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Name of Document: March 2019 VRP Progress Report

Date of Document: April 3, 2019

Site Name: Cessna Aircraft Company GA1 Facility

Site ID Number: VRP1460391735

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

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

Signature:

Name (printed): J. Thomas Duffey, PG

Date: 4/3/2019

Organization: CDM Smith

Phone: 770-329-7143

Email: DuffeyJT@CDMSmith.com

Receipt Date
(for EPD use only)



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April 3, 2019

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

Subject: March 2019 Semi-Annual Voluntary Remediation Program Progress Report
Cessna Aircraft Company – Tax Parcel 112 003 002
Underground Injection Control Well Operating Permit GAW000724
Columbus, Muscogee County, Georgia

Dear Mr. Hayes:

This Progress Report documents the activities completed for the Cessna Aircraft Company facility in Columbus, Georgia, from September 2018 through February 2019. 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:

- September 18, 2018: Received EPD comments on the August 1, 2018 Pre-Design Investigation Report & Final Design and the September 2018 Semi-Annual Progress Report;
- September 25, 2018: Underground Injection Control (UIC) Permit Application submitted;
- October 19, 2018: UIC Permit GAW000724 was issued for the facility to implement the groundwater bioremediation;





Mr. David Hayes
April 3, 2018
Page 2

- January 22 – February 1, 2019: Installation of 14 injection wells and 1 monitoring well;
- February 19 – 20, 2019: Sampling of the new injection wells for volatile organic compound (VOC) analyses;
- February 18 – 22, 2019: Semi-annual groundwater and soil vapor extraction (SVE) system monitoring; and
- September 2018 – February 2019: Ongoing SVE system operation and maintenance (O&M).

EPD September 18, 2018 Progress Report Comments

- EPD identified a conflict between the project schedule included in the September 2018 progress report and the final design. The project schedule currently in effect is discussed in the Schedule section below.
- EPD requested that all detected constituent concentrations be posted on figures and tables and figures include the laboratory detection limits. These changes have been made to the semi-annual reports.
- EPD pointed out that the Vapor Intrusion Screening Levels in the Semi-Annual SVE System Monitoring Report used a Target Hazard Quotient of 0.1 while EPD utilizes a cumulative Hazard Index of 1.0 to evaluate potential risks. CDM Smith has included the cumulative risks in the Semi-Annual SVE System Monitoring Report.

EPD September 18, 2018 Pre-Design Investigation & Final Design Report Comments

- EPD noted that where present, clay in lower Unit A could inhibit efficient treatment in Unit B. While the Unit B treatment may be less efficient than the Unit A treatment, the VOC mass flux in groundwater is believed to be the greatest in Unit A and efficient treatment in Unit A is expected to result in an effective barrier to VOC migration in groundwater. The treatment is also expected to significantly reduce the overall VOC mass in both units over time.
- EPD recommended surface water monitoring in the offsite tributary to Bull Creek, but access limitations have been imposed by the property owner, Kemira. As recommended by EPD, MW-7A and MW-7A/B will be monitored to assess the effects of the corrective action.
- EPD recommended that care be exercised with the pH adjustment dosing to prevent mineralization and permeability loss in the aquifer. CDM Smith used site-specific pH testing during the final design to maintain the sodium bicarbonate dosing to a minimum.

Semi-Annual Groundwater Monitoring

Semi-annual groundwater sampling is required to monitor groundwater conditions. The first 2019 semi-annual groundwater monitoring event and sampling of the newly installed injection wells was conducted during February 18 – 22, 2019. These sample results were used to establish the pre-





Mr. David Hayes
April 3, 2018
Page 3

treatment conditions in groundwater and reassess the area needing treatment. The groundwater monitoring report is provided in **Attachment A**.

The groundwater levels and flow direction in February 2019 were consistent with previous observations with the flow to the southeast. Previously, the trichloroethene (TCE) concentrations in groundwater immediately downgradient of the former vapor degreaser at the MW-3 well cluster were declining but increased during the current sampling event. CDM Smith believes that this increase could be a result of VOC shifts caused by the pre-design tracer test injections and/or the more recent injection well installations and development. Offsite wells MW-5A/B, MW-7A/B, and MW-7A continue to decrease in TCE, and TCE continues to be the only VOC that exceeds the Risk Reduction Standards (RRSs) in groundwater. As previously reported, the decreasing 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 fifth semi-annual SVE system monitoring event was conducted on February 18, 2019. The SVE monitoring report is provided in **Attachment B**.

The VOC concentrations in the extracted soil vapors have continued to decrease 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/m³ in February 2017 to 0.69 mg/m³ in February 2019. CDM Smith will continue to monitor the SVE system progress toward a potential endpoint in the future.

Well Installation

Injection wells for the biobarrier were installed at 14 locations from January 22 through February 1, 2019. Additional information on the well installation is provided in Attachment A. Including the two injection wells installed during the pre-design investigation, a total of 16 injection wells are available. The injection wells were installed as planned and described in the final design. However, INJ-5, which was planned to be located within the warehouse adjacent to the former vapor degreaser, encountered concrete debris beneath the warehouse floor and a borehole could not be constructed. As a result, INJ-5 was relocated immediately outside of the warehouse.

