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
Atlanta, Georgia 30334
Phone: 404-657-8600

Document Submittal Form

Instructions: This form should be completed and included with any document submitted to the Response and Remediation Program, Response Development Units 1 – 3, that is greater than 25 pages in length or that contains paper sizes larger than 11"x17". This includes Release Notifications and documents related to Hazardous Site Inventory and Voluntary Remediation Program sites. Contact Brownfield Unit staff for Brownfield submittal guidelines. Your cooperation helps to ensure that documents are filed correctly, completely, and efficiently.

Name of Document:	September 2018 VRP Progress Report
Date of Document:	September 7, 2018
Site Name:	Cessna Aircraft Company GA1 Facility
Site ID Number:	VRP1460391735

Document Submittal Checklist. Please certify that the submittal includes the following by checking each box as appropriate. Items 1 – 3 should be checked / included / certified for each submittal:

☒ 1. One paper copy of the document (double-sided is preferred)

☒ 2. Two compact discs (CDs), each containing an electronic copy of the document as a single, searchable, Portable Document Format (PDF) file. Only one CD is needed for Release Notifications. CDs should be labeled at a minimum with the following: 1) Name of Document, 2) Date of Document, 3) Site Name, and 4) Site Number. Any scanned images should have a resolution of at least 300 dpi and should be in color if applicable.

☒ 3. The electronic copies are complete, virus free, and identical to the paper copy except as described in Item 4 below.

☐ 4. (Optional) To reduce the size of the paper copy, certain voluminous information has been omitted from the paper copy and is included only with the electronic copies:

- ☐ 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: 9/7/2018

Organization: CDM Smith

Phone: 770-329-7143

Email: DuffeyJT@CDMSmith.com

Receipt Date
(for EPD use only)

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

September 7, 2018

Mr. David Hayes
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: September 2018 Semi-Annual Voluntary Remediation Program Progress Report
Cessna Aircraft Company – Tax Parcel 112 003 002
Columbus, Muscogee County, Georgia

Dear Mr. Hayes:

This Progress Report documents the activities completed for the Cessna Aircraft Company facility in Columbus, Georgia, from March 2018 through August 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 and described further below:

- June 29, 2018: Received EPD comments on the March 30, 2018 Progress Report;
- August 1, 2018: Pre-Design Investigation and Final Design report submitted;
- August 8, 2018: Semi-annual groundwater and soil vapor extraction (SVE) system monitoring;
- August 14, 2018: Site meeting with EPD; and
- March through August 2018: Ongoing SVE system operation and maintenance (O&M).

EPD March 30, 2018 Progress Report Comments

- EPD requested that consideration be given to installing additional monitoring wells to further refine length and width of the area exceeding the groundwater Risk Reduction Standards (RRSs). Potential additional well locations were evaluated in the field by EPD and CDM Smith during the August 14, 2018 site visit and no beneficial well locations that were accessible were identified.

- Standalone figures for trichloroethene (TCE) data and potentiometric surface mapping are now included in the monitoring reports, as requested by EPD. As shown in the Pre-Design Investigation and Final Design Report, an area has been designated as the "Generalized Groundwater Target Remediation Area" that exceeds the RRS exceedance area to be conservative. This area will also be shown in the groundwater monitoring reports.

- The metals results and discussions are now included in the groundwater monitoring reports as requested by EPD. CDM Smith also provided an evaluation of metals in groundwater at the site in the Remediation Plan Addendum (CDM Smith, November 16, 2017). The metals results from the March 2018 sampling were also reported in the Pre-Design Investigation and Final Design Report.

Pre-Design Investigation and Final Design Report

CDM Smith submitted the Pre-design Investigation and Final Design report on August 1, 2018. This work did not cause any changes to the overall remediation approach using a biobarrier, but the additional data and in-depth data evaluation did cause CDM Smith to recommend several additional injection wells in the source area. CDM Smith is awaiting EPD approval of the final design so that an Underground Injection Control (UIC) permit application can be submitted.

Semi-Annual Groundwater Monitoring

Semi-annual groundwater sampling is required to monitor groundwater conditions. The second 2018 semi-annual groundwater monitoring event was conducted on August 8, 2018. The groundwater monitoring report is provided in **Attachment A**.

The groundwater levels and flow direction in August 2018 were consistent with previous observations with the flow to the southeast. Volatile organic compound (VOC) concentrations in groundwater immediately downgradient of the former vapor degreaser at the MW-3 well cluster continue to decline from the concentrations observed in 2016. MW-5A/B appears to be relatively stable. Trichloroethene (TCE) continues to be the only VOC that exceeds the Risk Reduction Standards (RRSs). These trends are possibly a result of the former vapor degreaser being decommissioned in 2010 and/or VOC mass removal by the SVE system. VOCs in bedrock groundwater at MW-3C were all below the RRSs.

SVE System O&M

CDM Smith began operation of the SVE system in February 2017. The fourth semi-annual SVE system monitoring event was conducted on August 8, 2018. The 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 18 months and TCE is the VOC 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 3.9 mg/m^3 in August 2018. CDM Smith will continue to monitor the SVE system progress toward a potential endpoint in the future.

EPD Site Visit

A site visit was held with Nick Fuller and Tom Duffey of CDM Smith and Will Lucas of EPD on August 14, 2018. This was a productive site visit with the current site conditions and features reviewed. CDM Smith and EPD also discussed additional details regarding the proposed biobarrier. No specific action items were identified at the time of the site visit.

Work Anticipated for the Next Period

The following activities are planned for the September 2018 - February 2019 reporting period:

- The UIC permit application will be submitted and a permit will be issued;
- The biobarrier injection wells will be installed;
- Injection event #1 will be completed using emulsified vegetable oil and sodium bicarbonate;
- SVE system operation will continue;
- The first 2019 semi-annual SVE monitoring event will occur in February; and
- The first 2019 semi-annual groundwater monitoring event will occur in February.

Schedule

An updated schedule was included in the Pre-Design Investigation and Final Design Report and this schedule remains unchanged. This schedule is included on **Figure 1**. 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 March 18, 2018 through August 31, 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: Will Lucas, EPD
Greg Simpson, Textron
Tom Duffey, CDM Smith

Enclosures

Task	Start	End	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
EPD Biobarrier Design Approval	8/1/18	10/23/18																																				
EPD UIC Permiting	10/23/18	12/4/18																																				
Remedial Construction																																						
Biobarrier Installation	1/7/19	1/21/19																																				
Injection Event #1	1/28/19	2/12/19																																				
Bioaugmentation	5/27/19	6/1/19																																				
Injection Event #2	6/3/19	6/18/19																																				
Compliance Status Report	6/17/21	9/15/21																																				
Environmental Covenant	9/15/21	12/31/21																																				
VRP Progress Monitoring/Reporting	Semi-Annually																																					
Biobarrier O&M	As Needed																																					
SVE O&M	As Needed																																					

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

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

CDM Smith

Figure 1: VRP Schedule
Updated September 7, 2018
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment A: 2nd 2018 Semiannual Groundwater Monitoring Report

2nd 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 second 2018 semi-annual reporting requirement.

Monitoring Program Description

The groundwater monitoring well network consists of twelve wells (**Figure A-1**). Water level measurements are recorded from all wells. Groundwater samples for laboratory analyses are collected from ten 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 laboratory reporting level. The groundwater samples are analyzed for volatile organic compounds (VOCs). Several monitoring wells are also analyzed for metals. The metals data are being collected to establish the pre-remediation background levels and variability to evaluate potential metals mobilization by the remediation system. 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.

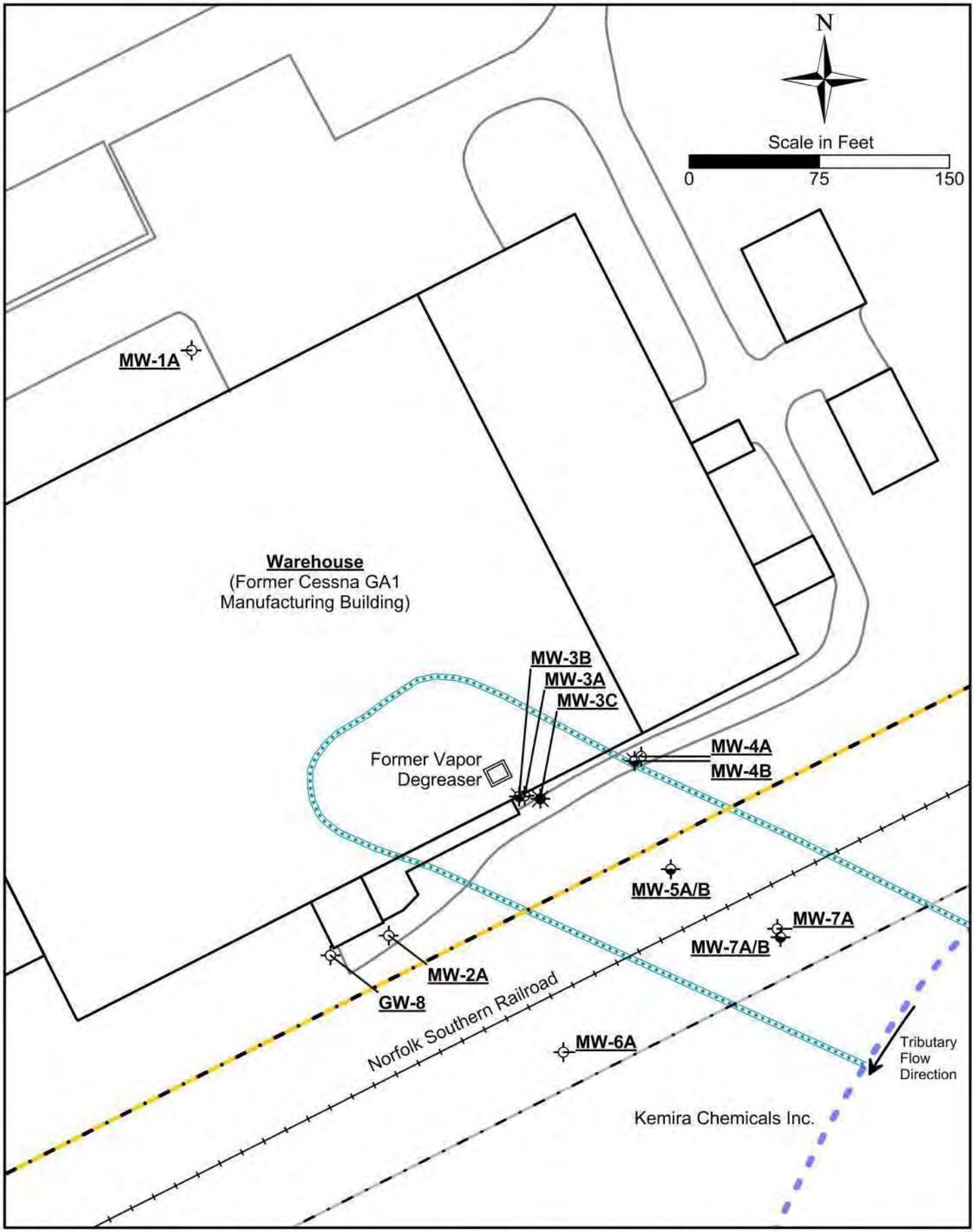
Results

Sampling for this event was completed on August 8, 2018. The water level records are summarized in **Table A-1**, VOC analytical results are summarized in **Table A-2**, and metals analytical results are summarized in **Table A-3**. The well purge records are in **Attachment A-1** and the full laboratory report is in **Attachment A-2**.

Conclusions

Figure A-2 shows the current trichloroethene (TCE) concentrations in groundwater and isoconcentration contours. The metals in groundwater remained below the Risk Reduction Standards (RRSs) and were relatively stable in concentration. Barium did show an increase at MW-4B but remains well below the RRS. **Figure A-3** shows potentiometric surface prepared for combined Units A and B. The groundwater flow direction is southeast and consistent with previous events.

Figures



Offsite Properties

Site Boundary

Unit A Sediments Monitoring Well

Unit A/B Monitoring Well

Unit B Saprolite Monitoring Well

Unit C Upper Bedrock Monitoring Well

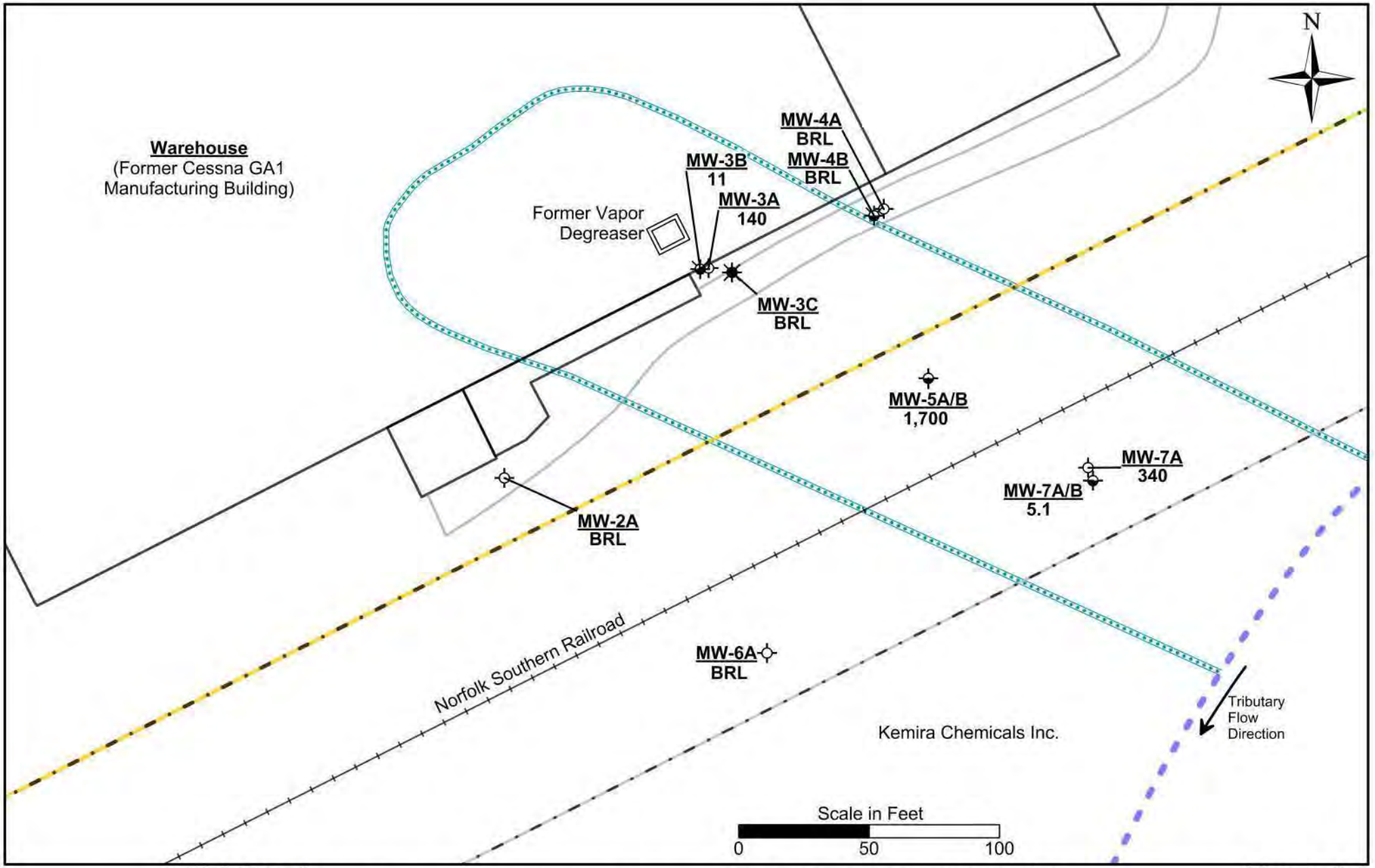
Note: GW-8 monitored for water level only.

