene	BRL	1.1									
Trichlorofluoromethane	BRL	1.1									
Vinyl acetate	BRL	0.70									
Vinyl bromide	BRL	0.87									
Vinyl chloride	BRL	0.51									
Xylenes, Total	BRL	2.6									
Surr: 4-Bromofluorobenzene	3.850	0	4.000		96.2	70	130				

Sample ID: **LCS-257228**	Client ID:		Units: **ug/m3**	Prep Date: **03/12/2018**	Run No: **365062**
SampleType: **LCS**	TestCode: **Toxic Organic Compounds in Air by GCMS TO-15**		BatchID: **257228**	Analysis Date: **03/12/2018**	Seq No: **8070692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	11.29	1.1	10.91		104	70	130				
1,1,2,2-Tetrachloroethane	14.28	1.4	13.73		104	70	130				
1,1,2-Trichloroethane	11.51	1.1	10.91		106	70	130				
1,1-Dichloroethane	8.500	0.81	8.095		105	70	130				
1,1-Dichloroethene	8.405	0.79	7.930		106	70	130				
1,2,4-Trichlorobenzene	16.03	1.5	14.85		108	70	130				
1,2,4-Trimethylbenzene	10.32	0.98	9.832		105	70	130				
1,2-Dibromoethane	15.75	1.5	15.37		102	70	130				
1,2-Dichlorobenzene	12.26	1.2	12.02		102	70	130				
1,2-Dichloroethane	8.338	0.81	8.095		103	70	130				
1,2-Dichloropropane	9.706	0.92	9.243		105	70	130				
1,3,5-Trimethylbenzene	10.23	0.98	9.832		104	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **LCS-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
SampleType: **LCS** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8070692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,3-Butadiene	4.778	0.44	4.425		108	70	130				
1,3-Dichlorobenzene	12.02	1.2	12.02		100	70	130				
1,4-Dichlorobenzene	11.84	1.2	12.02		98.5	70	130				
1,4-Dioxane	7.605	0.72	7.208		106	70	130				
2,2,4-Trimethylpentane	10.32	0.93	9.342		110	70	130				
2-Butanone	6.194	0.59	5.899		105	70	130				
2-Hexanone	8.688	0.82	8.196		106	70	130				
4-Ethyltoluene	10.13	0.98	9.832	0.1966	101	70	130				
4-Methyl-2-pentanone	8.729	0.82	8.196		106	70	130				
Acetone	4.988	2.4	4.751		105	70	130				
Allyl chloride	6.730	0.63	6.260		108	70	130				
Benzene	6.677	0.64	6.389		104	70	130				
Benzyl chloride	10.41	1.0	10.36		100	70	130				
Bromodichloromethane	13.73	1.3	13.40		102	70	130				
Bromoform	20.37	2.1	20.68		98.5	70	130				
Bromomethane	8.970	0.78	7.766		116	70	130				
Carbon disulfide	6.571	0.62	6.228		106	70	130				
Carbon tetrachloride	12.96	1.3	12.58		103	70	130				
Chlorobenzene	9.349	0.92	9.211		102	70	130				
Chloroethane	5.911	0.53	5.278		112	70	130				
Chloroform	10.11	0.98	9.767		104	70	130				
Chloromethane	4.460	0.41	4.130		108	70	130				
cis-1,2-Dichloroethene	8.128	0.79	7.930		102	70	130				
cis-1,3-Dichloropropene	9.398	0.91	9.080		104	70	130				
Cyclohexane	7.263	0.69	6.884		106	70	130				
Dibromochloromethane	17.29	1.7	17.04		102	70	130				
Dichlorodifluoromethane	10.48	0.99	9.890		106	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **LCS-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
SampleType: **LCS** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8070692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethyl acetate	7.675	0.72	7.207		106	70	130				
Ethylbenzene	8.991	0.87	8.687		104	70	130				
Freon-113	16.02	1.5	15.33		104	70	130				
Freon-114	14.96	1.4	13.98		107	70	130				
Hexachlorobutadiene	16.11	2.1	21.33		75.5	70	130				
Isopropyl alcohol	5.236	3.7	4.916	0.8849	88.5	70	130				
m,p-Xylene	17.90	1.7	17.37		103	70	130				
Methyl tert-butyl ether	7.679	0.72	7.211		106	70	130				
Methylene chloride	6.635	0.69	6.948		95.5	70	130				
n-Heptane	8.893	0.82	8.196		108	70	130				
n-Hexane	7.366	0.70	7.049		104	70	130				
o-Xylene	8.991	0.87	8.687		104	70	130				
Propene	3.528	0.34	3.442		102	70	130				
Styrene	8.643	0.85	8.515		102	70	130				
Tetrachloroethene	13.77	1.4	13.56		102	70	130				
Tetrahydrofuran	6.164	0.59	5.899		104	70	130				
Toluene	7.838	0.75	7.537		104	70	130				
trans-1,2-Dichloroethene	8.207	0.79	7.930		104	70	130				
trans-1,3-Dichloropropene	9.488	0.91	9.080		104	70	130				
Trichloroethene	10.96	1.1	10.75		102	70	130				
Trichlorofluoromethane	11.91	1.1	11.24		106	70	130				
Vinyl acetate	7.535	0.70	7.042		107	70	130				
Vinyl bromide	9.313	0.87	8.744		106	70	130				