In addition, MW-8A was installed in the warehouse adjacent to the former vapor degreaser to monitor treatment effectiveness. The new wells plus the SVE wells were surveyed during this reporting period. A compressive well location map is provided in **Attachment C**.





Mr. David Hayes
April 3, 2018
Page 4

Work Anticipated for the Next Period

The following activities are planned for the March 2019 - August 2019 reporting period:

- Injection event #1 will be completed using emulsified vegetable oil and sodium bicarbonate;
- Quarterly performance monitoring will commence;
- Bioaugmentation and a reduced-scale injection event will be completed, if necessary;
- SVE system operation will continue; and
- The second 2019 semi-annual SVE monitoring event will occur in August.

Injection Event #1

Injection event #1 will be a full-scale injection. Wells INJ-2, -7, -8, and -10 will not be used because these wells did not contain VOCs and will not support the bacterial growth necessary for treatment. These wells may be sampled in the future to ensure VOCs have not migrated to these wells.

Schedule

Figure 1 shows the updated project schedule and includes the actions that are dependent on the injection event #1 completion in March 2019. Remediation performance monitoring will continue into early 2020 and the Compliance Status Report is planned to be submitted to EPD in early 2021.

Professional Certification

Attachment D contains the professional certification and summary of incurred professional engineer and geologist hours for the period during September 2018 – February 2019.

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

Abigail Knapp, EPD
Tom Duffey, CDM Smith

Enclosures



Figures

			2019												2020												2021												
Task	Start	End	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	
Remedial Construction																																							
Injection Event #1	3/14/19	3/30/19																																					
Performance Event # 1 / DHC Check	5/29/19	5/31/19																																					
Bioaugmentation / Injection Event #2	7/13/19	7/27/19																																					
Performance Event # 2	8/28/19	9/1/19																																					
Performance Event # 3	11/27/19	11/29/19																																					
Performance Event # 4	2/26/19	3/2/19																																					
Compliance Status Report	3/29/21	5/28/21																																					
Environmental Covenant	5/28/21	7/27/21																																					
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	5/28/2021	

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

Figure 1: VRP Schedule
Updated February 28, 2019
 Cessna GA1 Facility
 Columbus, Muscogee County, Georgia

Attachment A: 1st 2019 Semi-Annual Groundwater Monitoring Report

1st 2019 Semi-Annual Groundwater Monitoring Report

Cessna Aircraft Company GA1 Facility Columbus, Muscogee County, Georgia

The Georgia Environmental Protection Division (EPD) accepted this site into Georgia's Voluntary Remediation Program (VRP) on September 27, 2016, and approved the Voluntary Investigation and Remediation Plan (VIRP) and VRP application dated March 24, 2016. EPD's acceptance and approval conditions currently require semi-annual groundwater monitoring and reporting. This report fulfills the first 2019 semi-annual reporting requirement.

Remediation is underway at the site consisting of soil vapor extraction (SVE) beneath the warehouse and installation of a biobarrier to treat groundwater. Injection wells were installed for the biobarrier during this reporting period and the first emulsified vegetable oil (EVO) injection will be completed in March 2019.

Monitoring Program Description

The groundwater monitoring well network consists of 13 wells (**Figure A-1**). MW-8A was installed in January 2019 to support monitoring of groundwater treatment beneath the warehouse. The monitoring program is summarized in **Table A-1**. VRP semi-annual monitoring is required that includes water levels from all monitoring wells, volatile organic compound (VOC) analyses for 11 wells, and analyses for select metals from 7 wells. The metals include arsenic, barium, chromium, lead, and manganese and these metals are of interest because they could potentially be mobilized from soil by EVO. 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. Quarterly performance monitoring will also be completed for eight wells for a period of one year following the first EVO injection event that is currently underway. The quarterly events will include VOCs, laboratory bioremediation parameters, and field Hach analyses. During the first quarterly event, Census (qPCR) analyses will be completed for MW-3A, MW-3B, and INJ-4. These Census (qPCR) measures *Dehalococcoides spp.*, the bacteria responsible for VOC biodegradation.

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.

Well Installation and Testing

Bioremediation injection wells were installed at 14 locations and one additional groundwater monitoring well, MW-8A, was installed from January 22 through February 1, 2019. The well locations are shown on Figure A-1 and the well construction and the boring logs for the new wells are in **Attachment A-1**.

The well construction procedures were detailed in the Pre-Design Investigation Report & Final Design (CDM Smith, August 1, 2018). Prior to well installation, continuous soil cores were collected using direct-push techniques for final well design purposes. The wells were installed using conventional hollow-stem auger techniques. The screens and casings are 2-inch diameter PVC.

Sand pack was installed throughout the screen interval and a bentonite seal was emplaced on top of the sand pack. The wells were completed with flush-mount, bolt-down protective covers. The injection wells were developed by over pumping.

Groundwater samples were collected from the new injection wells on during February 19-20, 2019 and analyzed for VOCs. Well purge records are in **Attachment A-2**. The laboratory data are summarized in **Table A-2** and the laboratory report is in **Attachment A-3**. Short-term injection tests were performed on each new injection well on February 25 and 26, 2019, to assess injection capacity prior to use as an injection well.