Generalized Groundwater Target Remediation Area

Stream Tributary
(Possibly Intermittent)

CDM Smith

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



Offsite Properties

Site Boundary

Stream Tributary
(Possibly Intermittent)

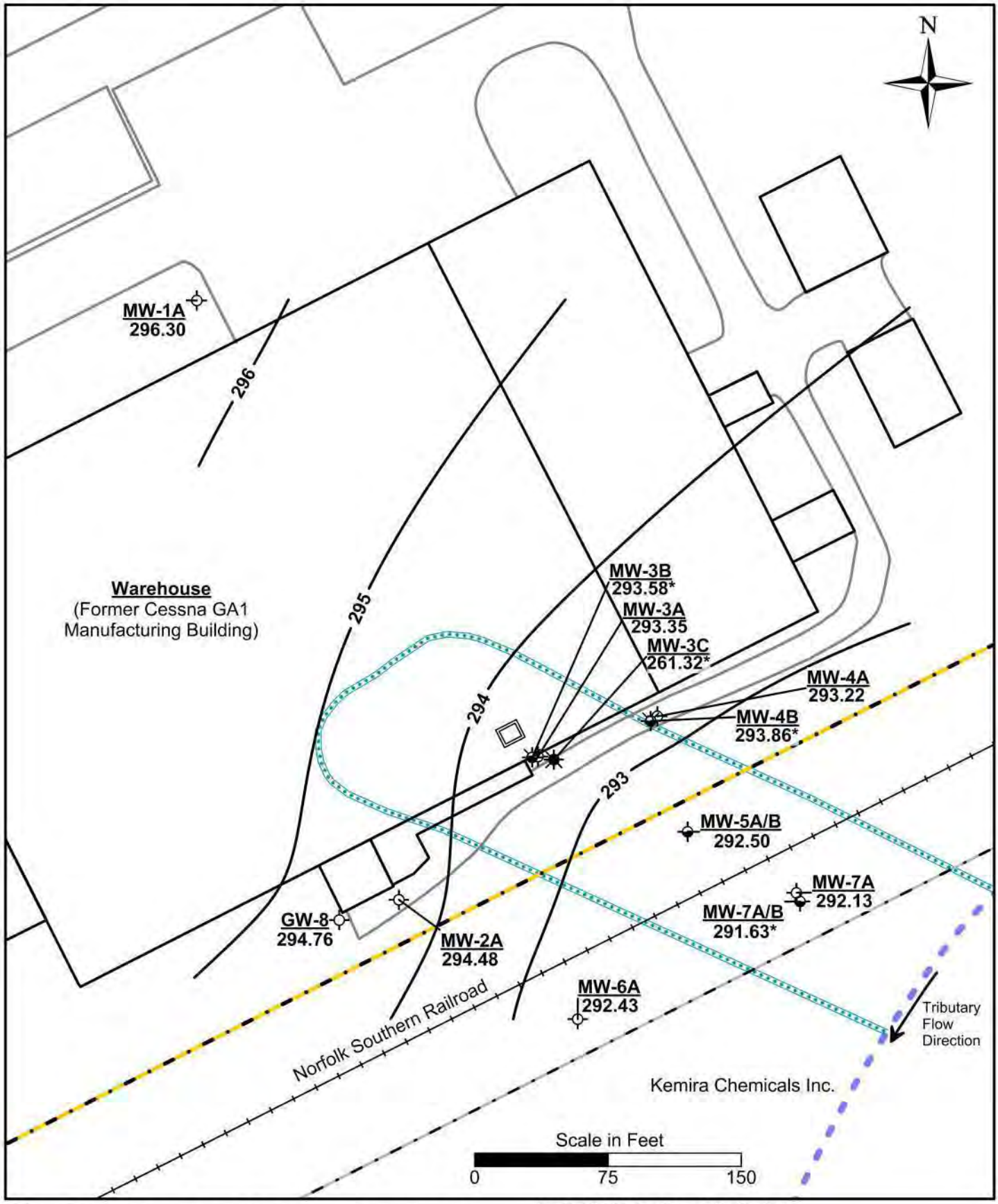
Unit A Sediments Monitoring Well
Unit A/B Monitoring Well
Unit B Saprolite Monitoring Well
Unit C Upper Bedrock Monitoring Well

Posted values are trichloroethene in ug/L (8/8/2018)
BRL - Below reporting level RRS - Risk Reduction Standard

Generalized Groundwater
Target Remediation Area

CDM Smith

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



Offsite Properties

Site Boundary

Stream Tributary
(Possibly Intermittent)

Unit A Sediments Monitoring Well
Unit A/B Monitoring Well
Unit B Saprolite Monitoring Well
Unit C Upper Bedrock Monitoring Well

Unit A/B Potentiometric Surface
8/8/2018
294
Contour Interval = 1 Foot
North American Vertical Datum, 1988
* Not used for contouring

Generalized Groundwater
Target Remediation Area

CDM Smith

Figure A-3
Unit A/B
Potentiometric Surface
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Tables

Well Construction and Water Levels

Well Code	Unit	Elevation TOC Feet	Screen Depth		Water Level TOC (8/7/14)		Water Level TOC (1/19/16)		Water Level TOC (2/1/17)	
			From	To	Depth	Elevation	Depth	Elevation	Depth	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 (3)	229.82 (3)	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/B(1)	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	A	297.93	6	16	--	--	--	--	--	--
MW-7A/B(2)	B	297.88	20	30	--	--	15.40 (3)	282.48 (3)	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		Water Level TOC (8/15/17)		Water Level TOC (2/27/18)		Water Level TOC (8/8/18)	
			From	To	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1A	A	311.09	17.5	27.5	14.29	296.8	15.25	295.84	14.79	296.30
MW-2A	A	311.89	23	33	16.59	295.3	17.00	294.89	17.41	294.48
MW-3A	A	312.09	25	30	18.03	294.06	18.38	293.71	18.74	293.35
MW-3B	B	312.32	36	41	18.04	294.28	18.45	293.87	18.74	293.58
MW-3C	C	312.32	77.5	87.5	37.54	274.78	45.61	266.71	51.00	261.32
MW-4A	A	313.17	25	30	19.17	294	19.59	293.58	19.95	293.22
MW-4B	B	313.11	42	47	18.18	294.93	19.82	293.29	19.25	293.86
MW-5A/B(1)	A	299.59	20	30	6.32	293.27	7.68	291.91	7.09	292.50
MW-6A	A	298.34	11.5	21.5	5.11	293.23	5.44	292.90	5.91	292.43
MW-7A	A	297.93	6	16	--	--	--	--	5.80	292.13
MW-7A/B(2)	B	297.88	20	30	6.09	291.79	6.42	291.46	6.25	291.63
GW-8	A	314.34	8	18	18.84	295.5	18.81	295.53	19.58	294.76

All measurements are in feet

A - Unconsolidated Coastal Plain sediments/recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

1 - Previously designated as MW-5A

3 - Suspected to not be equilibrated

Elevation is NGVD 1929

All wells are 2-inch diameter

TOC - Top of casing

-- No measurement

2 - Previously designated as MW-7A

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
	8/8/2018	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**
	8/8/2018	BRL	BRL	BRL	BRL	7	**140**
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**
	8/8/2018	BRL	BRL	BRL	BRL	BRL	**11**
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
	8/8/2018	BRL	BRL	BRL	12	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
	8/8/2018	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
	8/8/2018	BRL	BRL	BRL	BRL	BRL	BRL

Table A-2
Groundwater VOC Results
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

CDM Smith

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-5A/B[1]	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**
	8/8/2018	7.2	BRL	BRL	BRL	19	**1,700**
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
	8/8/2018	BRL	BRL	BRL	BRL	BRL	BRL
MW-7A	3/14/2018	BRL	BRL	BRL	BRL	BRL	**340**
	8/8/2018	BRL	BRL	BRL	BRL	BRL	**340**
MW-7A/B[2]	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**
	8/8/2018	BRL	BRL	BRL	BRL	BRL	**5.1**

Concentrations are µg/L

BRL - Below reporting level

1 - Previously designated as MW-5A

A - Unconsolidated Coastal Plain sediment/recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

RRS - Risk Reduction Standard

Shaded values exceed the RRS.

2 - Previously designated as MW-7A

CD - Carbon Disulfide

DCA - Dichloroethane

DCE - Dichloroethene

MEK - 2-Butanone

TCE - Trichloroethene

CDM Smith

Table A-2
Groundwater VOC Results
Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Compound		Arsenic	Barium	Chromium	Lead	Manganese	Turbidity	pH	ORP
On-Site RRS		10	20,000	100	15	2,500	NTUs	S.U.	milliVolts
MW-3A	2/27/2018	BRL	86.1	BRL	BRL	48.9	5.2	4.6	211
	8/8/2018	BRL	85.1	BRL	BRL	50.1	3.9	4.9	230
MW-3B	2/27/2018	BRL	155	BRL	BRL	16.6	8	6	186.0
	8/8/2018	BRL	158	BRL	BRL	BRL	4.9	5.3	141
MW-4A	2/27/2018	BRL	176	BRL	BRL	701	4	5.5	190
	8/8/2018	BRL	177	BRL	BRL	767	3.4	5.7	167
MW-4B	2/27/2018	BRL	655	BRL	BRL	224	6.9	6.9	39
	8/8/2018	BRL	1,070	15.2	BRL	271	7.8	7	40

Compound		Arsenic	Barium	Chromium	Lead	Manganese	Turbidity	pH	ORP
Off-Site RRS		10	3,100	100	15	380	NTUs	S.U.	milliVolts
MW-5A/B[(1)]	2/27/2018	BRL	140	BRL	BRL	94.6	7	4.8	200
	8/8/2018	BRL	106	BRL	BRL	73.2	1	5.1	200
MW-7A	8/8/2018	BRL	71.4	BRL	BRL	BRL	4.2	5.5	228
MW-7A/B[(2)]	8/8/2018	BRL	220	BRL	BRL	282	15	6.3	43

Concentrations are µg/L

BRL - Below reporting level

1 - Previously designated as MW-5A

2 - Previously designated as MW-7A

RRS - Risk Reduction Standard

A - Unconsolidated Coastal Plain sediment/recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

NTU - Nephelomtric turbidity unit

S.U. - Standard Unit

ORP- Oxidation/Reduction Potential

CDM Smith

Table A-3

Groundwater Metals Results

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Attachment A-1

Well Purge Records

GROUNDWATER SAMPLING LOG

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-2A	SAMPLE ID: MW-2A	DATE: 8-6-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 23 to 33 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 17.41	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 – 17.41 feet TOC) X 0.16 gallons/foot = 2.49 gallons X 3 = 7.48

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	PURGING INITIATED AT: 1525	PURGING ENDED AT: 1555	TOTAL VOLUME PURGED (gallons): 4.75

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
1525	0	0.		17.70	5.46	22.12	0.106	19.3	1.26	154.3	
1530	1.0	1.0		17.88	5.22	20.95	0.088	12.2	0.29	150.1	
1535	0.75	1.75		17.88	5.27	20.41	0.084	8.47	0.13	146.1	
1540	0.75	2.5		17.98	5.29	20.84	0.083	3.90	0.17	147.2	
1545	0.75	3.25		17.86	5.36	20.86	0.083	5.11	0.16	140.3	
1550	0.75	4.0		17.80	5.38	20.88	0.082	7.83	0.18	141.6	
1555	0.75	4.75		17.88	5.44	20.90	0.081	4.79	0.19	139.8	

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: 1555	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 28	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING (Y) N (replaced)	Silicone	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)
MW-2A	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	

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)

GW6

WL 19.58

MW-1 14.79

GROUNDWATER SAMPLING LOG

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3A	SAMPLE ID: MW-3A	DATE: 8-8-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 25 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.74	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 – 18.74 feet TOC) X 0.16 gallons/foot = 1.80 gallons X 3 = 5.4

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

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
1433				19.02	5.73	21.61	0.039	80.6	4.00	193.1	
1438		0.75		19.16	4.64	21.14	0.040	34.2	3.65	228.6	
1443		1.25		19.16	4.82	21.19	0.041	9.55	3.41	229.8	
1448		1.75		19.16	4.86	21.20	0.041	7.41	3.22	230.0	
1453		2.25		19.16	4.88	21.17	0.041	6.19	3.86	229.4	
1458		2.75		19.16	4.86	21.13	0.041	6.89	3.89	226.9	
1503		3.25		19.16	4.86	21.10	0.041	3.87	3.91	229.8	

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: /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1509	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl):	TUBING MATERIAL CODE:	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)
MW-3A	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	
MW-3A	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3B	SAMPLE ID: MW-3B	DATE: 8/8/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 36 to 41 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.74	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 – 18.74 feet TOC) X 0.16 gallons/foot = 3.52 gallons X 3 = 10.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 40	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl):	PURGING INITIATED AT: 1247	PURGING ENDED AT: 1335	TOTAL VOLUME PURGED (gallons): 9

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or (mS/cm)	Turbidity (NTUs)	Dissolved Oxygen (circle units) (mg/L) or % saturation	ORP (mV)	Color/Odor (Describe)
1252	1	1		23.81	4.82	21.84	0.083	57.0	2.80	215.0	Clear
1300	1	2		25.54	5.08	21.91	0.079	91.9	3.81	183.2	Clear
1305	1	3		28.92	5.04	21.63	0.079	67.0	3.55	181.3	Clear
1310	1	4		31.18	5.14	21.79	0.077	39.4	3.61	164.4	Clear
1315	1	5		31.85	5.21	21.90	0.075	27.4	3.82	155.0	Clear
1320	1	6		32.43	5.23	21.90	0.075	16.1	3.84	150.0	Clear
1325	1	7		32.96	5.23	21.96	0.074	11.97	3.88	145.8	Clear
1330	1	8		32.60	5.25	22.00	0.074	7.52	3.83	141.7	Clear
1335	1	9		32.71	5.25	22.00	0.074	4.93	3.82	140.8	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 Foller/CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1335	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl):	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)
MW-3B	2	CG	40 mL	HCL	80 mL		VOCs (8260)	ESP	
MW-3B	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	ESP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-3C	SAMPLE ID: MW-3C	DATE: 6/8/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 77.5 to 87.5 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 51.0	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 − 51 feet TOC) X 0.16 gallons/foot = 5.84 gallons X 3 = 17.52

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: 1348	PURGING ENDED AT: 1412	TOTAL VOLUME PURGED (gallons): 5

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or (mS/cm)	Turbidity (NTUs)	Dissolved Oxygen (circle units) (mg/L) or % saturation	ORP (mV)	Color/Odor (Describe)
1352	1	1		60.45	8.86	21.73	0.245	5.35	0.50	-2.7	Clear
1357	1	2		64.79	9.18	22.18	0.245	5.90	0.44	-60.4	Clear
1402	1	3		70.48	9.37	22.62	0.241	6.02	0.63	-104.0	Clear
1407	1	4		73.51	9.33	22.75	0.236	5.88	0.69	-107.2	Clear
1412	1	5		85.90	9.34	23.02	0.241	5.69	0.71	-116.6	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: Nicholas Fuller/CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1425	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	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)
MW-3C	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-4A	SAMPLE ID: MW-4A	DATE: 8-8-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 25 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 19.95	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 – 19.95 feet TOC) X 0.16 gallons/foot = 1.6 gallons X 3 = 4.8

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 27.5	PURGING INITIATED AT: 1340	PURGING ENDED AT: 1410	TOTAL VOLUME PURGED (gallons):

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
1340	0	0		20.06	5.92	22.47	0.109	8.85	1.78	170.1	
1345	1.0	1.0		20.12	5.69	21.29	0.111	6.19	0.36	175.7	
1350	0.75	1.75		20.12	5.68	21.26	0.110	7.72	0.14	173.4	
1355	0.75	2.5		20.12	5.74	21.34	0.110	5.18	0.11	166.8	
1400	0.75	3.25		20.12	5.75	21.30	0.110	2.46	0.09	167.5	
1405	0.75	4		20.12	5.74	21.26	0.109	4.82	0.08	167.5	
1410	0.75	4.75		20.12	5.74	21.22	0.110	3.35	0.07	163.1	

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: 1410	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 27.5	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
		Filtration Equipment Type:	

FIELD DECONTAMINATION: PUMP Y N TUBING (Y) N (replaced) 5.1 Lone 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)
MW-4A	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	
MW-4A	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-4B	SAMPLE ID: MW-4B	DATE: 8/8/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 42 to 47 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 19.75	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 – 19.75 feet TOC) X 0.16 gallons/foot = 4.36 gallons X 3 = 13.08

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 45	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 46	PURGING INITIATED AT: 1434	PURGING ENDED AT: 1457	TOTAL VOLUME PURGED (gallons): 4.75

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or (mS/cm)	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
1439	1	1		27.60	6.99	21.51	0.296	17.8	4.21	40.4	clear
1444	1	2		32.13	7.01	21.59	0.288	11.5	4.92	37.9	clear
1449	1	3		38.41	7.07	21.61	0.285	9.96	4.40	33.6	clear
1454	1	4		42.51	6.98	21.75	0.284	8.52	4.32	35.9	clear
1457	0.75	4.75		45.95	6.96	21.94	0.283	8.83	4.38	40.3	clear
1510								7.81			
						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: Nicholas Fuller /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1510	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 46	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)
MW-4B	2	CG	40 mL	HCL	80 mL		VOCs (8260)	ESP	
MW-4B	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	ESP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-5A/B	SAMPLE ID: MW-5A/B	DATE: 8-8-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 20 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 7.09	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 – 7.09 feet TOC) X 0.16 gallons/foot = 3.7 gallons X 3 = 11.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1300	TOTAL VOLUME PURGED (gallons):