Vinyl chloride	5.470	0.51	5.112		107	70	130				
Xylenes, Total	26.89	2.6	26.06		103	70	130				
Surr: 4-Bromofluorobenzene	3.970	0	4.000		99.2	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **LCS-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365136**
SampleType: **LCS** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8072499**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	11.29	1.1	10.91		104	70	130				
1,1,2,2-Tetrachloroethane	14.28	1.4	13.73		104	70	130				
1,1,2-Trichloroethane	11.51	1.1	10.91		106	70	130				
1,1-Dichloroethane	8.500	0.81	8.095		105	70	130				
1,1-Dichloroethene	8.405	0.79	7.930		106	70	130				
1,2,4-Trichlorobenzene	16.03	1.5	14.85		108	70	130				
1,2,4-Trimethylbenzene	10.32	0.98	9.832		105	70	130				
1,2-Dibromoethane	15.75	1.5	15.37		102	70	130				
1,2-Dichlorobenzene	12.26	1.2	12.02		102	70	130				
1,2-Dichloroethane	8.338	0.81	8.095		103	70	130				
1,2-Dichloropropane	9.706	0.92	9.243		105	70	130				
1,3,5-Trimethylbenzene	10.23	0.98	9.832		104	70	130				
1,3-Butadiene	4.778	0.44	4.425		108	70	130				
1,3-Dichlorobenzene	12.02	1.2	12.02		100	70	130				
1,4-Dichlorobenzene	11.84	1.2	12.02		98.5	70	130				
1,4-Dioxane	7.605	0.72	7.208		106	70	130				
2,2,4-Trimethylpentane	10.32	0.93	9.342		110	70	130				
2-Butanone	6.194	0.59	5.899		105	70	130				
2-Hexanone	8.688	0.82	8.196		106	70	130				
4-Ethyltoluene	10.13	0.98	9.832	0.1966	101	70	130				
4-Methyl-2-pentanone	8.729	0.82	8.196		106	70	130				
Acetone	4.988	2.4	4.751		105	70	130				
Allyl chloride	6.730	0.63	6.260		108	70	130				
Benzene	6.677	0.64	6.389		104	70	130				
Benzyl chloride	10.41	1.0	10.36		100	70	130				
Bromodichloromethane	13.73	1.3	13.40		102	70	130				
Bromoform	20.37	2.1	20.68		98.5	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **LCS-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365136**
SampleType: **LCS** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8072499**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Bromomethane	8.970	0.78	7.766		116	70	130				
Carbon disulfide	6.571	0.62	6.228		106	70	130				
Carbon tetrachloride	12.96	1.3	12.58		103	70	130				
Chlorobenzene	9.349	0.92	9.211		102	70	130				
Chloroethane	5.911	0.53	5.278		112	70	130				
Chloroform	10.11	0.98	9.767		104	70	130				
Chloromethane	4.460	0.41	4.130		108	70	130				
cis-1,2-Dichloroethene	8.128	0.79	7.930		102	70	130				
cis-1,3-Dichloropropene	9.398	0.91	9.080		104	70	130				
Cyclohexane	7.263	0.69	6.884		106	70	130				
Dibromochloromethane	17.29	1.7	17.04		102	70	130				
Dichlorodifluoromethane	10.48	0.99	9.890		106	70	130				
Ethyl acetate	7.675	0.72	7.207		106	70	130				
Ethylbenzene	8.991	0.87	8.687		104	70	130				
Freon-113	16.02	1.5	15.33		104	70	130				
Freon-114	14.96	1.4	13.98		107	70	130				
Hexachlorobutadiene	16.11	2.1	21.33		75.5	70	130				
Isopropyl alcohol	5.236	3.7	4.916	0.8849	88.5	70	130				
m,p-Xylene	17.90	1.7	17.37		103	70	130				
Methyl tert-butyl ether	7.679	0.72	7.211		106	70	130				
Methylene chloride	6.635	0.69	6.948		95.5	70	130				
n-Heptane	8.893	0.82	8.196		108	70	130				
n-Hexane	7.366	0.70	7.049		104	70	130				
o-Xylene	8.991	0.87	8.687		104	70	130				
Propene	3.528	0.34	3.442		102	70	130				
Styrene	8.643	0.85	8.515		102	70	130				
Tetrachloroethene	13.77	1.4	13.56		102	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **LCS-257228** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365136**
SampleType: **LCS** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8072499**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Tetrahydrofuran	6.164	0.59	5.899		104	70	130				
Toluene	7.838	0.75	7.537		104	70	130				
trans-1,2-Dichloroethene	8.207	0.79	7.930		104	70	130				
trans-1,3-Dichloropropene	9.488	0.91	9.080		104	70	130				
Trichloroethene	10.96	1.1	10.75		102	70	130				
Trichlorofluoromethane	11.91	1.1	11.24		106	70	130				
Vinyl acetate	7.535	0.70	7.042		107	70	130				
Vinyl bromide	9.313	0.87	8.744		106	70	130				
Vinyl chloride	5.470	0.51	5.112		107	70	130				
Xylenes, Total	26.89	2.6	26.06		103	70	130				
Surr: 4-Bromofluorobenzene	3.970	0	4.000		99.2	70	130				