Drums were used for the collection of soil cuttings and the development water. The soil cuttings and development water have been characterized for disposal purposes and will be transported to an appropriate offsite disposal facility.

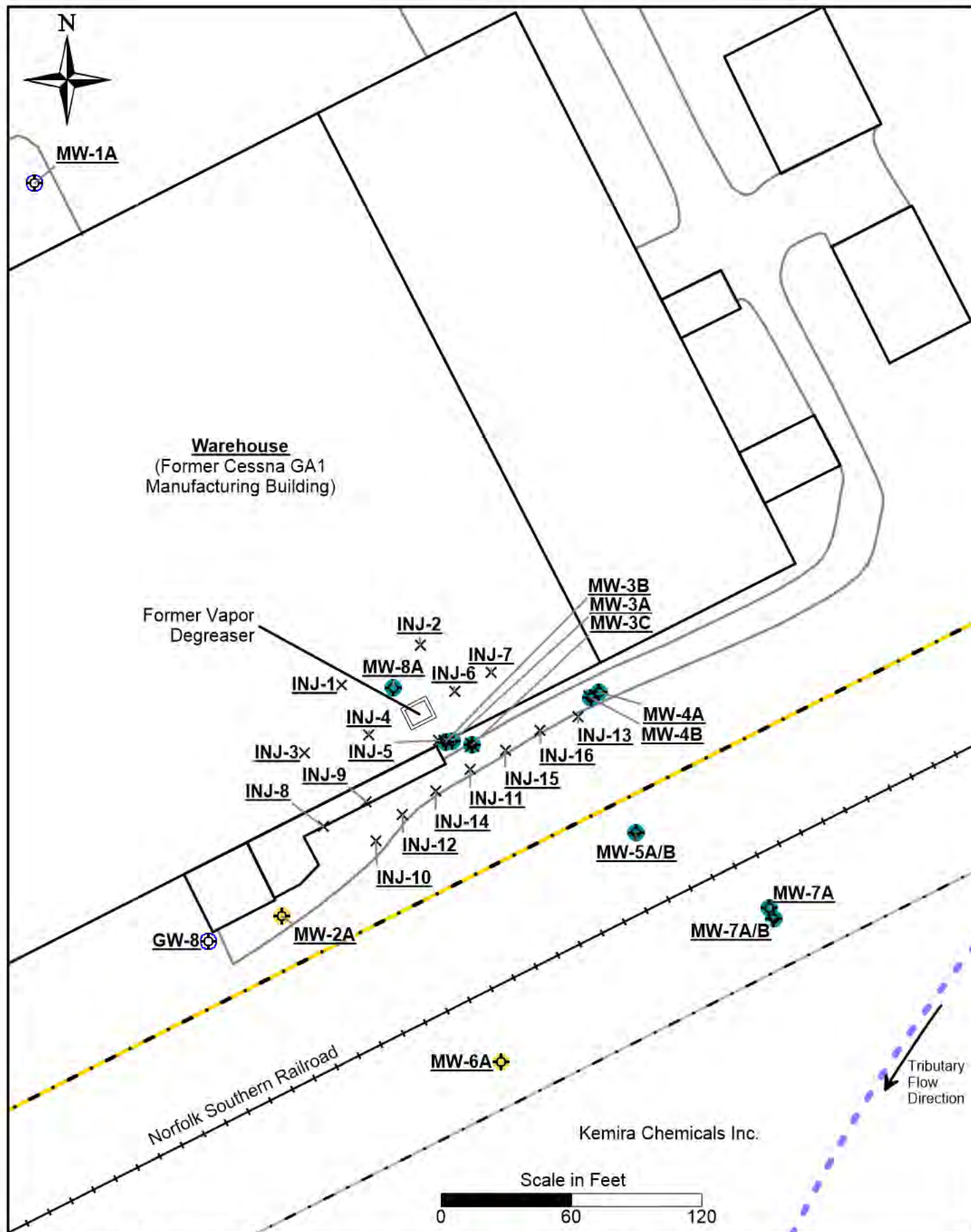
Semi-Annual Monitoring Results

The semi-annual groundwater monitoring event was completed during February 18-22, 2019. The water level records are summarized in **Table A-3**, VOC analytical results are summarized in **Table A-4**, and metals analytical results are summarized in **Table A-5**. The well purge records are in Attachment A-2 and the full laboratory report is in Attachment A-3.

Conclusions

Four VOCs were detected in the 2019 1st semi-annual sampling event: trichloroethene (TCE), cis-1,2-dichloroethene (DCE), methyl ethyl ketone, and carbon disulfide. 1,1-dichloroethane; 1,1-DCE; acetone; and chloroform were also detected in groundwater samples collected from the injection wells and these compounds have been detected previously at concentrations below the Risk Reduction Standards (RRSs). TCE is the only VOC that exceeded the Type 1 default residential RRS, and TCE is also the only VOC exceeding the site-specific RRSs applicable to remediation for the site, as established in the Voluntary Investigation & Remediation Plan (CDM Smith, June 2016).