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
~~1230~~ 1230		0		9.06	5.50	21.29	0.063	17.1	1.06	182.4	
1235	1	1.0		10.41	5.27	20.36	0.059	12.2	~~4.25~~ 1.25	191.4	
1240	0.75	1.75		10.02	4.72	20.61	0.051	6.85	1.02	196.8	
1245	0.75	2.5		10.02	4.91	20.43	0.049	~~3.19~~ 3.19	1.06	209.1	
1250		3.25		10.02	5.03	20.68	0.048	5.43	2.09	203.4	
1255		4		10.02	5.06	20.77	0.047	6.41	2.15	205	
1300		4.75		10.02	5.10	21.02	0.047	1.03	2.17	199.7	

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 Gill /CDM Smith	SAMPLER(S) SIGNATURE(S): Daniel Gill	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING (Y) N (replaced) 5/11 comp	DUPLICATE: (Y) N	Dup-1

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)
MW-5AB	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	
MW-5AB	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 8-8-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 11.5 to 21.5 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 5.91	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 – 5.91 feet TOC) X 0.16 gallons/foot = 2.49 gallons X 3 = 7.4

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: 1135	PURGING ENDED AT: 1205	TOTAL VOLUME PURGED (gallons): 4.5

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
1135				6.68	5.58	21.68	0.049	19.8	3.93	202.4	
1140		1.0		6.80	4.64	21.17	0.046	16.8	2.31	271.3	
1145		1.75		6.82	4.82	21.13	0.045	9.14	2.18	266.0	
1150		2.25		6.82	4.99	21.16	0.045	4.46	2.25	264.8	
1155		3.0		6.82	5.01	21.22	0.045	5.19	2.23	264.2	
1200		3.75		6.82	4.99	21.25	0.045	2.88	2.15	263.4	
1205		4.5		6.82	4.98	21.26	0.045	4.11	2.14	262.0	

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: 1205	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 16.5	TUBING MATERIAL CODE: Teflon	FIELD-FILTERED: Y (N)	FILTER SIZE: ____ mm
		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	Silicone	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)
MW-6A	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-7A	SAMPLE ID: MW-7A	DATE: 8-8-16

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 6 to 16 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 5.80	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)

(16 feet TOC – 5.80 feet TOC) X 0.16 gallons/foot = 1.6 gallons X 3 = 4.9

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

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
				6.67							
1047				~~6.67~~	6.45	20.81	0.078	366	2.19	128.7	
1052	1.0	1.0		7.08	5.60	21.93	0.071	70.9	0.47	186.2	
1057	0.75	1.75		7.10	5.67	21.99	0.065	19.8	0.77	191.4	
1102	0.75	2.50		7.10	5.67	22.06	0.061	7.24	0.57	199.6	
1107	0.75	3.25		7.10	5.60	21.95	0.059	5.05	1.00	211.1	
1112	0.75	4.0		7.10	5.58	21.92	0.058	9.45	1.19	219.8	
1117	0.75	4.75		7.10	5.53	21.87	0.057	4.18	1.26	~~275~~	227.5

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./FL.): 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: /CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1117	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl):	TUBING MATERIAL CODE:	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)
MW-7A	2	CG	40 mL	HCL	80 mL		VOCs (8260)	APP	
MW-7A	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	APP	

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

CDM Smith

SITE NAME: Cessna	SITE LOCATION: 4800 Cargo Drive, Columbus, GA	
WELL NO: MW-7A/B	SAMPLE ID: MW-7A/B	DATE: 8-8-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 20 to 30 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 6.25	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)

(30 feet TOC − 6.25 feet TOC) X 0.16 gallons/foot = 3.8 gallons X 3 = 11.4

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 29	PURGING INITIATED AT: 0932	PURGING ENDED AT: 0957	TOTAL VOLUME PURGED (gallons):

TIME	Volume Purged (Gallons)	Cumulative Volume Purge (Gallons)	Purge Rate (gpm)	Depth to Water (feet TOC)	pH (standard units)	Temp. °C	Specific Conductivity (circle units) mmhos/cm or mS/cm	Turbidity (NTUs)	Dissolved Oxygen (circle units) mg/L or % saturation	ORP (mV)	Color/Odor (Describe)
0932				8.47	7.83	21.27	0.287	28.7	4.82	136.7	
0937	0.75	0.75	0	12.26	5.83	20.37	0.110	16.0	0.57	91.7	
0942	1	1.75		18.14	5.94	20.40	0.107	30.4	0.45	68.1	
0947	0.75	2.50		20.86	6.19	20.79	0.106	18.9	0.43	49.9	
0952	0.75	3.25		23.96	6.25	21.00	0.105	12.6	0.41	44.6	
0957	0.75	4.0		26.86	6.28	21.14	0.104	15.3	0.38	42.5	
		Pry after 4.25 gal									

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 / CDM Smith	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): 29	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)
MW-7AB	2	CG	40 mL	HCL	80 mL		VOCs (8260)	ESP	100
MW-7AB	1	PP	250 mL	HNO_3	250 mL		Metals (Ar, Ba, Cr Pb, Mn)	ESP	100

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)

Attachment A-2

Laboratory Reports

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

August 21, 2018

Nicholas Fuller
CDM Smith Inc.

3200 Windy Hill Road
Atlanta GA 30339

RE: Cessna

Dear Nicholas Fuller: Order No: 1808950

Analytical Environmental Services, Inc. received 12 samples on 8/9/2018 3:05:00 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'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 07/01/18-06/30/19.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/18-06/30/19 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-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

AES

CHAIN OF CUSTODY

Work Order: 1808950

Date: 8-8-18 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3200 Windy Hill Rd SE Ste 210w Atlanta, GA 30339

PHONE: 404 720 1330

EMAIL: FullerND@cdmsmith.com

SAMPLED BY: Daniel Good Nick Fuller

SIGNATURE:

#	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-7 A/B	8-8-18	1010	X		GW	X	X			3
2	MW-7A		1117					X			3
3	MW-6A		1205								2
4	MW-5A/B		1300					X			3
5	MW-3B		1335					X			3
6	MW-4A		1410					X			3
7	MW-3C		1425					[redacted]		No metals	2
8	MW-3A		1503					X			3
9	MW-4B		1510					X			3
10	MW-2A		1555								2
11	Dup-1		0800								2
12	Trip Blank										2
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.	8/9/18 1115	BPommuti	8-9 11:15
2. BPommuti	8-9 3:05	2. Monica Abon	8/9/18 3:05pm
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT: / / VIA:

IN: / / VIA:

client FedEx UPS US mail courier Greyhound

other: _____

PROJECT INFORMATION

PROJECT NAME: Cessna

PROJECT #:

SITE ADDRESS: 4800 Cargo Dr. Columbus, GA

SEND REPORT TO: FullerND@CDMSmith.com

INVOICE TO:
(IF DIFFERENT FROM ABOVE)

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers: 31

Turnaround Time (TAT) Request

- [x] 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 ○

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7 A/B
Project Name:	Cessna	**Collection Date:**	8/8/2018 10:10:00 AM
Lab ID:	1808950-001	**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	265411	1	08/13/2018 19:58	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 19:58	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 19:58	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 19:58	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7 A/B
Project Name:	Cessna	**Collection Date:**	8/8/2018 10:10:00 AM
Lab ID:	1808950-001	**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	265411	1	08/13/2018 19:58	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Trichloroethene	5.1	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:58	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 19:58	NP
Surr: 4-Bromofluorobenzene	77.8	68-127		%REC	265411	1	08/13/2018 19:58	NP
Surr: Dibromofluoromethane	112	84.4-122		%REC	265411	1	08/13/2018 19:58	NP
Surr: Toluene-d8	100	80.1-116		%REC	265411	1	08/13/2018 19:58	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:39	DG
Barium	0.220	0.0200		mg/L	265465	1	08/14/2018 18:57	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 18:57	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 18:57	DG
Manganese	0.282	0.0150		mg/L	265465	1	08/14/2018 18:57	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7A
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:17:00 AM
Lab ID:	1808950-002	**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	265411	1	08/13/2018 19:03	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 19:03	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 19:03	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 19:03	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-7A
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:17:00 AM
Lab ID:	1808950-002	**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	265411	1	08/13/2018 19:03	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Trichloroethene	340	50		ug/L	265411	10	08/13/2018 19:31	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 19:03	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 19:03	NP
Surr: 4-Bromofluorobenzene	86.3	68-127		%REC	265411	1	08/13/2018 19:03	NP
Surr: 4-Bromofluorobenzene	88.1	68-127		%REC	265411	10	08/13/2018 19:31	NP
Surr: Dibromofluoromethane	103	84.4-122		%REC	265411	1	08/13/2018 19:03	NP
Surr: Dibromofluoromethane	102	84.4-122		%REC	265411	10	08/13/2018 19:31	NP
Surr: Toluene-d8	101	80.1-116		%REC	265411	1	08/13/2018 19:03	NP
Surr: Toluene-d8	103	80.1-116		%REC	265411	10	08/13/2018 19:31	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:42	DG
Barium	0.0714	0.0200		mg/L	265465	1	08/14/2018 18:59	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 18:59	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 18:59	DG
Manganese	BRL	0.0150		mg/L	265465	1	08/14/2018 18:59	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-6A
Project Name:	Cessna	**Collection Date:**	8/8/2018 12:05:00 PM
Lab ID:	1808950-003	**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	265411	1	08/13/2018 17:41	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 17:41	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 17:41	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 17:41	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-6A
Project Name:	Cessna	**Collection Date:**	8/8/2018 12:05:00 PM
Lab ID:	1808950-003	**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	265411	1	08/13/2018 17:41	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:41	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 17:41	NP
Surr: 4-Bromofluorobenzene	80.1	68-127		%REC	265411	1	08/13/2018 17:41	NP
Surr: Dibromofluoromethane	102	84.4-122		%REC	265411	1	08/13/2018 17:41	NP
Surr: Toluene-d8	103	80.1-116		%REC	265411	1	08/13/2018 17:41	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-5 A/B
Project Name:	Cessna	**Collection Date:**	8/8/2018 1:00:00 PM
Lab ID:	1808950-004	**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	265411	1	08/13/2018 20:26	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,1-Dichloroethane	7.2	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 20:26	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 20:26	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
cis-1,2-Dichloroethene	19	5.0		ug/L	265411	1	08/13/2018 20:26	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 20:26	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-5 A/B
Project Name:	Cessna	**Collection Date:**	8/8/2018 1:00:00 PM
Lab ID:	1808950-004	**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	265411	1	08/13/2018 20:26	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Trichloroethene	1700	100		ug/L	265411	20	08/14/2018 17:49	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 20:26	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 20:26	NP
Surr: 4-Bromofluorobenzene	85.7	68-127		%REC	265411	1	08/13/2018 20:26	NP
Surr: 4-Bromofluorobenzene	79.3	68-127		%REC	265411	20	08/14/2018 17:49	NP
Surr: Dibromofluoromethane	113	84.4-122		%REC	265411	20	08/14/2018 17:49	NP
Surr: Dibromofluoromethane	99.7	84.4-122		%REC	265411	1	08/13/2018 20:26	NP
Surr: Toluene-d8	104	80.1-116		%REC	265411	1	08/13/2018 20:26	NP
Surr: Toluene-d8	102	80.1-116		%REC	265411	20	08/14/2018 17:49	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:44	DG
Barium	0.106	0.0200		mg/L	265465	1	08/14/2018 19:01	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 19:01	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 19:01	DG
Manganese	0.0732	0.0150		mg/L	265465	1	08/14/2018 19:01	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3B
Project Name:	Cessna	**Collection Date:**	8/8/2018 1:35:00 PM
Lab ID:	1808950-005	**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	265411	1	08/13/2018 17:14	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 17:14	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 17:14	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 17:14	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3B
Project Name:	Cessna	**Collection Date:**	8/8/2018 1:35:00 PM
Lab ID:	1808950-005	**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	265411	1	08/13/2018 17:14	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Trichloroethene	11	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 17:14	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 17:14	NP
Surr: 4-Bromofluorobenzene	87	68-127		%REC	265411	1	08/13/2018 17:14	NP
Surr: Dibromofluoromethane	105	84.4-122		%REC	265411	1	08/13/2018 17:14	NP
Surr: Toluene-d8	105	80.1-116		%REC	265411	1	08/13/2018 17:14	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:47	DG
Barium	0.158	0.0200		mg/L	265465	1	08/14/2018 19:04	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 19:04	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 19:04	DG
Manganese	BRL	0.0150		mg/L	265465	1	08/14/2018 19:04	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4A
Project Name:	Cessna	**Collection Date:**	8/8/2018 2:10:00 PM
Lab ID:	1808950-006	**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	265411	1	08/13/2018 16:47	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 16:47	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 16:47	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 16:47	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4A
Project Name:	Cessna	**Collection Date:**	8/8/2018 2:10:00 PM
Lab ID:	1808950-006	**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	265411	1	08/13/2018 16:47	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:47	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 16:47	NP
Surr: 4-Bromofluorobenzene	78.1	68-127		%REC	265411	1	08/13/2018 16:47	NP
Surr: Dibromofluoromethane	106	84.4-122		%REC	265411	1	08/13/2018 16:47	NP
Surr: Toluene-d8	102	80.1-116		%REC	265411	1	08/13/2018 16:47	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:49	DG
Barium	0.177	0.0200		mg/L	265465	1	08/14/2018 19:06	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 19:06	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 19:06	DG
Manganese	0.767	0.0150		mg/L	265465	1	08/14/2018 19:06	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3C
Project Name:	Cessna	**Collection Date:**	8/8/2018 2:25:00 PM
Lab ID:	1808950-007	**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	265411	1	08/13/2018 18:36	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 18:36	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 18:36	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Carbon disulfide	12	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 18:36	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3C
Project Name:	Cessna	**Collection Date:**	8/8/2018 2:25:00 PM
Lab ID:	1808950-007	**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	265411	1	08/13/2018 18:36	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 18:36	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 18:36	NP
Surr: 4-Bromofluorobenzene	87.9	68-127		%REC	265411	1	08/13/2018 18:36	NP
Surr: Dibromofluoromethane	110	84.4-122		%REC	265411	1	08/13/2018 18:36	NP
Surr: Toluene-d8	112	80.1-116		%REC	265411	1	08/13/2018 18:36	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3A
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:03:00 PM
Lab ID:	1808950-008	**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	265411	1	08/13/2018 16:19	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 16:19	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 16:19	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
cis-1,2-Dichloroethene	7.0	5.0		ug/L	265411	1	08/13/2018 16:19	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 16:19	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-3A
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:03:00 PM
Lab ID:	1808950-008	**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	265411	1	08/13/2018 16:19	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Trichloroethene	140	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 16:19	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 16:19	NP
Surr: 4-Bromofluorobenzene	80.4	68-127		%REC	265411	1	08/13/2018 16:19	NP
Surr: Dibromofluoromethane	104	84.4-122		%REC	265411	1	08/13/2018 16:19	NP
Surr: Toluene-d8	105	80.1-116		%REC	265411	1	08/13/2018 16:19	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:52	DG
Barium	0.0851	0.0200		mg/L	265465	1	08/14/2018 19:13	DG
Chromium	BRL	0.0100		mg/L	265465	1	08/14/2018 19:13	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 19:13	DG
Manganese	0.0501	0.0150		mg/L	265465	1	08/14/2018 19:13	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4B
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:10:00 PM
Lab ID:	1808950-009	**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	265411	1	08/13/2018 15:52	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 15:52	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 15:52	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 15:52	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-4B
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:10:00 PM
Lab ID:	1808950-009	**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	265411	1	08/13/2018 15:52	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:52	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 15:52	NP
Surr: 4-Bromofluorobenzene	84.7	68-127		%REC	265411	1	08/13/2018 15:52	NP
Surr: Dibromofluoromethane	104	84.4-122		%REC	265411	1	08/13/2018 15:52	NP
Surr: Toluene-d8	98.9	80.1-116		%REC	265411	1	08/13/2018 15:52	NP
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0100		mg/L	265465	1	08/20/2018 17:54	DG
Barium	1.07	0.0200		mg/L	265465	1	08/14/2018 19:15	DG
Chromium	0.0152	0.0100		mg/L	265465	1	08/14/2018 19:15	DG
Lead	BRL	0.0100		mg/L	265465	1	08/14/2018 19:15	DG
Manganese	0.271	0.0150		mg/L	265465	1	08/14/2018 19:15	DG