Sample ID: **1803B55-005ADUP** Client ID: Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
SampleType: **DUP** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15** BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8071917**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	220						0	0	25	
1,1,2,2-Tetrachloroethane	BRL	270						0	0	25	
1,1,2-Trichloroethane	BRL	220						0	0	25	
1,1-Dichloroethane	BRL	160						0	0	25	
1,1-Dichloroethene	BRL	160						0	0	25	
1,2,4-Trichlorobenzene	BRL	300						0	0	25	
1,2,4-Trimethylbenzene	BRL	200						78.66	0	25	
1,2-Dibromoethane	BRL	310						0	0	25	
1,2-Dichlorobenzene	BRL	240						0	0	25	
1,2-Dichloroethane	BRL	160						0	0	25	
1,2-Dichloropropane	BRL	180						0	0	25	
1,3,5-Trimethylbenzene	BRL	200						58.99	0	25	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **1803B55-005ADUP** Client ID:
SampleType: **DUP** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15**
Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8071917**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,3-Butadiene	BRL	88						0	0	25	
1,3-Dichlorobenzene	BRL	240						0	0	25	
1,4-Dichlorobenzene	BRL	240						0	0	25	
1,4-Dioxane	BRL	140						0	0	25	
2,2,4-Trimethylpentane	1009	190						1028	1.83	25	
2-Butanone	BRL	120						0	0	25	
2-Hexanone	BRL	160						0	0	25	
4-Ethyltoluene	BRL	200						0	0	25	
4-Methyl-2-pentanone	BRL	160						0	0	25	
Acetone	BRL	480						0	0	25	
Allyl chloride	BRL	130						0	0	25	
Benzene	300.3	130						300.3	0	25	
Benzyl chloride	BRL	210						0	0	25	
Bromodichloromethane	BRL	270						0	0	25	
Bromoform	BRL	410						0	0	25	
Bromomethane	BRL	160						0	0	25	
Carbon disulfide	BRL	120						0	0	25	
Carbon tetrachloride	BRL	250						0	0	25	
Chlorobenzene	BRL	180						0	0	25	
Chloroethane	BRL	110						0	0	25	
Chloroform	BRL	200						0	0	25	
Chloromethane	BRL	83						0	0	25	
cis-1,2-Dichloroethene	BRL	160						0	0	25	
cis-1,3-Dichloropropene	BRL	180						0	0	25	
Cyclohexane	282.3	140						282.3	0	25	
Dibromochloromethane	BRL	340						0	0	25	
Dichlorodifluoromethane	BRL	200						0	0	25	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cessna Site
Workorder: 1803B26