Figure A-2 shows the current VOC concentrations in groundwater, TCE isoconcentration contours, and the revised groundwater treatment area based on the additional data from the injection wells. The metals in groundwater remained below the RRSs and were relatively stable in concentration. **Figure A-3** shows potentiometric surface prepared for combined Units A and B. The groundwater flow direction is east and southeast and consistent with previous events.



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

Unit A/B Injection Well

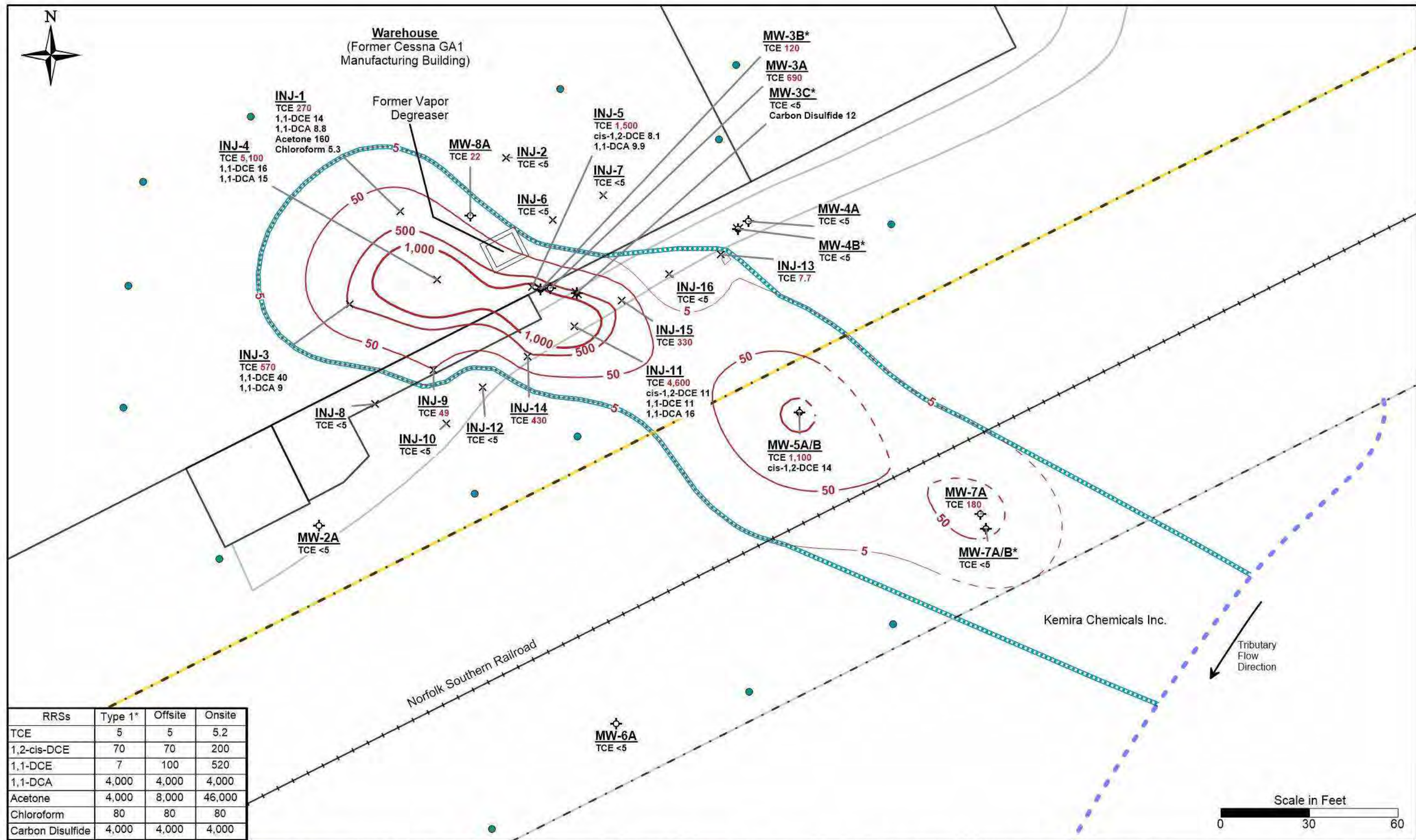
Quarterly Performance Monitoring

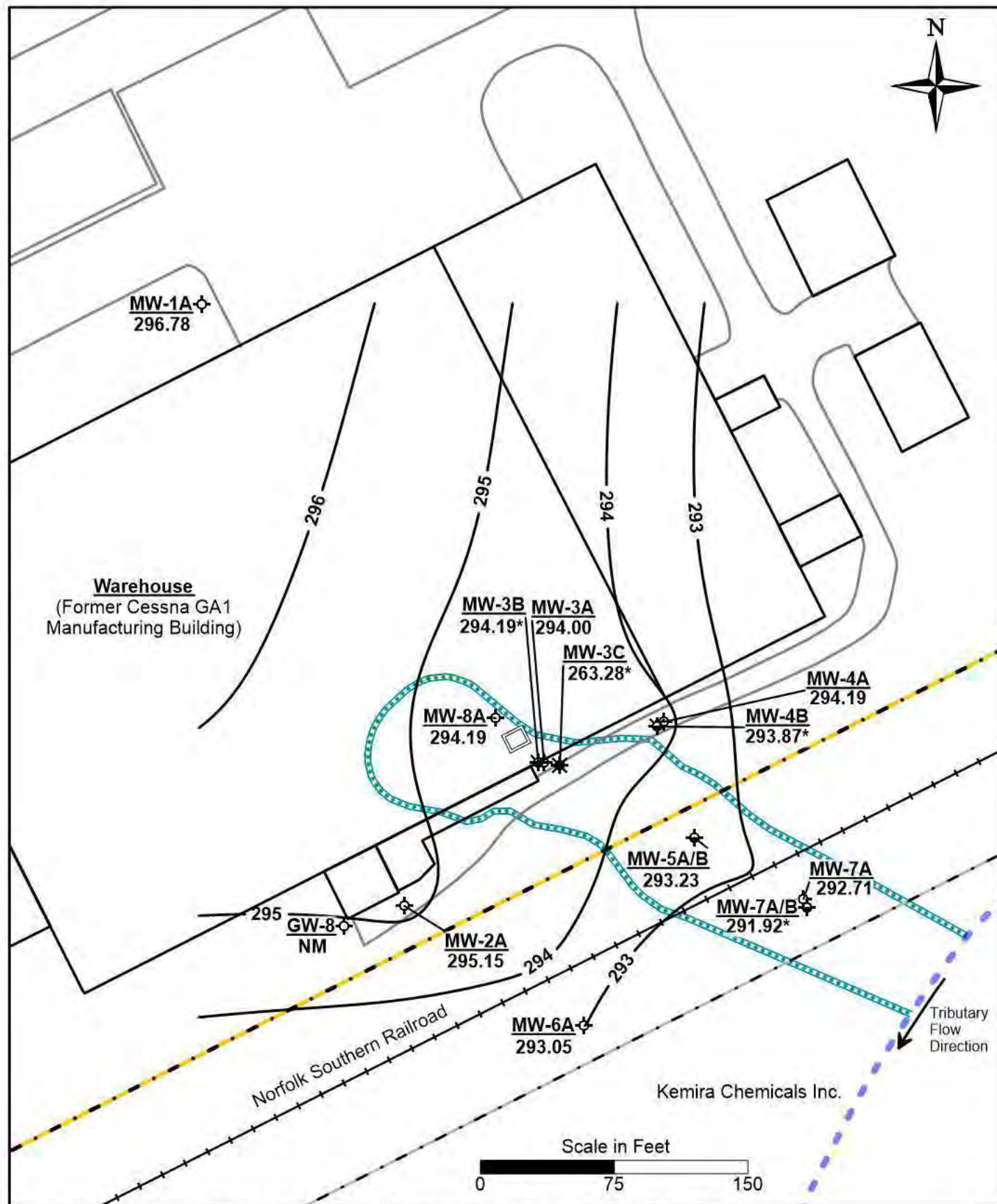
Semi-Annual Monitoring

Water Level Only

Stream Tributary
(Possibly Intermittent)

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





Offsite Properties
Site Boundary
Stream Tributary
(Possibly Intermittent)

Unit A/B Potentiometric Surface
2/18/2019
294
Contour Interval = 1 Foot
North American Vertical Datum, 1988
* Not used for contouring
NM - No measurement

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

**CDM
Smith**

Target Groundwater
Remediation Area

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

Semi-Annual Monitoring Events						
Well Code	Water Levels	VOCs	Metals	In Situ Measurements	Laboratory Bioremediation Parameters	Hach Field Analyses