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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-2A
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:55:00 PM
Lab ID:	1808950-010	**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	265411	1	08/13/2018 15:25	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
2-Butanone	BRL	50		ug/L	265411	1	08/13/2018 15:25	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
Acetone	BRL	50		ug/L	265411	1	08/13/2018 15:25	NP
Benzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Chloroethane	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Chloromethane	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Freon-113	BRL	10		ug/L	265411	1	08/13/2018 15:25	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-2A
Project Name:	Cessna	**Collection Date:**	8/8/2018 3:55:00 PM
Lab ID:	1808950-010	**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	265411	1	08/13/2018 15:25	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Toluene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/13/2018 15:25	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/13/2018 15:25	NP
Surr: 4-Bromofluorobenzene	89.5	68-127		%REC	265411	1	08/13/2018 15:25	NP
Surr: Dibromofluoromethane	108	84.4-122		%REC	265411	1	08/13/2018 15:25	NP
Surr: Toluene-d8	98.9	80.1-116		%REC	265411	1	08/13/2018 15:25	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	DUP-1
Project Name:	Cessna	**Collection Date:**	8/8/2018 8:00:00 AM
Lab ID:	1808950-011	**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	265411	1	08/14/2018 18:44	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,1-Dichloroethane	6.0	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
2-Butanone	BRL	50		ug/L	265411	1	08/14/2018 18:44	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
Acetone	BRL	50		ug/L	265411	1	08/14/2018 18:44	NP
Benzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Chloroethane	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Chloromethane	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
cis-1,2-Dichloroethene	21	5.0		ug/L	265411	1	08/14/2018 18:44	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Freon-113	BRL	10		ug/L	265411	1	08/14/2018 18:44	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	DUP-1
Project Name:	Cessna	**Collection Date:**	8/8/2018 8:00:00 AM
Lab ID:	1808950-011	**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	265411	1	08/14/2018 18:44	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Toluene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Trichloroethene	1800	100		ug/L	265411	20	08/14/2018 18:17	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/14/2018 18:44	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/14/2018 18:44	NP
Surr: 4-Bromofluorobenzene	75.5	68-127		%REC	265411	1	08/14/2018 18:44	NP
Surr: 4-Bromofluorobenzene	81	68-127		%REC	265411	20	08/14/2018 18:17	NP
Surr: Dibromofluoromethane	110	84.4-122		%REC	265411	20	08/14/2018 18:17	NP
Surr: Dibromofluoromethane	104	84.4-122		%REC	265411	1	08/14/2018 18:44	NP
Surr: Toluene-d8	107	80.1-116		%REC	265411	20	08/14/2018 18:17	NP
Surr: Toluene-d8	104	80.1-116		%REC	265411	1	08/14/2018 18:44	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Cessna	**Collection Date:**	8/8/2018
Lab ID:	1808950-012	**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	265411	1	08/14/2018 16:28	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,1-Dichloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,1-Dichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2-Dibromoethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2-Dichloroethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,2-Dichloropropane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
2-Butanone	BRL	50		ug/L	265411	1	08/14/2018 16:28	NP
2-Hexanone	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
4-Methyl-2-pentanone	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
Acetone	BRL	50		ug/L	265411	1	08/14/2018 16:28	NP
Benzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Bromodichloromethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Bromoform	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Bromomethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Carbon disulfide	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Carbon tetrachloride	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Chlorobenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Chloroethane	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
Chloroform	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Chloromethane	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Cyclohexane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Dibromochloromethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Dichlorodifluoromethane	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
Ethylbenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Freon-113	BRL	10		ug/L	265411	1	08/14/2018 16:28	NP
Isopropylbenzene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
m,p-Xylene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Methyl acetate	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Methylcyclohexane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Methylene chloride	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
o-Xylene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	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:** 21-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Cessna	**Collection Date:**	8/8/2018
Lab ID:	1808950-012	**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	265411	1	08/14/2018 16:28	NP
Tetrachloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Toluene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Trichloroethene	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Trichlorofluoromethane	BRL	5.0		ug/L	265411	1	08/14/2018 16:28	NP
Vinyl chloride	BRL	2.0		ug/L	265411	1	08/14/2018 16:28	NP
Surr: 4-Bromofluorobenzene	78.1	68-127		%REC	265411	1	08/14/2018 16:28	NP
Surr: Dibromofluoromethane	105	84.4-122		%REC	265411	1	08/14/2018 16:28	NP
Surr: Toluene-d8	105	80.1-116		%REC	265411	1	08/14/2018 16:28	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: 21-Aug-18

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: MW-7 A/B				**Lab ID:** 1808950-001			
Collection Date: 8/8/2018 10:10:00 AM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
Trichloroethene	5.1		0.30	5.0	ug/L	265411	1
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.220		0.0027	0.0200	mg/L	265465	1
Manganese	0.282		0.0009	0.0150	mg/L	265465	1
Client Sample ID: MW-7A				**Lab ID:** 1808950-002			
Collection Date: 8/8/2018 11:17:00 AM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
Trichloroethene	340		3.0	50	ug/L	265411	10
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.0714		0.0027	0.0200	mg/L	265465	1
Client Sample ID: MW-5 A/B				**Lab ID:** 1808950-004			
Collection Date: 8/8/2018 1:00:00 PM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
1,1-Dichloroethane	7.2		0.43	5.0	ug/L	265411	1
cis-1,2-Dichloroethene	19		0.28	5.0	ug/L	265411	1
Trichloroethene	1700		6.1	100	ug/L	265411	20
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.106		0.0027	0.0200	mg/L	265465	1
Manganese	0.0732		0.0009	0.0150	mg/L	265465	1
Client Sample ID: MW-3B				**Lab ID:** 1808950-005			
Collection Date: 8/8/2018 1:35:00 PM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
Trichloroethene	11		0.30	5.0	ug/L	265411	1
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.158		0.0027	0.0200	mg/L	265465	1
Client Sample ID: MW-4A				**Lab ID:** 1808950-006			
Collection Date: 8/8/2018 2:10:00 PM				**Matrix:** Groundwater			
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.177		0.0027	0.0200	mg/L	265465	1
Manganese	0.767		0.0009	0.0150	mg/L	265465	1
Client Sample ID: MW-3C				**Lab ID:** 1808950-007			
Collection Date: 8/8/2018 2:25:00 PM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
Carbon disulfide	12		0.74	5.0	ug/L	265411	1
Client Sample ID: MW-3A				**Lab ID:** 1808950-008			
Collection Date: 8/8/2018 3:03:00 PM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
cis-1,2-Dichloroethene	7.0		0.28	5.0	ug/L	265411	1
Trichloroethene	140		0.30	5.0	ug/L	265411	1
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	0.0851		0.0027	0.0200	mg/L	265465	1
Manganese	0.0501		0.0009	0.0150	mg/L	265465	1

Analytical Environmental Services, Inc

Date: 21-Aug-18

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: MW-3A				**Lab ID:** 1808950-008			
Collection Date: 8/8/2018 3:03:00 PM				**Matrix:** Groundwater			
Client Sample ID: MW-4B				**Lab ID:** 1808950-009			
Collection Date: 8/8/2018 3:10:00 PM				**Matrix:** Groundwater			
METALS, TOTAL SW6010D				**(SW3010A)**			
Barium	1.07		0.0027	0.0200	mg/L	265465	1
Chromium	0.0152		0.0032	0.0100	mg/L	265465	1
Manganese	0.271		0.0009	0.0150	mg/L	265465	1
Client Sample ID: DUP-1				**Lab ID:** 1808950-011			
Collection Date: 8/8/2018 8:00:00 AM				**Matrix:** Groundwater			
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**			
1,1-Dichloroethane	6.0		0.43	5.0	ug/L	265411	1
cis-1,2-Dichloroethene	21		0.28	5.0	ug/L	265411	1
Trichloroethene	1800		6.1	100	ug/L	265411	20

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

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **CDM Smith Inc.** AES Work Order Number: **1808950**

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?	●	○	○		
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 4.6 °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). MJ 8/9/18

		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: _____

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

I certify that I have completed sections 16-27 (dated initials). MA 8/9/18

		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). MA 8/9/18

Checklist 6.9.17 Rev 2

Locked

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265411

Sample ID: **MB-265411** Client ID: Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400394**

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: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265411

Sample ID: **MB-265411** Client ID: Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400394**

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	39.76	0	50.00		79.5	68	127				
Surr: Dibromofluoromethane	50.59	0	50.00		101	84.4	122				
Surr: Toluene-d8	43.16	0	50.00		86.3	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: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265411

Sample ID: **LCS-265411** Client ID: Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400395**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	23.60	5.0	20.00		118	69	136				
Benzene	19.34	5.0	20.00		96.7	73.7	126				
Chlorobenzene	23.21	5.0	20.00		116	73.5	124				
Toluene	19.57	5.0	20.00		97.8	76.8	125				
Trichloroethene	19.43	5.0	20.00		97.2	70.9	124				
Surr: 4-Bromofluorobenzene	38.87	0	50.00		77.7	68	127				
Surr: Dibromofluoromethane	49.99	0	50.00		100.0	84.4	122				
Surr: Toluene-d8	43.64	0	50.00		87.3	80.1	116				

Sample ID: **1808B29-002AMS** Client ID: Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400409**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	22.80	5.0	20.00		114	65.7	143				
Benzene	18.68	5.0	20.00		93.4	66.1	137				
Chlorobenzene	21.67	5.0	20.00		108	70.9	132				
Toluene	18.91	5.0	20.00		94.6	63.8	141				
Trichloroethene	18.37	5.0	20.00		91.8	70.6	128				
Surr: 4-Bromofluorobenzene	38.04	0	50.00		76.1	68	127				
Surr: Dibromofluoromethane	51.59	0	50.00		103	84.4	122				
Surr: Toluene-d8	45.78	0	50.00		91.6	80.1	116				

Sample ID: **1808B29-002AMSD** Client ID: Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400412**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	25.96	5.0	20.00		130	65.7	143	22.80	13.0	17.7	
Benzene	20.99	5.0	20.00		105	66.1	137	18.68	11.6	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: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265411

Sample ID: **1808B29-002AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **08/13/2018** Run No: **377458**
BatchID: **265411** Analysis Date: **08/13/2018** Seq No: **8400412**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	24.30	5.0	20.00		122	70.9	132	21.67	11.4	20	
Toluene	21.25	5.0	20.00		106	63.8	141	18.91	11.7	20	
Trichloroethene	20.34	5.0	20.00		102	70.6	128	18.37	10.2	20	
Surr: 4-Bromofluorobenzene	37.57	0	50.00		75.1	68	127	38.04	0	0	
Surr: Dibromofluoromethane	51.06	0	50.00		102	84.4	122	51.59	0	0	
Surr: Toluene-d8	44.46	0	50.00		88.9	80.1	116	45.78	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		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265465

Sample ID: **MB-265465** Client ID: Units: **mg/L** Prep Date: **08/14/2018** Run No: **377680**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **265465** Analysis Date: **08/14/2018** Seq No: **8408401**

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

Sample ID: **MB-265465** Client ID: Units: **mg/L** Prep Date: **08/14/2018** Run No: **377680**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **265465** Analysis Date: **08/20/2018** Seq No: **8417845**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0100									

Sample ID: **LCS-265465** Client ID: Units: **mg/L** Prep Date: **08/14/2018** Run No: **377680**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **265465** Analysis Date: **08/14/2018** Seq No: **8408402**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.025	0.0500	1.000		103	80	120				
Barium	1.027	0.0200	1.000		103	80	120				
Chromium	1.027	0.0100	1.000		103	80	120				
Lead	1.007	0.0100	1.000		101	80	120				
Manganese	1.024	0.0150	1.000		102	80	120				

Sample ID: **1808593-002BMS** Client ID: Units: **mg/L** Prep Date: **08/14/2018** Run No: **377680**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **265465** Analysis Date: **08/14/2018** Seq No: **8408404**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.046	0.0500	1.000		105	75	125				
Barium	1.090	0.0200	1.000	0.04892	104	75	125				
Chromium	1.046	0.0100	1.000		105	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: 1808950

ANALYTICAL QC SUMMARY REPORT

BatchID: 265465

Sample ID: **1808593-002BMS**	Client ID:			Units: **mg/L**	Prep Date: **08/14/2018**	Run No: **377680**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010D**			BatchID: **265465**	Analysis Date: **08/14/2018**	Seq No: **8408404**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	1.020	0.0100	1.000		102	75	125				
Manganese	1.064	0.0150	1.000	0.02720	104	75	125				

Sample ID: **1808593-002BMSD**	Client ID:			Units: **mg/L**	Prep Date: **08/14/2018**	Run No: **377680**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010D**			BatchID: **265465**	Analysis Date: **08/14/2018**	Seq No: **8408405**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.048	0.0500	1.000		105	75	125	1.046	0.169	20	
Barium	1.100	0.0200	1.000	0.04892	105	75	125	1.090	0.833	20	
Chromium	1.055	0.0100	1.000		106	75	125	1.046	0.894	20	
Lead	1.030	0.0100	1.000		103	75	125	1.020	0.977	20	
Manganese	1.073	0.0150	1.000	0.02720	105	75	125	1.064	0.854	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		

Attachment B: 2nd 2018 Semiannual SVE System Monitoring Report

2nd 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 second 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 3,456 hours from August 15, 2017, through March 9, 2018. This represents approximately 192 hours of downtime, or approximately 5 percent. Minor downtime was incurred because of a full condensate knockout tank on five occasions.

SVE well sampling was completed on August 8, 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.

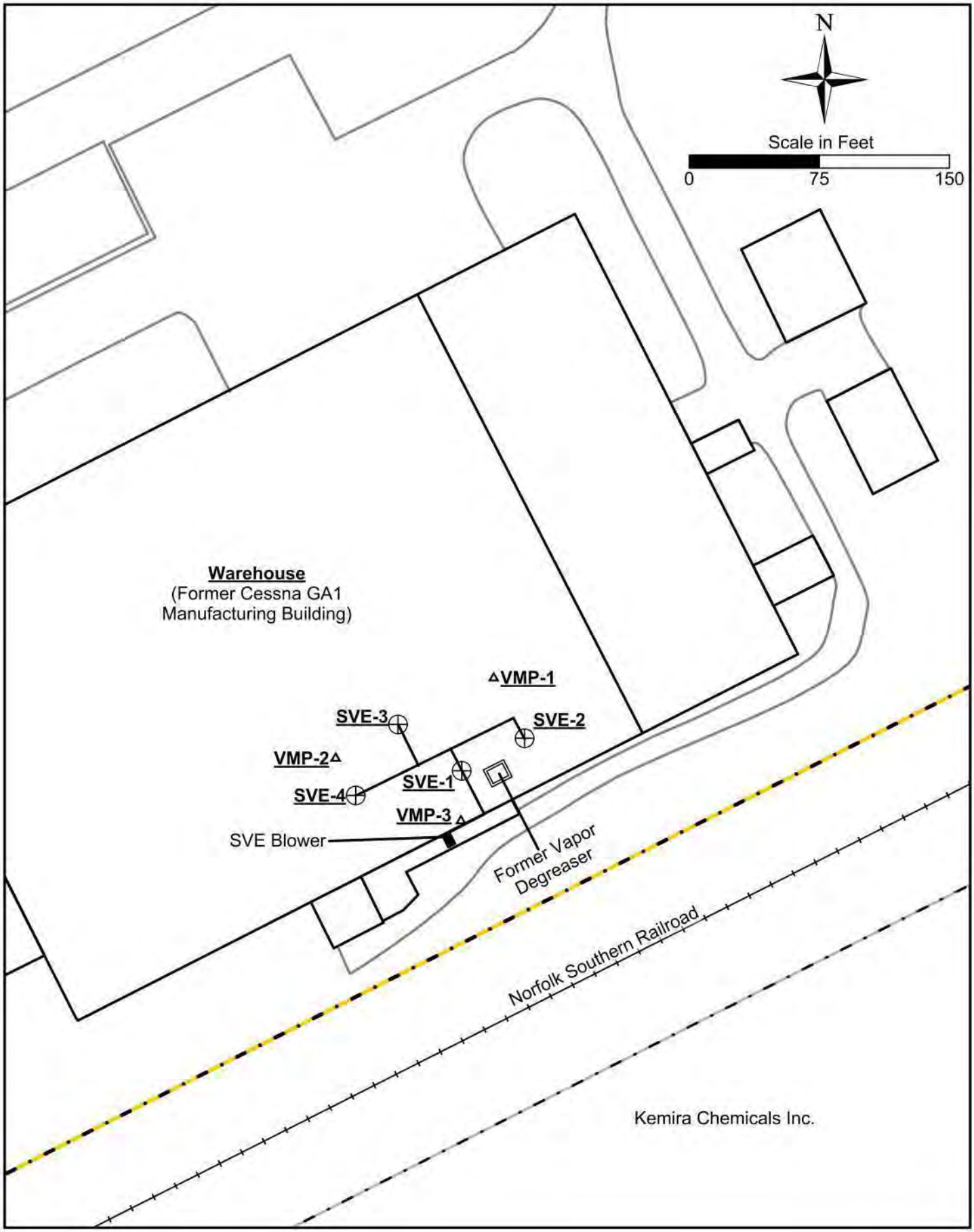
- VMP-1 – 3.58 Inches of water
- VMP-2 – 4.62 Inches of water
- VMP-3 – 0.03 Inches of water