ANALYTICAL QC SUMMARY REPORT

BatchID: 257228

Sample ID: **1803B55-005ADUP** Client ID:
SampleType: **DUP** TestCode: **Toxic Organic Compounds in Air by GCMS TO-15**
Units: **ug/m3** Prep Date: **03/12/2018** Run No: **365062**
BatchID: **257228** Analysis Date: **03/12/2018** Seq No: **8071917**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethyl acetate	BRL	140						0	0	25	
Ethylbenzene	260.6	170						243.2	6.90	25	
Freon-113	BRL	310						0	0	25	
Freon-114	BRL	280						0	0	25	
Hexachlorobutadiene	BRL	430						0	0	25	
Isopropyl alcohol	BRL	740						0	0	25	
m,p-Xylene	755.8	350						729.7	3.51	25	
Methyl tert-butyl ether	BRL	140						36.05	0	25	
Methylene chloride	BRL	140						0	0	25	
n-Heptane	770.5	160						778.6	1.06	25	
n-Hexane	1424	140						1396	2.00	25	
o-Xylene	278.0	170						269.3	3.17	25	
Propene	BRL	69						0	0	25	
Styrene	BRL	170						0	0	25	
Tetrachloroethene	BRL	270						162.7	0	25	
Tetrahydrofuran	BRL	120						0	0	25	
Toluene	1560	150						1575	0.962	25	
trans-1,2-Dichloroethene	BRL	160						0	0	25	
trans-1,3-Dichloropropene	BRL	180						0	0	25	
Trichloroethene	BRL	210						0	0	25	
Trichlorofluoromethane	BRL	220						0	0	25	
Vinyl acetate	BRL	140						0	0	25	
Vinyl bromide	BRL	170						0	0	25	
Vinyl chloride	BRL	100						0	0	25	
Xylenes, Total	1034	520						999.0	3.42	25	
Surr: 4-Bromofluorobenzene	794.0	0	800.0		99.2	70	130	786.0	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Attachment B-2

VISL Calculator Output

CDM Smith

Commercial Vapor Intrusion Screening Levels (VISL)