MW-1A	X					
MW-2A	X	X		X		
MW-3A	X	X	X	X	X	X
MW-3B	X	X	X	X	X	X
MW-3C	X	X		X		
MW-4A	X	X	X	X	X	X
MW-4B	X	X	X	X	X	X
MW-5A/B	X	X	X	X	X	X
MW-6A	X	X		X		
MW-7A	X	X	X	X	X	X
MW-7A/B	X	X	X	X	X	X
MW-8A	X	X		X	X	X
GW-8	X					

Semi-Annual Monitoring Events are currently planned for mid-August 2019 and mid-February 2020.

2019 Quarterly Performance Monitoring Events						
Well Code	Water Levels	VOCs	Metals	In Situ Measurements	Laboratory Bioremediation Parameters ⁽¹⁾	Hach Field Analyses
MW-1A						
MW-2A						
MW-3A	X	X		X	X	X
MW-3B	X	X		X	X	X
MW-3C						
MW-4A	X	X		X	X	X
MW-4B	X	X		X	X	X
MW-5A/B	X	X		X	X	X
MW-6A						
MW-7A	X	X		X	X	X
MW-7A/B	X	X		X	X	X
MW-8A	X	X		X	X	X
GW-8						

Quarterly Performance Monitoring Events are currently planned for the end of May 2019, and mid-November 2019.

VOCs - Volatile organic compounds

Metals - Arsenic, Barium, Chromium, Lead, and Manganese

In Situ - Turbidity, pH, Temp., Cond., RedOx, and DO

Hach - Nitrate, Sulfate, Ferrous Iron, Total Iron, Carbon Dioxide, and Alkalinity

Bioremediation Parameters - Dissolved Gases (Methane, Ethene, and Ethane) and Chemical Oxygen Demand

1 - Census (qPCR) analyses will be completed for MW-3A, MW-3B, and INJ-4 during the first quarterly event.