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, ethyl acetate, and toluene in SVE-1 also exceeded the EPA's soil gas Vapor Intrusion Screening Levels (VISLs). Ethyl acetate also exceeded the VISLs in SVE-3. No other compounds were detected above the VISLs in any of the other SVE wells. The updated output from the VISL Calculator are in **Attachment B-2**. The combined VOC emissions 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	08/08/18				
1,1,1-Trichloroethane	73,000	<2.5	1,700	10	<5.5	<5.5				
1,1,2-Trichloroethane	2.92	<2.1	**2,200**	**31**	**10**	**5.5**				
1,1-Dichloroethane	2,560	<1.0	**17,000**	170	130	25				
1,1-Dichloroethene	2,920	120	**34,000**	140	130	27				
1,2,4-Trimethylbenzene	876	9.6	<49	15	<4.9	16				
2-Butanone	73,000	14 J	74	10	5	17				
2-Propanol	2,920	54 J	<180	130	58	74				
Acetone	451,000	320	<120	57	36	51				
Benzene	438	10	89	6.9	<3.2	9.7				
Carbon Disulfide	10,200	10 J	86	17	<3.1	<3.1				
Chloroform	178	<4.0	**3,800**	28	13	6.6				
Chloromethane	1,310	<1.9	<21	8.1	<2.1	<2.1				
cis-1,2-Dichloroethene	NC	<1.4	38,000	950	580	190				
Cyclohexane	87,600	10	<34	7.2	<3.4	<3.4				
Ethyl Acetate	1,020	-	<36	140	<3.6	**1,100**				
Ethyl Benzene	1,640	9.4	<43	9.3	<4.3	10				
Methylene Chloride	8,760	11 J	68	<3.5	3.8	<3.5				
Styrene	14,600	2.8 J	<43	<4.3	<4.3	<4.3				
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6	<5.6				
Trichlorotrifluoroethane	73,000	-	170	<7.7	<7.7	<7.7				
Tetrachloroethene	584	<1.6	550	<6.8	<6.8	<6.8				
Tetrahydrofuran	29,200	<42	3,200	10	8.8	10				
Toluene	73,000	79	62	62	3.8	**81**				
trans-1,2-Dichloroethene	NC	<1.6	3,400	56	34	11				
Trichloroethene	29.2	**160**	**6,100,000**	**26,000**	**26,000**	**9,600**				
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	<3.5				
Vinyl Chloride	929	150	180	4	<2.6	<2.6				
Xylene, m&p	1,460	33	<87	24	<8.7	34				
Xylene, o	1,460	12	<43	9.6	<4.3	14				

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

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the detection 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	08/08/18				
1,1,1-Trichloroethane	73,000	<3,600	580	<5.5	<5.5	<5.5				
1,1,2-Trichloroethane	2.92	<3,000	<55	<5.5	8.5	<5.5				
1,1-Dichloroethane	2,560	5,800 J	**2,600**	16	26	6.9				
1,1-Dichloroethene	2,920	8,300 J	**2,900**	12	14	6.5				
1,2,4-Trimethylbenzene	876	<3,000	<49	15	<4.9	6.6				
2-Butanone	73,000	<2,200	<29	11	5.9	9.7				
2-Propanol	2,920	<34,000	<180	110	51	<18				
Acetone	451,000	<29,000	<120	52	41	59				
Benzene	438	<1,900	<32	5.4	3.5	5.4				
Carbon Disulfide	10,200	<1,900	<31	16	<3.1	<3.1				
Chloroform	178	<5,700	**700**	14	8.1	5.9				
Chloromethane	1,310	<2,700	<21	7.7	<2.1	<2.1				
cis-1,2-Dichloroethene	NC	22,000	15,000	77	75	22				
Cyclohexane	87,600	<1,900	<34	6.7	20	4.1				
Ethyl Acetate	1,020	-	420	120	<3.6	9.2				
Ethyl Benzene	1,640	<2,000	<43	8.7	<4.3	5				
Methylene Chloride	8,760	<8,900	<35	<3.5	<3.5	<3.5				
Styrene	14,600	<2,600	<43	<4.3	<4.3	8.9				
Trichlorofluoromethane	NC	<3,000	<56	<5.6	<5.6	<5.6				
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7	<7.7				
Tetrachloroethene	584	<2,200	<68	<6.8	<6.8	<6.8				
Tetrahydrofuran	29,200	<59,000	2,400	14	9.6	4.6				
Toluene	73,000	<5,000	38	57	4.9	110				
trans-1,2-Dichloroethene	NC	<2,400	840	<4.0	<4.0	<4.0				
Trichloroethene	29.2	**2,600,000**	**700,000**	**2,100**	**9,700**	**1,400**				
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	<3.5				
Vinyl Chloride	929	<1,200	60	<2.6	<2.6	<2.6				
Xylene, m&p	1,460	<4,400	<87	22	<8.7	13				
Xylene, o	1,460	<2,300	<43	8.9	<4.3	4.8				

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

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the detection 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	08/08/18				
1,1,1-Trichloroethane	73,000	<2.6	140	<5.5	<5.5	<5.5				
1,1,2-Trichloroethane	2.92	<2.2	<55	<5.5	<5.5	<5.5				
1,1-Dichloroethane	2,560	1.9 J	1,100	11	4	<4.0				
1,1-Dichloroethene	2,920	120	**3,900**	12	7.1	<4.0				
1,2,4-Trimethylbenzene	876	<2.2	<49	16	8.8	17				
2-Butanone	73,000	15 J	<29	8	19	19				
2-Propanol	2,920	52 J	<180	110	41	90				
Acetone	451,000	380	<120	50	91	57				
Benzene	438	1.8 J	<32	5.8	21	11				
Carbon Disulfide	10,200	8 J	<31	14	<3.1	28				
Chloroform	178	<4.1	78	11	<4.9	<4.9				
Chloromethane	1,310	<2.0	<21	2.8	<2.1	<2.1				
cis-1,2-Dichloroethene	NC	15	46	<4.0	<4.0	<4.0				
Cyclohexane	87,600	6.4 J	<34	6.4	6.5	3.6				
Ethyl Acetate	1,020	-	280	110	<3.6	**1,100**				
Ethyl Benzene	1,640	<1.5	<43	9.6	11	13				
Methylene Chloride	8,760	<6.4	<35	<3.5	<3.5	<3.5				
Styrene	14,600	<1.9	<43	<4.3	6.8	<4.3				
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6	<5.6				
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7	<7.7				
Tetrachloroethene	584	<1.6	<68	<6.8	<6.8	<6.8				
Tetrahydrofuran	29,200	<42	960	4.9	14	10				
Toluene	73,000	<3.6	<38	59	290	94				
trans-1,2-Dichloroethene	NC	<1.7	<40	<4.0	<4.0	<4.0				
Trichloroethene	29.2	**110**	**81,000**	**260**	**32**	**30**				
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	24				
Vinyl Chloride	929	3.3 J	<26	<2.6	<2.6	<2.6				
Xylene, m&p	1,460	<3.1	<87	24	35	43				
Xylene, o	1,460	<1.6	<43	10	12	17				

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

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the detection 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	08/08/18				
1,1,1-Trichloroethane	73,000	44	32	<5.5	<5.5	<5.5				
1,1,2-Trichloroethane	2.92	<7.4	<5.5	<5.5	<5.5	<5.5				
1,1-Dichloroethane	2,560	54	110	4.5	<4.0	<4.0				
1,1-Dichloroethene	2,920	1,400	1,700	14	<4.0	<4.0				
1,2,4-Trimethylbenzene	876	16 J	<4.9	14	<4.9	17				
2-Butanone	73,000	<5.3	5.9	7.5	<2.9	18				
2-Propanol	2,920	<83	33	96	25	78				
Acetone	451,000	<71	34	41	20	63				
Benzene	438	7.8 J	7.8	5.4	<3.2	10				
Carbon Disulfide	10,200	<4.6	<3.1	13	<3.1	<3.1				
Chloroform	178	<14	15	<4.9	<4.9	<4.9				
Chloromethane	1,310	<6.6	<2.1	5.9	5.8	<2.1				
cis-1,2-Dichloroethene	NC	<4.8	<4.0	5	<4.0	<4.0				
Cyclohexane	87,600	<4.6	<3.4	5.3	<3.4	3.8				
Ethyl Acetate	1,020	-	470	100	<3.6	910				
Ethyl Benzene	1,640	13 J	7.2	8.5	<4.3	13				
Methylene Chloride	8,760	<22	<3.5	<3.5	<3.5	120				
Styrene	14,600	<6.3	<4.3	<4.3	<4.3	<4.3				
Trichlorofluoromethane	NC	80	69	<5.6	<5.6	<5.6				
Trichlorotrifluoroethane	73,000	20 J	95	<7.7	<7.7	<7.7				
Tetrachloroethene	584	11 J	<6.8	<6.8	<6.8	<6.8				
Tetrahydrofuran	29,200	530	290	3.8	6	9.4				
Toluene	73,000	77	61	54	<3.8	89				
trans-1,2-Dichloroethene	NC	<5.9	<4.0	<4.0	<4.0	<4.0				
Trichloroethene	29.2	**4,600**	**2,000**	**200**	**150**	**30**				
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	28				
Vinyl Chloride	929	<2.8	<2.6	<2.6	<2.6	<2.6				
Xylene, m&p	1,460	45 J	31	23	<8.7	43				
Xylene, o	1,460	17 J	6.3	8.9	<4.3	17				

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

NC - Not calculated, supporting toxicity data not available

< - Not detected, value is the detection 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 (HAPs), mg/m^3	CAS #	Combined SVE System Emissions			
		2/1/2017	8/15/2017	3/9/2018	8/8/2018
1,1,1-Trichloroethane	71556	0.24	BRL	BRL	BRL
1,1,2,2-Tetrachloroethane	79345	BRL	BRL	BRL	BRL
1,1,2-Trichloroethane	79005	0.057	BRL	BRL	BRL
1,1-Dichloroethane	75343	2.6	0.017	0.041	0.0077
1,1-Dichloroethene	75354	5	0.019	0.034	0.0073
1,2,4-Trichlorobenzene	120821	BRL	BRL	BRL	BRL
1,2-Dibromoethane	106934	BRL	BRL	BRL	BRL
1,2-Dichloroethane	107062	BRL	BRL	BRL	BRL
1,2-Dichloropropane	78875	BRL	BRL	BRL	BRL
1,3-Butadiene	106990	BRL	BRL	BRL	BRL
1,4-Dichlorobenzene	106467	BRL	BRL	BRL	BRL
1,4-Dioxane	123911	BRL	BRL	BRL	BRL
2,2,4-Trimethylpentane	540841	BRL	BRL	0.039	BRL
Allyl Chloride	107051	BRL	BRL	BRL	BRL
Benzene	71432	BRL	BRL	0.0059	0.0038
Benzyl Chloride	100447	BRL	BRL	BRL	BRL
Bromoform	75252	BRL	BRL	BRL	BRL
Bromomethane (Methyl Bromide)	74839	BRL	BRL	BRL	BRL
Carbon Disulfide	75150	BRL	BRL	BRL	BRL
Carbon Tetrachloride	56235	BRL	BRL	BRL	BRL
Chlorobenzene	108907	BRL	BRL	BRL	BRL
Chloroethane (Ethyl Chloride)	75003	BRL	BRL	BRL	BRL
Chloroform	67663	0.36	0.0076	0.0085	0.0088
Chloromethane (Methyl Chloride)	74873	BRL	BRL	BRL	BRL
Ethylbenzene	100414	BRL	BRL	0.0048	0.0061
Hexachlorobutadiene	87683	BRL	BRL	BRL	BRL
Methyl Ethyl Ketone (2-Butanone)	78933	BRL	BRL	0.0069	BRL
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108101	BRL	BRL	BRL	BRL
Methyl Tert-Butyl Ether (MTBE)	1634044	BRL	BRL	BRL	BRL
Methylene Chloride (Dichloromethane)	75092	BRL	BRL	BRL	BRL
n-Hexane	110543	BRL	BRL	0.042	0.0039
Styrene	100425	BRL	BRL	BRL	0.0079
Tetrachloroethene	127184	BRL	0.0078	BRL	0.072
Toluene	108883	BRL	BRL	0.096	0.077
Trichloroethene	79016	510	3.5	9.9	3.9
Vinyl Bromide (Bromoethene)	593602	BRL	BRL	BRL	BRL
Vinyl Chloride	75014	BRL	BRL	BRL	BRL
Xylenes, Total	1330207	BRL	BRL	0.021	0.023
	Total HAPs	518	3.55	10	4
	Flowrate, cubic feet/minute	115	131	114	130
	Daily Emission Rate, pounds/day	**5.4**	**0.04**	**0.1**	**0.05**

BRL - Below reporting level

Table B-5: SVE Emissions Calculations

Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment B-1

Laboratory Reports

CDM Smith

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

August 17, 2018

Nicholas Fuller
CDM Smith Inc.

3200 Windy Hill Road, Suite 210 West
Atlanta GA 30339

RE: Cessna

Dear Nicholas Fuller: Order No: 1808971

Analytical Environmental Services, Inc. received 5 samples on 8/9/2018 3:05:00 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	

VAPOR/AIR CHAIN OF CUSTODY

AES | ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive
Atlanta, GA 30340
Phone: (770) 457-8177 / Fax: (770) 457-8188

Work Order #: 1808971
Date:
Page: 1 of 1

COMPANY INFORMATION
Company Name: CDM Smith
Address: 3200 Windy Hill Rd S.210W
City, State, Zip: Atlanta, GA 30339
Phone #: (404) 720-1380

PROJECT INFORMATION
Project Name: Cessna
Project #:
Report To Name(s): Nick Fuller
Report To Email(s): fullernd@cdmsmith.com

INVOICE INFORMATION
Company Name: CDM Smith
Company Address: 3200 Windy Hill Rd. S.210W
Company City, State, Zip: Atlanta, GA 30339
AES Project Manager:
Invoice To Name(s): Nick Fuller
Invoice To Email(s): fullernd@cdmsmith.com
Invoice To Phone #(s): 404-720-1380
AES Quote # and/or PO #:

SAMPLING INFORMATION
Sampled By (print): Nick Fuller
Sampler Signature:
Date: 8/8/18
State/Project Location: GA

SPECIAL INSTRUCTIONS
Special list of analytes or other comments:

REQUESTED TURNAROUND TIME
Standard (Five Days) [X] Two Day Rush [ ]
Four Day Rush [ ] Next Day Rush [ ]
Three Day Rush [ ]
Other:

REPORTING REQUIREMENTS
Standard/Level II Data Package [X]
Level III Data Package [ ]
Level IV Data Package [ ]
EDD [ ]

SHIPPING METHOD
FedEx [ ] Client Courier [X]
UPS [ ] US Mail [ ]
Client Drop-off [ ] Other:
AES Courier [ ]

#	Sample ID	Sample Start Date	Sample Start Time (24hr)	Sample Finish Date	Sample Finish Time (24hr)	Sample Matrix (IA = Indoor Air, AA = Ambient Air, SS = Subslab, SV = Soil Vapor)	Canister Serial #	Flow Controller ID	Canister Pressure In Field ("Hg) Start	Canister Pressure In Field ("Hg) Stop	Analysis Requested TO-15	Remarks
1	System	8/8/18	0928	8/8/18	0934	SV	1063	01117	-28	-5	X	
2	SVE-1	8/8/18	1055	8/8/18	1102	SV	1022	01140	-27	-5	X	
3	SVE-2	8/8/18	1056	8/8/18	1104	SV	1007	01102	-28	-5	X	
4	SVE-3	8/8/18	1109	8/8/18	1116	SV	1061	21100	-27	-5	X	
5	SVE-4	8/8/18	1112	8/8/18	1120	SV	1016	01094	-28	-5	X	
6												
7												
8												
9												
10												

SAMPLE RECEIPT

Relinquished	Date	Time	Received	Date	Time
Relinquished By:	8/8/18	1115	Received By: BP	8-9	11:15
Relinquished By: BP	8-9	3:05	Received By: Monique Albury (Courier)	Date: 8/9/18	Time: 3:05pm
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