User's Guide Variable References

Output generated 29MAR2018:07:56:31

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? (C_{vp} > $C_{i,a}$,Target?)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? (C_{hc} > $C_{i,a}$,Target?)	Target Indoor Air Concentration (TCR=1E-05 or THQ=0.1) MIN($C_{ia,c}$,$C_{ia,nc}$) ($\mu g/m^3$)	Toxicity Basis	Target Sub-Slab and Exterior Soil Gas Concentration (TCR=1E-05 or THQ=0.1) C_{sg},Target ($\mu g/m^3$)
Acetone	67-64-1	Yes	Yes	Yes	Yes	13500	NC	451000
Benzene	71-43-2	Yes	Yes	Yes	Yes	13.1	NC	438
Carbon Disulfide	75-15-0	Yes	Yes	Yes	Yes	307	NC	10200
Chloroform	67-66-3	Yes	Yes	Yes	Yes	5.33	CA	178
Chloromethane	74-87-3	Yes	Yes	Yes	Yes	39.4	NC	1310
Cyclohexane	110-82-7	Yes	Yes	Yes	Yes	2630	NC	87600
Dichloroethane, 1,1-	75-34-3	Yes	Yes	Yes	Yes	76.7	CA	2560
Dichloroethylene, 1,1-	75-35-4	Yes	Yes	Yes	Yes	87.6	NC	2920
Dichloroethylene, 1,2-cis-	156-59-2	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info			
Dichloroethylene, 1,2-trans-	156-60-5	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info			
Ethyl Acetate	141-78-6	Yes	Yes	Yes	Yes	30.7	NC	1020
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	49.1	CA	1640
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	876	NC	29200
Isopropanol	67-63-0	Yes	Yes	Yes	Yes	87.6	NC	2920
Methyl Ethyl Ketone (2-Butanone)	78-93-3	Yes	Yes	Yes	Yes	2190	NC	73000
Methylene Chloride	75-09-2	Yes	Yes	Yes	Yes	263	NC	8760
Styrene	100-42-5	Yes	Yes	Yes	Yes	438	NC	14600
Tetrachloroethylene	127-18-4	Yes	Yes	Yes	Yes	17.5	NC	584
Toluene	108-88-3	Yes	Yes	Yes	Yes	2190	NC	73000
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	Yes	Yes	Yes	Yes	2190	NC	73000
Trichloroethane, 1,1,1-	71-55-6	Yes	Yes	Yes	Yes	2190	NC	73000
Trichloroethane, 1,1,2-	79-00-5	Yes	Yes	Yes	Yes	0.0876	NC	2.92
Trichloroethylene	79-01-6	Yes	Yes	Yes	Yes	0.876	NC	29.2
Trichlorofluoromethane	75-69-4	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info			
Trimethylbenzene, 1,2,4-	95-63-6	Yes	Yes	Yes	Yes	26.3	NC	876
Vinyl Chloride	75-01-4	Yes	Yes	Yes	Yes	27.9	CA	929
Xylene, P-	106-42-3	Yes	Yes	Yes	Yes	43.8	NC	1460
Xylene, m-	108-38-3	Yes	Yes	Yes	Yes	43.8	NC	1460
Xylene, o-	95-47-6	Yes	Yes	Yes	Yes	43.8	NC	1460
Xylenes	1330-20-7	Yes	Yes	Yes	Yes	43.8	NC	1460

Attachment C
Professional Certification

Professional Certification

I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer / professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors / Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.

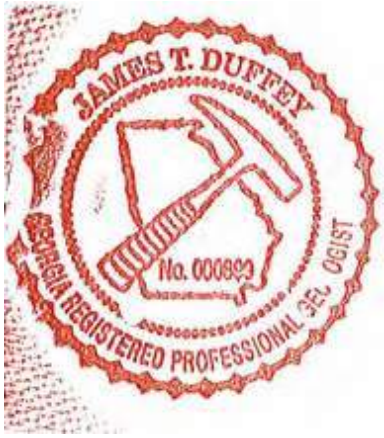
Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.

The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

J. Thomas Duffey, P.G.
Vice President
CDM Smith

Date: March 30, 2018



Summary of Oversight Provided by Georgia Licensed Engineers and Geologists

Engineer / Geologist	License Type and No.	Week Ending Date	Number of Hours	Description of Hours
Tom Duffey	Geologist PG000899	9/9/17	4.5	Senior hydrogeologist and technical lead for Voluntary Remediation Plan development and implementation
		9/23/17	1	
		9/30/17	0.5	
		10/7/17	4.5	
		10/21/17	0.5	
		11/4/17	8	
		11/11/17	6	
		11/18/17	3.5	
		2/3/18	1	
		2/10/18	0.5	
		2/17/18	0.5	
		2/24/18	3.5	
		3/3/18	4	
		3/10/18	1.5	
		3/17/18	3	
John Reichling	Engineer PE017367	9/23/17	1	CDM Smith Officer in Charge and person overall responsible for project execution and quality
		11/11/17	2	
		12/16/17	1	
		1/13/18	1	
		1/20/18	1	
		2/17/18	1	
		2/24/18	1	
		3/10/18	1	
Jeff Weeber	Engineer PE032278	3/10/18	2.5	Design engineer, including SVE system and associated troubleshooting