Table A-1
Groundwater Monitoring Schedule

Compound		1,1-DCA	1,1-DCE	Acetone	Chloroform	MEK	CD	cis-1,2-DCE	TCE
On-Site RRS		4,000	520	46,000	80	12,000	4,000	200	5.2
INJ-1	2/20/2019	8.8	14	160	5.3	< 50	< 5.0	< 5.0	270
INJ-2	2/20/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-3	2/20/2019	9	40	< 50	< 5.0	< 50	< 5.0	< 5.0	570
INJ-4	2/20/2019	15	16	< 50	< 5.0	< 50	< 5.0	< 5.0	5,100
INJ-5	2/19/2019	9.9	< 5.0	< 50	< 5.0	< 50	< 5.0	8.1	1,500
INJ-6	2/20/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-7	2/20/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-8	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-9	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	49
INJ-10	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-11	3/14/2018	16	11	< 50	< 5.0	< 50	< 5.0	11	4,600
INJ-12	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0
INJ-13	3/14/2018	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	7.7
INJ-14	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	430
INJ-15	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	330
INJ-16	2/19/2019	< 5.0	< 5.0	< 50	< 5.0	< 50	< 5.0	< 5.0	< 5.0

Concentrations are µg/L

BRL - Below reporting level

DCA - Dichloroethane DCE - Dichloroethene

MEK - 2-Butanone

RRS - Risk Reduction Standard, 2016.

Shaded values exceed the 2016 RRS.

CD - Carbon Disulfide

TCE - Trichloroethene

Table A-2
Injection Well Groundwater Results

Cessna GA1 Facility
Columbus, Muscogee County, Georgia

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-3

Well Construction and Water Levels

Cessna GA1 Facility

Columbus, Muscogee County, Georgia

Well Code	Unit	Elevation TOC Feet	Screen Depth		Water Level TOC (2/18/19)		Water Level TOC		Water Level TOC	
			From	To	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1A	A	311.09	17.5	27.5	14.31	296.78				
MW-2A	A	311.89	23	33	16.74	295.15				
MW-3A	A	312.09	25	30	18.09	294.00				
MW-3B	B	312.32	36	41	18.13	294.19				
MW-3C	C	312.32	77.5	87.5	49.04	263.28				
MW-4A	A	313.17	25	30	18.98	294.19				
MW-4B	B	313.11	42	47	19.24	293.87				
MW-5A/B ⁽¹⁾	A	299.59	20	30	6.36	293.23				
MW-6A	A	298.34	11.5	21.5	5.29	293.05				
MW-7A	A	297.93	6	16	5.22	292.71				
MW-7A/B ⁽²⁾	B	297.88	20	30	5.96	291.92				
MW-8A	A	315.00	25	40	20.81	294.19				
GW-8	A	314.34	8	18	--	--				

Well Code	Unit	Elevation TOC Feet	Screen Depth		Water Level TOC		Water Level TOC		Water Level TOC	
			From	To	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1A	A	311.09	17.5	27.5						
MW-2A	A	311.89	23	33						
MW-3A	A	312.09	25	30						
MW-3B	B	312.32	36	41						
MW-3C	C	312.32	77.5	87.5						
MW-4A	A	313.17	25	30						
MW-4B	B	313.11	42	47						
MW-5A/B ⁽¹⁾	A	299.59	20	30						
MW-6A	A	298.34	11.5	21.5						
MW-7A	A	297.93	6	16						
MW-7A/B ⁽²⁾	B	297.88	20	30						
MW-8A	A	315.00	25	40						
GW-8	A	314.34	8	18						

All measurements are in feet

A - Unconsolidated Coastal Plain sediments/recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

1 - Previously designated as MW-7A

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

Compound		1,1-DCA	1,1-DCE	Acetone	MEK	CD	cis-1,2-DCE	TCE
Type 1 RRS		4,000	7	4,000	2,000	4,000	70	5
On-Site RRS		4,000	520	46,000	12,000	4,000	200	5.2
MW-2A	8/4/2014	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	Duplicate	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	1/19/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	Duplicate	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/19/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
MW-3A	8/4/2014	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	160
	1/20/2016	8.6	< 5.0	< 50	< 50	< 5.0	12	1,000
	2/1/2017	6.6	< 5.0	< 50	< 50	< 5.0	16	1,300
	8/15/2017	5.1	< 5.0	< 50	< 50	< 5.0	11	710
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	6.7	220
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	7	140
	2/20/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	690
MW-3B	8/4/2014	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	71
	1/20/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	11
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	23
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	25
	Duplicate	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	24
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	26
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	11
	2/21/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	120
MW-3C	1/20/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/1/2017	< 5.0	< 5.0	< 50	< 50	18	< 5.0	12
	8/15/2017	< 5.0	< 5.0	< 50	< 50	63	< 5.0	< 5.0
	2/27/2018	< 5.0	< 5.0	< 50	< 50	37	< 5.0	< 5.0
	8/8/2018	< 5.0	< 5.0	< 50	< 50	12	< 5.0	< 5.0
	2/21/2019	< 5.0	< 5.0	< 50	< 50	12	< 5.0	< 5.0
MW-4A	8/4/2014	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	1/20/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/20/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
MW-4B	8/4/2014	< 5.0	< 5.0	< 50	< 50	6.8	< 5.0	< 5.0
	1/20/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/21/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	Duplicate	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0