White Copy - Original; Green Copy - Client

TO-15 COC 62218

Analytical Environmental Services, Inc **TO-15 Report** **Date:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SYSTEM
Project Name:	Cessna	**Collection Date:**	8/8/2018 9:34:00 AM
Lab ID:	1808971-001	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 00:04	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	265445	2	08/15/2018 00:04	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 00:04	MD
1,1-Dichloroethane	7.7	4.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,1-Dichloroethene	7.3	4.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	265445	2	08/15/2018 00:04	MD
1,2,4-Trimethylbenzene	6.9	4.9		ug/m3	265445	2	08/15/2018 00:04	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	265445	2	08/15/2018 00:04	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	265445	2	08/15/2018 00:04	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	265445	2	08/15/2018 00:04	MD
1,3-Butadiene	BRL	2.2		ug/m3	265445	2	08/15/2018 00:04	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:04	MD
1,4-Dioxane	BRL	3.6		ug/m3	265445	2	08/15/2018 00:04	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	265445	2	08/15/2018 00:04	MD
2-Butanone	BRL	2.9		ug/m3	265445	2	08/15/2018 00:04	MD
2-Hexanone	BRL	4.1		ug/m3	265445	2	08/15/2018 00:04	MD
4-Ethyltoluene	BRL	4.9		ug/m3	265445	2	08/15/2018 00:04	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	265445	2	08/15/2018 00:04	MD
Acetone	35	12		ug/m3	265445	2	08/15/2018 00:04	MD
Allyl chloride	BRL	3.1		ug/m3	265445	2	08/15/2018 00:04	MD
Benzene	3.8	3.2		ug/m3	265445	2	08/15/2018 00:04	MD
Benzyl chloride	BRL	5.2		ug/m3	265445	2	08/15/2018 00:04	MD
Bromodichloromethane	BRL	6.7		ug/m3	265445	2	08/15/2018 00:04	MD
Bromoform	BRL	10		ug/m3	265445	2	08/15/2018 00:04	MD
Bromomethane	BRL	3.9		ug/m3	265445	2	08/15/2018 00:04	MD
Carbon disulfide	BRL	3.1		ug/m3	265445	2	08/15/2018 00:04	MD
Carbon tetrachloride	BRL	6.3		ug/m3	265445	2	08/15/2018 00:04	MD
Chlorobenzene	BRL	4.6		ug/m3	265445	2	08/15/2018 00:04	MD
Chloroethane	BRL	2.6		ug/m3	265445	2	08/15/2018 00:04	MD
Chloroform	8.8	4.9		ug/m3	265445	2	08/15/2018 00:04	MD
Chloromethane	BRL	2.1		ug/m3	265445	2	08/15/2018 00:04	MD
cis-1,2-Dichloroethene	50	4.0		ug/m3	265445	2	08/15/2018 00:04	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 00:04	MD
Cyclohexane	BRL	3.4		ug/m3	265445	2	08/15/2018 00:04	MD
Dibromochloromethane	BRL	8.5		ug/m3	265445	2	08/15/2018 00:04	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	265445	2	08/15/2018 00:04	MD
Ethyl acetate	BRL	3.6		ug/m3	265445	2	08/15/2018 00:04	MD
Ethylbenzene	6.1	4.3		ug/m3	265445	2	08/15/2018 00:04	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SYSTEM
Project Name:	Cessna	**Collection Date:**	8/8/2018 9:34:00 AM
Lab ID:	1808971-001	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	265445	2	08/15/2018 00:04	MD
Freon-114	BRL	7.0		ug/m3	265445	2	08/15/2018 00:04	MD
Hexachlorobutadiene	BRL	11		ug/m3	265445	2	08/15/2018 00:04	MD
Isopropyl alcohol	BRL	18		ug/m3	265445	2	08/15/2018 00:04	MD
m,p-Xylene	18	8.7		ug/m3	265445	2	08/15/2018 00:04	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	265445	2	08/15/2018 00:04	MD
Methylene chloride	BRL	3.5		ug/m3	265445	2	08/15/2018 00:04	MD
n-Heptane	6.6	4.1		ug/m3	265445	2	08/15/2018 00:04	MD
n-Hexane	3.9	3.5		ug/m3	265445	2	08/15/2018 00:04	MD
o-Xylene	5.9	4.3		ug/m3	265445	2	08/15/2018 00:04	MD
Propene	BRL	1.7		ug/m3	265445	2	08/15/2018 00:04	MD
Styrene	7.9	4.3		ug/m3	265445	2	08/15/2018 00:04	MD
Tetrachloroethene	72	6.8		ug/m3	265445	2	08/15/2018 00:04	MD
Tetrahydrofuran	BRL	2.9		ug/m3	265445	2	08/15/2018 00:04	MD
Toluene	77	3.8		ug/m3	265445	2	08/15/2018 00:04	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 00:04	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 00:04	MD
Trichloroethene	3900	210		ug/m3	265445	2	08/14/2018 11:54	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	265445	2	08/15/2018 00:04	MD
Vinyl acetate	BRL	3.5		ug/m3	265445	2	08/15/2018 00:04	MD
Vinyl bromide	BRL	4.4		ug/m3	265445	2	08/15/2018 00:04	MD
Vinyl chloride	BRL	2.6		ug/m3	265445	2	08/15/2018 00:04	MD
Xylenes, Total	23	13		ug/m3	265445	2	08/15/2018 00:04	MD
Surr: 4-Bromofluorobenzene	96.5	70-130		%REC	265445	2	08/15/2018 00:04	MD
Surr: 4-Bromofluorobenzene	96.5	70-130		%REC	265445	2	08/14/2018 11:54	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-1
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:02:00 AM
Lab ID:	1808971-002	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 00:44	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	265445	2	08/15/2018 00:44	MD
1,1,2-Trichloroethane	5.5	5.5		ug/m3	265445	2	08/15/2018 00:44	MD
1,1-Dichloroethane	25	4.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,1-Dichloroethene	27	4.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	265445	2	08/15/2018 00:44	MD
1,2,4-Trimethylbenzene	16	4.9		ug/m3	265445	2	08/15/2018 00:44	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	265445	2	08/15/2018 00:44	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	265445	2	08/15/2018 00:44	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	265445	2	08/15/2018 00:44	MD
1,3-Butadiene	BRL	2.2		ug/m3	265445	2	08/15/2018 00:44	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 00:44	MD
1,4-Dioxane	BRL	3.6		ug/m3	265445	2	08/15/2018 00:44	MD
2,2,4-Trimethylpentane	12	4.7		ug/m3	265445	2	08/15/2018 00:44	MD
2-Butanone	17	2.9		ug/m3	265445	2	08/15/2018 00:44	MD
2-Hexanone	BRL	4.1		ug/m3	265445	2	08/15/2018 00:44	MD
4-Ethyltoluene	5.4	4.9		ug/m3	265445	2	08/15/2018 00:44	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	265445	2	08/15/2018 00:44	MD
Acetone	51	12		ug/m3	265445	2	08/15/2018 00:44	MD
Allyl chloride	BRL	3.1		ug/m3	265445	2	08/15/2018 00:44	MD
Benzene	9.7	3.2		ug/m3	265445	2	08/15/2018 00:44	MD
Benzyl chloride	BRL	5.2		ug/m3	265445	2	08/15/2018 00:44	MD
Bromodichloromethane	BRL	6.7		ug/m3	265445	2	08/15/2018 00:44	MD
Bromoform	BRL	10		ug/m3	265445	2	08/15/2018 00:44	MD
Bromomethane	BRL	3.9		ug/m3	265445	2	08/15/2018 00:44	MD
Carbon disulfide	BRL	3.1		ug/m3	265445	2	08/15/2018 00:44	MD
Carbon tetrachloride	BRL	6.3		ug/m3	265445	2	08/15/2018 00:44	MD
Chlorobenzene	BRL	4.6		ug/m3	265445	2	08/15/2018 00:44	MD
Chloroethane	BRL	2.6		ug/m3	265445	2	08/15/2018 00:44	MD
Chloroform	6.6	4.9		ug/m3	265445	2	08/15/2018 00:44	MD
Chloromethane	BRL	2.1		ug/m3	265445	2	08/15/2018 00:44	MD
cis-1,2-Dichloroethene	190	4.0		ug/m3	265445	2	08/15/2018 00:44	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 00:44	MD
Cyclohexane	BRL	3.4		ug/m3	265445	2	08/15/2018 00:44	MD
Dibromochloromethane	BRL	8.5		ug/m3	265445	2	08/15/2018 00:44	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	265445	2	08/15/2018 00:44	MD
Ethyl acetate	1100	140		ug/m3	265445	2	08/14/2018 13:12	MD
Ethylbenzene	10.0	4.3		ug/m3	265445	2	08/15/2018 00:44	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-1
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:02:00 AM
Lab ID:	1808971-002	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	265445	2	08/15/2018 00:44	MD
Freon-114	BRL	7.0		ug/m3	265445	2	08/15/2018 00:44	MD
Hexachlorobutadiene	BRL	11		ug/m3	265445	2	08/15/2018 00:44	MD
Isopropyl alcohol	74	18		ug/m3	265445	2	08/15/2018 00:44	MD
m,p-Xylene	34	8.7		ug/m3	265445	2	08/15/2018 00:44	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	265445	2	08/15/2018 00:44	MD
Methylene chloride	BRL	3.5		ug/m3	265445	2	08/15/2018 00:44	MD
n-Heptane	12	4.1		ug/m3	265445	2	08/15/2018 00:44	MD
n-Hexane	BRL	3.5		ug/m3	265445	2	08/15/2018 00:44	MD
o-Xylene	14	4.3		ug/m3	265445	2	08/15/2018 00:44	MD
Propene	BRL	1.7		ug/m3	265445	2	08/15/2018 00:44	MD
Styrene	BRL	4.3		ug/m3	265445	2	08/15/2018 00:44	MD
Tetrachloroethene	BRL	6.8		ug/m3	265445	2	08/15/2018 00:44	MD
Tetrahydrofuran	10	2.9		ug/m3	265445	2	08/15/2018 00:44	MD
Toluene	81	3.8		ug/m3	265445	2	08/15/2018 00:44	MD
trans-1,2-Dichloroethene	11	4.0		ug/m3	265445	2	08/15/2018 00:44	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 00:44	MD
Trichloroethene	9600	210		ug/m3	265445	2	08/14/2018 13:12	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	265445	2	08/15/2018 00:44	MD
Vinyl acetate	27	3.5		ug/m3	265445	2	08/15/2018 00:44	MD
Vinyl bromide	BRL	4.4		ug/m3	265445	2	08/15/2018 00:44	MD
Vinyl chloride	BRL	2.6		ug/m3	265445	2	08/15/2018 00:44	MD
Xylenes, Total	48	13		ug/m3	265445	2	08/15/2018 00:44	MD
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	265445	2	08/15/2018 00:44	MD
Surr: 4-Bromofluorobenzene	95.5	70-130		%REC	265445	2	08/14/2018 13:12	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-2
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:04:00 AM
Lab ID:	1808971-003	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 01:23	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	265445	2	08/15/2018 01:23	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 01:23	MD
1,1-Dichloroethane	6.9	4.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,1-Dichloroethene	6.5	4.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	265445	2	08/15/2018 01:23	MD
1,2,4-Trimethylbenzene	6.6	4.9		ug/m3	265445	2	08/15/2018 01:23	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	265445	2	08/15/2018 01:23	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	265445	2	08/15/2018 01:23	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	265445	2	08/15/2018 01:23	MD
1,3-Butadiene	BRL	2.2		ug/m3	265445	2	08/15/2018 01:23	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 01:23	MD
1,4-Dioxane	BRL	3.6		ug/m3	265445	2	08/15/2018 01:23	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	265445	2	08/15/2018 01:23	MD
2-Butanone	9.7	2.9		ug/m3	265445	2	08/15/2018 01:23	MD
2-Hexanone	BRL	4.1		ug/m3	265445	2	08/15/2018 01:23	MD
4-Ethyltoluene	BRL	4.9		ug/m3	265445	2	08/15/2018 01:23	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	265445	2	08/15/2018 01:23	MD
Acetone	59	12		ug/m3	265445	2	08/15/2018 01:23	MD
Allyl chloride	BRL	3.1		ug/m3	265445	2	08/15/2018 01:23	MD
Benzene	5.4	3.2		ug/m3	265445	2	08/15/2018 01:23	MD
Benzyl chloride	BRL	5.2		ug/m3	265445	2	08/15/2018 01:23	MD
Bromodichloromethane	BRL	6.7		ug/m3	265445	2	08/15/2018 01:23	MD
Bromoform	BRL	10		ug/m3	265445	2	08/15/2018 01:23	MD
Bromomethane	BRL	3.9		ug/m3	265445	2	08/15/2018 01:23	MD
Carbon disulfide	BRL	3.1		ug/m3	265445	2	08/15/2018 01:23	MD
Carbon tetrachloride	BRL	6.3		ug/m3	265445	2	08/15/2018 01:23	MD
Chlorobenzene	BRL	4.6		ug/m3	265445	2	08/15/2018 01:23	MD
Chloroethane	BRL	2.6		ug/m3	265445	2	08/15/2018 01:23	MD
Chloroform	5.9	4.9		ug/m3	265445	2	08/15/2018 01:23	MD
Chloromethane	BRL	2.1		ug/m3	265445	2	08/15/2018 01:23	MD
cis-1,2-Dichloroethene	22	4.0		ug/m3	265445	2	08/15/2018 01:23	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 01:23	MD
Cyclohexane	4.1	3.4		ug/m3	265445	2	08/15/2018 01:23	MD
Dibromochloromethane	BRL	8.5		ug/m3	265445	2	08/15/2018 01:23	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	265445	2	08/15/2018 01:23	MD
Ethyl acetate	9.2	3.6		ug/m3	265445	2	08/15/2018 01:23	MD
Ethylbenzene	5.0	4.3		ug/m3	265445	2	08/15/2018 01:23	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-2
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:04:00 AM
Lab ID:	1808971-003	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	265445	2	08/15/2018 01:23	MD
Freon-114	BRL	7.0		ug/m3	265445	2	08/15/2018 01:23	MD
Hexachlorobutadiene	BRL	11		ug/m3	265445	2	08/15/2018 01:23	MD
Isopropyl alcohol	BRL	18		ug/m3	265445	2	08/15/2018 01:23	MD
m,p-Xylene	13	8.7		ug/m3	265445	2	08/15/2018 01:23	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	265445	2	08/15/2018 01:23	MD
Methylene chloride	BRL	3.5		ug/m3	265445	2	08/15/2018 01:23	MD
n-Heptane	8.6	4.1		ug/m3	265445	2	08/15/2018 01:23	MD
n-Hexane	7.8	3.5		ug/m3	265445	2	08/15/2018 01:23	MD
o-Xylene	4.8	4.3		ug/m3	265445	2	08/15/2018 01:23	MD
Propene	BRL	1.7		ug/m3	265445	2	08/15/2018 01:23	MD
Styrene	8.9	4.3		ug/m3	265445	2	08/15/2018 01:23	MD
Tetrachloroethene	BRL	6.8		ug/m3	265445	2	08/15/2018 01:23	MD
Tetrahydrofuran	4.6	2.9		ug/m3	265445	2	08/15/2018 01:23	MD
Toluene	110	3.8		ug/m3	265445	2	08/15/2018 01:23	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 01:23	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 01:23	MD
Trichloroethene	1400	210		ug/m3	265445	2	08/14/2018 13:50	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	265445	2	08/15/2018 01:23	MD
Vinyl acetate	BRL	3.5		ug/m3	265445	2	08/15/2018 01:23	MD
Vinyl bromide	BRL	4.4		ug/m3	265445	2	08/15/2018 01:23	MD
Vinyl chloride	BRL	2.6		ug/m3	265445	2	08/15/2018 01:23	MD
Xylenes, Total	18	13		ug/m3	265445	2	08/15/2018 01:23	MD
Surr: 4-Bromofluorobenzene	96.8	70-130		%REC	265445	2	08/15/2018 01:23	MD
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	265445	2	08/14/2018 13:50	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-3
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:16:00 AM
Lab ID:	1808971-004	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 02:03	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	265445	2	08/15/2018 02:03	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 02:03	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	265445	2	08/15/2018 02:03	MD
1,2,4-Trimethylbenzene	17	4.9		ug/m3	265445	2	08/15/2018 02:03	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	265445	2	08/15/2018 02:03	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	265445	2	08/15/2018 02:03	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	265445	2	08/15/2018 02:03	MD
1,3-Butadiene	BRL	2.2		ug/m3	265445	2	08/15/2018 02:03	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:03	MD
1,4-Dioxane	BRL	3.6		ug/m3	265445	2	08/15/2018 02:03	MD
2,2,4-Trimethylpentane	13	4.7		ug/m3	265445	2	08/15/2018 02:03	MD
2-Butanone	19	2.9		ug/m3	265445	2	08/15/2018 02:03	MD
2-Hexanone	BRL	4.1		ug/m3	265445	2	08/15/2018 02:03	MD
4-Ethyltoluene	5.9	4.9		ug/m3	265445	2	08/15/2018 02:03	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	265445	2	08/15/2018 02:03	MD
Acetone	57	12		ug/m3	265445	2	08/15/2018 02:03	MD
Allyl chloride	BRL	3.1		ug/m3	265445	2	08/15/2018 02:03	MD
Benzene	11	3.2		ug/m3	265445	2	08/15/2018 02:03	MD
Benzyl chloride	BRL	5.2		ug/m3	265445	2	08/15/2018 02:03	MD
Bromodichloromethane	BRL	6.7		ug/m3	265445	2	08/15/2018 02:03	MD
Bromoform	BRL	10		ug/m3	265445	2	08/15/2018 02:03	MD
Bromomethane	BRL	3.9		ug/m3	265445	2	08/15/2018 02:03	MD
Carbon disulfide	28	3.1		ug/m3	265445	2	08/15/2018 02:03	MD
Carbon tetrachloride	BRL	6.3		ug/m3	265445	2	08/15/2018 02:03	MD
Chlorobenzene	BRL	4.6		ug/m3	265445	2	08/15/2018 02:03	MD
Chloroethane	BRL	2.6		ug/m3	265445	2	08/15/2018 02:03	MD
Chloroform	BRL	4.9		ug/m3	265445	2	08/15/2018 02:03	MD
Chloromethane	BRL	2.1		ug/m3	265445	2	08/15/2018 02:03	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:03	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 02:03	MD
Cyclohexane	3.6	3.4		ug/m3	265445	2	08/15/2018 02:03	MD
Dibromochloromethane	BRL	8.5		ug/m3	265445	2	08/15/2018 02:03	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	265445	2	08/15/2018 02:03	MD
Ethyl acetate	1100	140		ug/m3	265445	2	08/14/2018 14:27	MD
Ethylbenzene	13	4.3		ug/m3	265445	2	08/15/2018 02:03	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-3
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:16:00 AM
Lab ID:	1808971-004	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	265445	2	08/15/2018 02:03	MD
Freon-114	BRL	7.0		ug/m3	265445	2	08/15/2018 02:03	MD
Hexachlorobutadiene	BRL	11		ug/m3	265445	2	08/15/2018 02:03	MD
Isopropyl alcohol	90	18		ug/m3	265445	2	08/15/2018 02:03	MD
m,p-Xylene	43	8.7		ug/m3	265445	2	08/15/2018 02:03	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	265445	2	08/15/2018 02:03	MD
Methylene chloride	BRL	3.5		ug/m3	265445	2	08/15/2018 02:03	MD
n-Heptane	13	4.1		ug/m3	265445	2	08/15/2018 02:03	MD
n-Hexane	11	3.5		ug/m3	265445	2	08/15/2018 02:03	MD
o-Xylene	17	4.3		ug/m3	265445	2	08/15/2018 02:03	MD
Propene	BRL	1.7		ug/m3	265445	2	08/15/2018 02:03	MD
Styrene	BRL	4.3		ug/m3	265445	2	08/15/2018 02:03	MD
Tetrachloroethene	BRL	6.8		ug/m3	265445	2	08/15/2018 02:03	MD
Tetrahydrofuran	10	2.9		ug/m3	265445	2	08/15/2018 02:03	MD
Toluene	94	3.8		ug/m3	265445	2	08/15/2018 02:03	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:03	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 02:03	MD
Trichloroethene	30	5.4		ug/m3	265445	2	08/15/2018 02:03	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	265445	2	08/15/2018 02:03	MD
Vinyl acetate	24	3.5		ug/m3	265445	2	08/15/2018 02:03	MD
Vinyl bromide	BRL	4.4		ug/m3	265445	2	08/15/2018 02:03	MD
Vinyl chloride	BRL	2.6		ug/m3	265445	2	08/15/2018 02:03	MD
Xylenes, Total	61	13		ug/m3	265445	2	08/15/2018 02:03	MD
Surr: 4-Bromofluorobenzene	98.5	70-130		%REC	265445	2	08/15/2018 02:03	MD
Surr: 4-Bromofluorobenzene	95.8	70-130		%REC	265445	2	08/14/2018 14:27	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-4
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:20:00 AM
Lab ID:	1808971-005	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
1,1,1-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 02:42	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	265445	2	08/15/2018 02:42	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	265445	2	08/15/2018 02:42	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	265445	2	08/15/2018 02:42	MD
1,2,4-Trimethylbenzene	17	4.9		ug/m3	265445	2	08/15/2018 02:42	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	265445	2	08/15/2018 02:42	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	265445	2	08/15/2018 02:42	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	265445	2	08/15/2018 02:42	MD
1,3-Butadiene	BRL	2.2		ug/m3	265445	2	08/15/2018 02:42	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	265445	2	08/15/2018 02:42	MD
1,4-Dioxane	BRL	3.6		ug/m3	265445	2	08/15/2018 02:42	MD
2,2,4-Trimethylpentane	14	4.7		ug/m3	265445	2	08/15/2018 02:42	MD
2-Butanone	18	2.9		ug/m3	265445	2	08/15/2018 02:42	MD
2-Hexanone	BRL	4.1		ug/m3	265445	2	08/15/2018 02:42	MD
4-Ethyltoluene	5.9	4.9		ug/m3	265445	2	08/15/2018 02:42	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	265445	2	08/15/2018 02:42	MD
Acetone	63	12		ug/m3	265445	2	08/15/2018 02:42	MD
Allyl chloride	BRL	3.1		ug/m3	265445	2	08/15/2018 02:42	MD
Benzene	10	3.2		ug/m3	265445	2	08/15/2018 02:42	MD
Benzyl chloride	BRL	5.2		ug/m3	265445	2	08/15/2018 02:42	MD
Bromodichloromethane	BRL	6.7		ug/m3	265445	2	08/15/2018 02:42	MD
Bromoform	BRL	10		ug/m3	265445	2	08/15/2018 02:42	MD
Bromomethane	BRL	3.9		ug/m3	265445	2	08/15/2018 02:42	MD
Carbon disulfide	BRL	3.1		ug/m3	265445	2	08/15/2018 02:42	MD
Carbon tetrachloride	BRL	6.3		ug/m3	265445	2	08/15/2018 02:42	MD
Chlorobenzene	BRL	4.6		ug/m3	265445	2	08/15/2018 02:42	MD
Chloroethane	BRL	2.6		ug/m3	265445	2	08/15/2018 02:42	MD
Chloroform	BRL	4.9		ug/m3	265445	2	08/15/2018 02:42	MD
Chloromethane	BRL	2.1		ug/m3	265445	2	08/15/2018 02:42	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:42	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 02:42	MD
Cyclohexane	3.8	3.4		ug/m3	265445	2	08/15/2018 02:42	MD
Dibromochloromethane	BRL	8.5		ug/m3	265445	2	08/15/2018 02:42	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	265445	2	08/15/2018 02:42	MD
Ethyl acetate	910	140		ug/m3	265445	2	08/14/2018 15:05	MD
Ethylbenzene	13	4.3		ug/m3	265445	2	08/15/2018 02:42	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:** 17-Aug-18