Table A-4
Groundwater VOC Results
 Cessna GA1 Facility
 Columbus, Muscogee County, Georgia

Compound		1,1-DCA	1,1-DCE	Acetone	MEK	CD	cis-1,2-DCE	TCE
Type 1 RRS		4,000	7	4,000	2,000	4,000	70	5
On-Site RRS		4,000	520	46,000	12,000	4,000	200	5.2
MW-8A	2/22/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	22

Compound		1,1-DCA	1,1-DCE	Acetone	MEK	CD	cis-1,2-DCE	TCE
Type 1 RRS		4,000	7	4,000	2,000	4,000	70	5
Off-Site RRS		4,000	100	8,000	2,300	4,000	70	5
MW-5A/B ⁽¹⁾	1/19/2016	10	6.9	< 50	< 50	< 5.0	30	1,900
	2/1/2017	6	5.7	< 50	< 50	< 5.0	18	1,500
	8/15/2017	5.1	< 5.0	< 50	< 50	< 5.0	24	1,400
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	17	1,300
	8/8/2018	7.2	< 5.0	< 50	< 50	< 5.0	19	1,700
	2/22/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	14	1,100
MW-6A	1/19/2016	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
	2/22/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0
MW-7A	3/14/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	340
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	340
	2/22/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	180
MW-7A/B ⁽²⁾	1/19/2016	< 5.0	< 5.0	< 50	190	< 5.0	49	100
	Duplicate	< 5.0	< 5.0	< 50	110	< 5.0	34	120
	2/1/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	8	17
	8/15/2017	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	8.2
	2/27/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	5.7
	8/8/2018	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	5.1
	2/22/2019	< 5.0	< 5.0	< 50	< 50	< 5.0	< 5.0	< 5.0

Concentrations are µg/L

< - Below reporting level, value is the reporting level

1 - Previously designated as MW-5A

A - Unconsolidated Coastal Plain sediment/recent alluvium

B - Piedmont saprolite

C - Piedmont upper bedrock

CD - Carbon Disulfide

MEK - 2-Butanone

RRS - Applicable Risk Reduction Standard, 2016
Voluntary Investigation & Remediation Plan. Type 1
RRSs used for delineation purposes only.

Shaded values exceed the 2016 RRS.

2 - Previously designated as MW-7A

DCA - Dichloroethane

DCE - Dichloroethene

TCE - Trichloroethene

Compound		Arsenic	Barium	Chromium	Lead	Manganese			
Type 1 RRS		10	20,000	100	15	2,500	Turbidity	pH	ORP
On-Site RRS		10	20,000	100	15	2,500	NTUs	S.U.	millivolts
MW-3A	2/27/2018	< 50	86.1	< 10	< 10	48.9	5.2	4.6	211
	8/8/2018	< 10	85.1	< 10	< 10	50.1	3.9	4.9	230
	2/20/2019	< 10	94	< 10	< 10	60.0	9.1	4.5	145
MW-3B	2/27/2018	< 50	155	< 10	< 10	16.6	8	6	186
	8/8/2018	< 10	158	< 10	< 10	< 15	4.9	5.3	141
	2/21/2019	< 10	185	10.3	< 10	29.8	4.8	4.3	94
MW-4A	2/27/2018	< 50	176	< 10	< 10	701	4	5.5	190
	8/8/2018	< 10	177	< 10	< 10	767	3.4	5.7	167
	2/20/2019	< 10	187	< 10	< 10	827	3.9	5.4	78
MW-4B	2/27/2018	< 50	655	< 10	< 10	224	6.9	6.9	39
	8/8/2018	< 10	1,070	15.2	< 10	271	7.8	7	40
	2/21/2019	< 10	755	< 10	< 10	249	9.8	6.6	49

Compound		Arsenic	Barium	Chromium	Lead	Manganese			
Type 1 RRS		10	20,000	100	15	2,500	Turbidity	pH	ORP
Off-Site RRS		10	3,100	100	15	380	NTUs	S.U.	millivolts
MW-5A/B ⁽¹⁾	2/27/2018	< 50	140	< 10	< 10	94.6	7	4.8	200
	8/8/2018	< 10	106	< 10	< 10	73.2	1	5.1	200
	2/22/2019	< 10	111	< 10	< 10	53.9	4.1	4.8	115
MW-7A	8/8/2018	< 10	71.4	< 10	< 10	< 15	4.2	5.5	228
	2/22/2019	< 10	92.5	< 10	< 10	< 15	7.1	5.6	80
MW-7A/B ⁽²⁾	8/8/2018	< 10	220	< 10	< 10	282	15	6.3	43
	2/22/2019	< 10	408	14.6	< 10	468	50	6.4	62

Concentrations are µg/L

< - Below reporting level, value is the reporting level

A - Unconsolidated Coastal Plain sediment/recent alluvium

B - Piedmont saprolite

1 - Previously designated as MW-5A

2 - Previously designated as MW-7A

NTU - Nephelometric turbidity unit

S.U. - Standard Unit

RRS - Applicable Risk Reduction Standard, 2016 Voluntary Investigation & Remediation Plan. Type 1 RRSs used for delineation purposes only.