Client:	CDM Smith Inc.	**Client Sample ID:**	SVE-4
Project Name:	Cessna	**Collection Date:**	8/8/2018 11:20:00 AM
Lab ID:	1808971-005	**Matrix:**	Air

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**				
Freon-113	BRL	7.7		ug/m3	265445	2	08/15/2018 02:42	MD
Freon-114	BRL	7.0		ug/m3	265445	2	08/15/2018 02:42	MD
Hexachlorobutadiene	BRL	11		ug/m3	265445	2	08/15/2018 02:42	MD
Isopropyl alcohol	78	18		ug/m3	265445	2	08/15/2018 02:42	MD
m,p-Xylene	43	8.7		ug/m3	265445	2	08/15/2018 02:42	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	265445	2	08/15/2018 02:42	MD
Methylene chloride	120	3.5		ug/m3	265445	2	08/15/2018 02:42	MD
n-Heptane	12	4.1		ug/m3	265445	2	08/15/2018 02:42	MD
n-Hexane	BRL	3.5		ug/m3	265445	2	08/15/2018 02:42	MD
o-Xylene	17	4.3		ug/m3	265445	2	08/15/2018 02:42	MD
Propene	BRL	1.7		ug/m3	265445	2	08/15/2018 02:42	MD
Styrene	BRL	4.3		ug/m3	265445	2	08/15/2018 02:42	MD
Tetrachloroethene	BRL	6.8		ug/m3	265445	2	08/15/2018 02:42	MD
Tetrahydrofuran	9.4	2.9		ug/m3	265445	2	08/15/2018 02:42	MD
Toluene	89	3.8		ug/m3	265445	2	08/15/2018 02:42	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	265445	2	08/15/2018 02:42	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	265445	2	08/15/2018 02:42	MD
Trichloroethene	30	5.4		ug/m3	265445	2	08/15/2018 02:42	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	265445	2	08/15/2018 02:42	MD
Vinyl acetate	28	3.5		ug/m3	265445	2	08/15/2018 02:42	MD
Vinyl bromide	BRL	4.4		ug/m3	265445	2	08/15/2018 02:42	MD
Vinyl chloride	BRL	2.6		ug/m3	265445	2	08/15/2018 02:42	MD
Xylenes, Total	60	13		ug/m3	265445	2	08/15/2018 02:42	MD
Surr: 4-Bromofluorobenzene	98	70-130		%REC	265445	2	08/15/2018 02:42	MD
Surr: 4-Bromofluorobenzene	96	70-130		%REC	265445	2	08/14/2018 15:05	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

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SYSTEM				**Lab ID:** 1808971-001			
Collection Date: 8/8/2018 9:34:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			
1,1-Dichloroethane	7.7		0.34	4.0	ug/m3	265445	2
1,1-Dichloroethene	7.3		0.24	4.0	ug/m3	265445	2
1,2,4-Trimethylbenzene	6.9		0.41	4.9	ug/m3	265445	2
Acetone	35		0.34	12	ug/m3	265445	2
Benzene	3.8		0.19	3.2	ug/m3	265445	2
Chloroform	8.8		0.29	4.9	ug/m3	265445	2
cis-1,2-Dichloroethene	50		0.24	4.0	ug/m3	265445	2
Ethylbenzene	6.1		0.36	4.3	ug/m3	265445	2
m,p-Xylene	18		1.5	8.7	ug/m3	265445	2
n-Heptane	6.6		0.32	4.1	ug/m3	265445	2
n-Hexane	3.9		0.29	3.5	ug/m3	265445	2
o-Xylene	5.9		0.26	4.3	ug/m3	265445	2
Styrene	7.9		0.36	4.3	ug/m3	265445	2
Tetrachloroethene	72		0.52	6.8	ug/m3	265445	2
Toluene	77		0.29	3.8	ug/m3	265445	2
Trichloroethene	3900		23	210	ug/m3	265445	2
Xylenes, Total	23		0.54	13	ug/m3	265445	2
Client Sample ID: SVE-1				**Lab ID:** 1808971-002			
Collection Date: 8/8/2018 11:02:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			
1,1,2-Trichloroethane	5.5		0.46	5.5	ug/m3	265445	2
1,1-Dichloroethane	25		0.34	4.0	ug/m3	265445	2
1,1-Dichloroethene	27		0.24	4.0	ug/m3	265445	2
1,2,4-Trimethylbenzene	16		0.41	4.9	ug/m3	265445	2
2,2,4-Trimethylpentane	12		0.51	4.7	ug/m3	265445	2
2-Butanone	17		0.35	2.9	ug/m3	265445	2
4-Ethyltoluene	5.4		0.29	4.9	ug/m3	265445	2
Acetone	51		0.34	12	ug/m3	265445	2
Benzene	9.7		0.19	3.2	ug/m3	265445	2
Chloroform	6.6		0.29	4.9	ug/m3	265445	2
cis-1,2-Dichloroethene	190		0.24	4.0	ug/m3	265445	2
Ethyl acetate	1100		11	140	ug/m3	265445	2
Ethylbenzene	10.0		0.36	4.3	ug/m3	265445	2
Isopropyl alcohol	74		3.3	18	ug/m3	265445	2
m,p-Xylene	34		1.5	8.7	ug/m3	265445	2
n-Heptane	12		0.32	4.1	ug/m3	265445	2
o-Xylene	14		0.26	4.3	ug/m3	265445	2
Tetrahydrofuran	10		0.23	2.9	ug/m3	265445	2
Toluene	81		0.29	3.8	ug/m3	265445	2
trans-1,2-Dichloroethene	11		0.24	4.0	ug/m3	265445	2
Trichloroethene	9600		23	210	ug/m3	265445	2
Vinyl acetate	27		0.27	3.5	ug/m3	265445	2
Xylenes, Total	48		0.54	13	ug/m3	265445	2
Client Sample ID: SVE-2				**Lab ID:** 1808971-003			
Collection Date: 8/8/2018 11:04:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SVE-2				**Lab ID:** 1808971-003			
Collection Date: 8/8/2018 11:04:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			
1,1-Dichloroethane	6.9		0.34	4.0	ug/m3	265445	2
1,1-Dichloroethene	6.5		0.24	4.0	ug/m3	265445	2
1,2,4-Trimethylbenzene	6.6		0.41	4.9	ug/m3	265445	2
2-Butanone	9.7		0.35	2.9	ug/m3	265445	2
Acetone	59		0.34	12	ug/m3	265445	2
Benzene	5.4		0.19	3.2	ug/m3	265445	2
Chloroform	5.9		0.29	4.9	ug/m3	265445	2
cis-1,2-Dichloroethene	22		0.24	4.0	ug/m3	265445	2
Cyclohexane	4.1		0.20	3.4	ug/m3	265445	2
Ethyl acetate	9.2		0.28	3.6	ug/m3	265445	2
Ethylbenzene	5.0		0.36	4.3	ug/m3	265445	2
m,p-Xylene	13		1.5	8.7	ug/m3	265445	2
n-Heptane	8.6		0.32	4.1	ug/m3	265445	2
n-Hexane	7.8		0.29	3.5	ug/m3	265445	2
o-Xylene	4.8		0.26	4.3	ug/m3	265445	2
Styrene	8.9		0.36	4.3	ug/m3	265445	2
Tetrahydrofuran	4.6		0.23	2.9	ug/m3	265445	2
Toluene	110		0.29	3.8	ug/m3	265445	2
Trichloroethene	1400		23	210	ug/m3	265445	2
Xylenes, Total	18		0.54	13	ug/m3	265445	2
Client Sample ID: SVE-3				**Lab ID:** 1808971-004			
Collection Date: 8/8/2018 11:16:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			
1,2,4-Trimethylbenzene	17		0.41	4.9	ug/m3	265445	2
2,2,4-Trimethylpentane	13		0.51	4.7	ug/m3	265445	2
2-Butanone	19		0.35	2.9	ug/m3	265445	2
4-Ethyltoluene	5.9		0.29	4.9	ug/m3	265445	2
Acetone	57		0.34	12	ug/m3	265445	2
Benzene	11		0.19	3.2	ug/m3	265445	2
Carbon disulfide	28		0.19	3.1	ug/m3	265445	2
Cyclohexane	3.6		0.20	3.4	ug/m3	265445	2
Ethyl acetate	1100		11	140	ug/m3	265445	2
Ethylbenzene	13		0.36	4.3	ug/m3	265445	2
Isopropyl alcohol	90		3.3	18	ug/m3	265445	2
m,p-Xylene	43		1.5	8.7	ug/m3	265445	2
n-Heptane	13		0.32	4.1	ug/m3	265445	2
n-Hexane	11		0.29	3.5	ug/m3	265445	2
o-Xylene	17		0.26	4.3	ug/m3	265445	2
Tetrahydrofuran	10		0.23	2.9	ug/m3	265445	2
Toluene	94		0.29	3.8	ug/m3	265445	2
Trichloroethene	30		0.58	5.4	ug/m3	265445	2
Vinyl acetate	24		0.27	3.5	ug/m3	265445	2
Xylenes, Total	61		0.54	13	ug/m3	265445	2
Client Sample ID: SVE-4				**Lab ID:** 1808971-005			
Collection Date: 8/8/2018 11:20:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SVE-4				**Lab ID:** 1808971-005			
Collection Date: 8/8/2018 11:20:00 AM				**Matrix:** Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				**(TO-15)**			
1,2,4-Trimethylbenzene	17		0.41	4.9	ug/m3	265445	2
2,2,4-Trimethylpentane	14		0.51	4.7	ug/m3	265445	2
2-Butanone	18		0.35	2.9	ug/m3	265445	2
4-Ethyltoluene	5.9		0.29	4.9	ug/m3	265445	2
Acetone	63		0.34	12	ug/m3	265445	2
Benzene	10		0.19	3.2	ug/m3	265445	2
Cyclohexane	3.8		0.20	3.4	ug/m3	265445	2
Ethyl acetate	910		11	140	ug/m3	265445	2
Ethylbenzene	13		0.36	4.3	ug/m3	265445	2
Isopropyl alcohol	78		3.3	18	ug/m3	265445	2
m,p-Xylene	43		1.5	8.7	ug/m3	265445	2
Methylene chloride	120		0.21	3.5	ug/m3	265445	2
n-Heptane	12		0.32	4.1	ug/m3	265445	2
o-Xylene	17		0.26	4.3	ug/m3	265445	2
Tetrahydrofuran	9.4		0.23	2.9	ug/m3	265445	2
Toluene	89		0.29	3.8	ug/m3	265445	2
Trichloroethene	30		0.58	5.4	ug/m3	265445	2
Vinyl acetate	28		0.27	3.5	ug/m3	265445	2
Xylenes, Total	60		0.54	13	ug/m3	265445	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 COM Work Order Number 1808971

Checklist completed by _____ 9/9/18
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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **MB-265445** Client ID:
SampleType: **MBLK** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** Prep Date: **08/13/2018** Run No: **377450**
BatchID: **265445** Analysis Date: **08/13/2018** Seq No: **8401096**

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	0.55									
1,1,2,2-Tetrachloroethane	BRL	0.69									
1,1,2-Trichloroethane	BRL	0.55									
1,1-Dichloroethane	BRL	0.40									
1,1-Dichloroethene	BRL	0.40									
1,2,4-Trichlorobenzene	BRL	0.74									
1,2,4-Trimethylbenzene	BRL	0.49									
1,2-Dibromoethane	BRL	0.77									
1,2-Dichlorobenzene	BRL	0.60									
1,2-Dichloroethane	BRL	0.40									
1,2-Dichloropropane	BRL	0.46									
1,3,5-Trimethylbenzene	BRL	0.49									
1,3-Butadiene	BRL	0.22									
1,3-Dichlorobenzene	BRL	0.60									
1,4-Dichlorobenzene	BRL	0.60									
1,4-Dioxane	BRL	0.36									
2,2,4-Trimethylpentane	BRL	0.47									
2-Butanone	BRL	0.29									
2-Hexanone	BRL	0.41									
4-Ethyltoluene	BRL	0.49									
4-Methyl-2-pentanone	BRL	0.41									
Acetone	BRL	1.2									
Allyl chloride	BRL	0.31									
Benzene	BRL	0.32									
Benzyl chloride	BRL	0.52									
Bromodichloromethane	BRL	0.67									
Bromoform	BRL	1.0									

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		

Client: CDM Smith Inc.
Project Name: Cessna
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **MB-265445**	Client ID:		Units: **ug/m3**	Prep Date: **08/13/2018**	Run No: **377450**
SampleType: **MBLK**	TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**		BatchID: **265445**	Analysis Date: **08/13/2018**	Seq No: **8401096**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Bromomethane	BRL	0.39									
Carbon disulfide	BRL	0.31									
Carbon tetrachloride	BRL	0.63									
Chlorobenzene	BRL	0.46									
Chloroethane	BRL	0.26									
Chloroform	BRL	0.49									
Chloromethane	BRL	0.21									
cis-1,2-Dichloroethene	BRL	0.40									
cis-1,3-Dichloropropene	BRL	0.45									
Cyclohexane	BRL	0.34									
Dibromochloromethane	BRL	0.85									
Dichlorodifluoromethane	BRL	0.49									
Ethyl acetate	BRL	0.36									
Ethylbenzene	BRL	0.43									
Freon-113	BRL	0.77									
Freon-114	BRL	0.70									
Hexachlorobutadiene	BRL	1.1									
Isopropyl alcohol	BRL	1.8									
m,p-Xylene	BRL	0.87									
Methyl tert-butyl ether	BRL	0.36									
Methylene chloride	BRL	0.35									
n-Heptane	BRL	0.41									
n-Hexane	BRL	0.35									
o-Xylene	BRL	0.43									
Propene	BRL	0.17									
Styrene	BRL	0.43									
Tetrachloroethene	BRL	0.68									

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: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **MB-265445**	Client ID:		Units: **ug/m3**	Prep Date: **08/13/2018**	Run No: **377450**
SampleType: **MBLK**	TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**		BatchID: **265445**	Analysis Date: **08/13/2018**	Seq No: **8401096**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Tetrahydrofuran	BRL	0.29									
Toluene	BRL	0.38									
trans-1,2-Dichloroethene	BRL	0.40									
trans-1,3-Dichloropropene	BRL	0.45									
Trichloroethene	BRL	0.54									
Trichlorofluoromethane	BRL	0.56									
Vinyl acetate	BRL	0.35									
Vinyl bromide	BRL	0.44									
Vinyl chloride	BRL	0.26									
Xylenes, Total	BRL	1.3									
Surr: 4-Bromofluorobenzene	1.905	0	2.000		95.2	70	130				

Sample ID: **LCS-265445**	Client ID:		Units: **ug/m3**	Prep Date: **08/13/2018**	Run No: **377450**
SampleType: **LCS**	TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**		BatchID: **265445**	Analysis Date: **08/13/2018**	Seq No: **8401104**

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	10.69	1.1	10.91		98.0	70	130				
1,1,2,2-Tetrachloroethane	14.35	1.4	13.73		104	70	130				
1,1,2-Trichloroethane	12.28	1.1	10.91		112	70	130				
1,1-Dichloroethane	7.933	0.81	8.095		98.0	70	130				
1,1-Dichloroethene	7.811	0.79	7.930		98.5	70	130				
1,2,4-Trichlorobenzene	13.44	1.5	14.85		90.5	70	130				
1,2,4-Trimethylbenzene	9.144	0.98	9.832	0.1229	91.8	70	130				
1,2-Dibromoethane	15.45	1.5	15.37		100	70	130				
1,2-Dichlorobenzene	11.06	1.2	12.02		92.0	70	130				
1,2-Dichloroethane	8.985	0.81	8.095		111	70	130				
1,2-Dichloropropane	10.54	0.92	9.243		114	70	130				
1,3,5-Trimethylbenzene	9.390	0.98	9.832		95.5	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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **LCS-265445** Client ID:
SampleType: **LCS** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** Prep Date: **08/13/2018** Run No: **377450**
BatchID: **265445** Analysis Date: **08/13/2018** Seq No: **8401104**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,3-Butadiene	4.557	0.44	4.425		103	70	130				
1,3-Dichlorobenzene	11.18	1.2	12.02	0.1804	91.5	70	130				
1,4-Dichlorobenzene	11.00	1.2	12.02	0.2104	89.8	70	130				
1,4-Dioxane	7.172	0.72	7.208		99.5	70	130				
2,2,4-Trimethylpentane	10.42	0.93	9.342		112	70	130				
2-Butanone	5.751	0.59	5.899		97.5	70	130				
2-Hexanone	8.114	0.82	8.196		99.0	70	130				
4-Ethyltoluene	9.439	0.98	9.832	0.2950	93.0	70	130				
4-Methyl-2-pentanone	8.975	0.82	8.196		110	70	130				
Acetone	5.939	2.4	4.751		125	70	130				
Allyl chloride	6.291	0.63	6.260		100	70	130				
Benzene	6.869	0.64	6.389		108	70	130				
Benzyl chloride	9.890	1.0	10.36	0.2071	93.5	70	130				
Bromodichloromethane	14.87	1.3	13.40		111	70	130				
Bromoform	20.16	2.1	20.68		97.5	70	130				
Bromomethane	7.378	0.78	7.766		95.0	70	130				
Carbon disulfide	6.477	0.62	6.228		104	70	130				
Carbon tetrachloride	13.52	1.3	12.58		108	70	130				
Chlorobenzene	9.119	0.92	9.211		99.0	70	130				
Chloroethane	5.436	0.53	5.278		103	70	130				
Chloroform	9.230	0.98	9.767		94.5	70	130				
Chloromethane	4.337	0.41	4.130		105	70	130				
cis-1,2-Dichloroethene	7.414	0.79	7.930		93.5	70	130				
cis-1,3-Dichloropropene	9.806	0.91	9.080		108	70	130				
Cyclohexane	6.643	0.69	6.884		96.5	70	130				
Dibromochloromethane	17.38	1.7	17.04		102	70	130				
Dichlorodifluoromethane	9.988	0.99	9.890		101	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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **LCS-265445** Client ID:
SampleType: **LCS** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** Prep Date: **08/13/2018** Run No: **377450**
BatchID: **265445** Analysis Date: **08/13/2018** Seq No: **8401104**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethyl acetate	7.351	0.72	7.207		102	70	130				
Ethylbenzene	8.340	0.87	8.687		96.0	70	130				
Freon-113	14.95	1.5	15.33		97.5	70	130				
Freon-114	13.28	1.4	13.98		95.0	70	130				
Hexachlorobutadiene	19.41	2.1	21.33		91.0	70	130				
Isopropyl alcohol	5.482	3.7	4.916		112	70	130				
m,p-Xylene	17.07	1.7	17.37		98.2	70	130				
Methyl tert-butyl ether	6.634	0.72	7.211		92.0	70	130				
Methylene chloride	7.156	0.69	6.948		103	70	130				
n-Heptane	9.303	0.82	8.196		114	70	130				
n-Hexane	6.978	0.70	7.049		99.0	70	130				
o-Xylene	8.513	0.87	8.687	0.1086	96.8	70	130				
Propene	3.735	0.34	3.442		108	70	130				
Styrene	7.792	0.85	8.515		91.5	70	130				
Tetrachloroethene	14.51	1.4	13.56	0.1695	106	70	130				
Tetrahydrofuran	5.751	0.59	5.899		97.5	70	130				
Toluene	7.838	0.75	7.537		104	70	130				
trans-1,2-Dichloroethene	7.573	0.79	7.930		95.5	70	130				
trans-1,3-Dichloropropene	9.715	0.91	9.080		107	70	130				
Trichloroethene	11.39	1.1	10.75		106	70	130				
Trichlorofluoromethane	11.07	1.1	11.24		98.5	70	130				
Vinyl acetate	6.338	0.70	7.042		90.0	70	130				
Vinyl bromide	8.876	0.87	8.744		102	70	130				
Vinyl chloride	5.291	0.51	5.112		104	70	130				
Xylenes, Total	25.58	2.6	26.06	0.1086	97.8	70	130				
Surr: 4-Bromofluorobenzene	4.010	0	4.000		100	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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **1808820-005ADUP** Client ID:
SampleType: **DUP** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** BatchID: **265445**
Prep Date: **08/13/2018** Analysis Date: **08/14/2018**
Run No: **377450** Seq No: **8402111**

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	5.5						0	0	25	
1,1,2,2-Tetrachloroethane	BRL	6.9						0	0	25	
1,1,2-Trichloroethane	BRL	5.5						0	0	25	
1,1-Dichloroethane	BRL	4.0						0	0	25	
1,1-Dichloroethene	BRL	4.0						0	0	25	
1,2,4-Trichlorobenzene	BRL	7.4						0	0	25	
1,2,4-Trimethylbenzene	4.916	4.9						5.162	4.88	25	
1,2-Dibromoethane	BRL	7.7						0	0	25	
1,2-Dichlorobenzene	BRL	6.0						0	0	25	
1,2-Dichloroethane	BRL	4.0						0	0	25	
1,2-Dichloropropane	BRL	4.6						0	0	25	
1,3,5-Trimethylbenzene	BRL	4.9						1.475	0	25	
1,3-Butadiene	BRL	2.2						0	0	25	
1,3-Dichlorobenzene	BRL	6.0						0	0	25	
1,4-Dichlorobenzene	BRL	6.0						0	0	25	
1,4-Dioxane	BRL	3.6						0	0	25	
2,2,4-Trimethylpentane	14.25	4.7						14.25	0	25	
2-Butanone	6.341	2.9						6.341	0	25	
2-Hexanone	BRL	4.1						0	0	25	
4-Ethyltoluene	BRL	4.9						0	0	25	
4-Methyl-2-pentanone	11.27	4.1						11.47	1.80	25	
Acetone	87.18	12						87.65	0.543	25	
Allyl chloride	BRL	3.1						0	0	25	
Benzene	15.17	3.2						15.33	1.05	25	
Benzyl chloride	BRL	5.2						0	0	25	
Bromodichloromethane	BRL	6.7						0	0	25	
Bromoform	BRL	10						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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **1808820-005ADUP** Client ID:
SampleType: **DUP** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** Prep Date: **08/13/2018** Run No: **377450**
BatchID: **265445** Analysis Date: **08/14/2018** Seq No: **8402111**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Bromomethane	BRL	3.9						0	0	25	
Carbon disulfide	BRL	3.1						0	0	25	
Carbon tetrachloride	BRL	6.3						0	0	25	
Chlorobenzene	BRL	4.6						0	0	25	
Chloroethane	BRL	2.6						0	0	25	
Chloroform	BRL	4.9						0	0	25	
Chloromethane	BRL	2.1						0	0	25	
cis-1,2-Dichloroethene	BRL	4.0						0	0	25	
cis-1,3-Dichloropropene	BRL	4.5						0	0	25	
Cyclohexane	3.958	3.4						4.131	4.26	25	
Dibromochloromethane	BRL	8.5						0	0	25	
Dichlorodifluoromethane	BRL	4.9						0	0	25	
Ethyl acetate	BRL	3.6						0	0	25	
Ethylbenzene	5.647	4.3						5.864	3.77	25	
Freon-113	BRL	7.7						0	0	25	
Freon-114	BRL	7.0						0	0	25	
Hexachlorobutadiene	BRL	11						0	0	25	
Isopropyl alcohol	BRL	18						5.531	0	25	
m,p-Xylene	18.89	8.7						19.11	1.14	25	
Methyl tert-butyl ether	BRL	3.6						0	0	25	
Methylene chloride	BRL	3.5						0	0	25	
n-Heptane	9.631	4.1						9.631	0	25	
n-Hexane	36.12	3.5						35.95	0.489	25	
o-Xylene	6.515	4.3						6.515	0	25	
Propene	BRL	1.7						0	0	25	
Styrene	BRL	4.3						0	0	25	
Tetrachloroethene	BRL	6.8						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
Workorder: 1808971

ANALYTICAL QC SUMMARY REPORT

BatchID: 265445

Sample ID: **1808820-005ADUP** Client ID:
SampleType: **DUP** TestCode: **VOCs in Air by TO-15/TO-14A/AES SOP OA-11051**
Units: **ug/m3** Prep Date: **08/13/2018** Run No: **377450**
BatchID: **265445** Analysis Date: **08/14/2018** Seq No: **8402111**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Tetrahydrofuran	BRL	2.9						0	0	25	
Toluene	60.48	3.8						60.30	0.312	25	
trans-1,2-Dichloroethene	BRL	4.0						0	0	25	
trans-1,3-Dichloropropene	BRL	4.5						0	0	25	
Trichloroethene	BRL	5.4						0	0	25	
Trichlorofluoromethane	BRL	5.6						0	0	25	
Vinyl acetate	BRL	3.5						0	0	25	
Vinyl bromide	BRL	4.4						0	0	25	
Vinyl chloride	BRL	2.6						0	0	25	
Xylenes, Total	25.41	13						25.63	0.851	25	
Surr: 4-Bromofluorobenzene	19.45	0	20.00		97.2	70	130	19.55	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 27AUG2018:10:22:3

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 Near-source 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
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 Acetate	108-05-4	Yes	Yes	Yes	Yes	87.6	NC	2920
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 and Professional Hours

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: September 7, 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	3/10/18	1.5	Senior hydrogeologist and technical lead for pre-design investigation and final design
		3/17/18	3	
		3/31/18	13.5	
		4/7/18	1.5	
		4/21/18	1.5	
		4/28/18	2.5	
		6/9/18	3	
		6/16/18	6	
		6/23/18	16	
		6/30/18	11	
		7/7/18	21	
		7/14/18	10.5	
		7/28/18	12.5	
		8/4/18	1.5	
		8/11/18	2	
		8/18/18	6.5	
		8/31/18	3	
Mike Lamar	Engineer PE031269	7/21/18	4	Final design reviewer
		7/28/18	1.5	
John Reichling	Engineer PE017367	3/10/18	1	CDM Smith Officer in Charge and person overall responsible for project execution and quality
		3/31/18	2	
		4/14/18	1	
		4/28/18	1	
		5/12/18	1	
		5/26/18	1	
		6/9/18	1	
		6/16/18	1	
		7/14/18	0.5	
		7/21/18	1	
		7/28/18	2	
		8/11/18	1	
		8/31/18	2	
Jeff Weeber	Engineer PE032278	3/10/18	2.5	Final design reviewer and design engineer, including SVE system and associated troubleshooting
		6/23/18	1	
		7/14/18	1	
		7/21/18	10.5	
		7/28/18	4	