Table A-5
Groundwater Metals Results

Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment A-1

Boring Logs & Well Construction

COMPLETION REPORT OF WELL No. INJ-1

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/29/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 29, 2019**

GROUND SURFACE ELEVATION:

DATUM:
LOGGED BY: **Andrew J. Ryan, P.G.**
CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00 0.00	TPC TRC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
CONCRETE	0			0.0	GS	RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-24' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					GROUT Type: Neat Portland Interval: 0.5'-20.0' BLS
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					SEAL Type: Bentonite Interval: 20'-22' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					SANDPACK Type: 20/30 Sand Interval: 22'-40'
	20			20.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 24'-40' BLS
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	25			22.0		
CLAY; reddish yellow (7.5 YR 6/8), soft.	30					WELL DEVELOPMENT DATA DATE: 2/1/2019 METHOD: Geopump DURATION: 1 hr RATE: 45 gallons
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	35					FINAL MEASUREMENTS:
	40			40.0		pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	40			40.3		
				41.0		

LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

CDM Smith

CDM Smith
3200 Windy Hill Road SE
Suite 210 West
Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-1**

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-2

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/30/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 30, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-25' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand, grading to white (7.5 YR 7/1) with depth.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0.5'-21.5' BLS
	20					
	25					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	20					SEAL Type: Bentonite Interval: 21.5'-23' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft.	25					
	25			23.0		
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	30					SANDPACK Type: 20/30 Sand Interval: 23'-41' BLS
	35					
	40					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	40					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 25'-40' BLS
				40.0		
				40.3		
				41.0		

WELL DEVELOPMENT DATA

DATE: **2/1/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **55 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
----	----------------------	-----------------------------	--------------------

LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

CDM Smith

CDM Smith
3200 Windy Hill Road SE
Suite 210 West
Atlanta, Georgia 30339

COMPLETION REPORT OF WELL No. INJ-2

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-3

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/29/2019**






DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 29, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
CONCRETE	0			0.0	GS	RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-22' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					GROUT Type: Neat Portland Interval: 0.5'-17.5' BLS
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					SEAL Type: Bentonite Interval: 17.5'-20' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					SANDPACK Type: 20/30 Sand Interval: 20'-33' BLS
	18.0			18.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 22'-32' BLS
	20.0			20.0		
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	25					WELL DEVELOPMENT DATA DATE: 2/1/2019 METHOD: Geopump DURATION: 1 hr RATE: 55 gallons
GRAVELLY SAND; pinkish white (7.5 YR 8/2), well graded, coarse, gravel up to 5 cm, saturated.	30					
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	32.0			32.0		
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	32.3			32.3		
	33.0			33.0		FINAL MEASUREMENTS:
						pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
LEGEND  FILTER PACK  BENTONITE  CEMENT GROUT  CUTTINGS / BACKFILL  NATIVE MATERIAL CO BOTTOM OF CONCRETE TPC TOP OF PROTECTIVE CASING TRC TOP OF RISER CASING GS GROUND SURFACE BS BENTONITE SEAL FP FILTER PACK TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH						

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.



CDM Smith
3200 Windy Hill Road SE
Suite 210 West
Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-3**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-4

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/30/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 30, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-26' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0.5'-22' BLS
	20					
	22.0					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	20					SEAL Type: Bentonite Interval: 22'-24' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft.	25					
	24.0					
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	30					SANDPACK Type: 20/30 Sand Interval: 24'-41' BLS
	35					
	39.5					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	40					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 26'-39.5' BLS
	39.8					
	41.0					

WELL DEVELOPMENT DATA

DATE: **2/1/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **55 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
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LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

CDM Smith

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Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-4**

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWN02 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-5

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **2/1/2019**






DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **February 1, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
SAND; black (10 YR 2/1), very fine to medium grained, quartz, organic with root traces.	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-22' BLS
SILTY SAND; very pale brown (10 YR 7/3) mottled with black (10 YR 2/1), very fine to fine grained sand, loosely cohesive.	5					
SILTY SAND; brown (10 YR 5/3), very fine grained quartz sand, increasing cohesiveness.	10					
CLAYEY SAND; reddish brown (5 YR 5/4), dense.	15					GROUT Type: Neat Portland Interval: 0'-18' BLS
SANDY CLAY; reddish yellow (7.5 YR 6/6), stiff.	20			18.0		
CLAY; gray (7.5 YR 6/1), soft.	20.0			20.0		
GRAVELLY SAND; pinkish gray (7.5 YR 7/2), poorly graded, gravel up to 3 cm, saturated.	25					SEAL Type: Bentonite Interval: 18'-20' BLS
	30					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).				34.0		SANDPACK Type: 20/30 Sand Interval: 20'-34.5' BLS
				34.3		
				35.0		
						SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 22'-34' BLS
						WELL DEVELOPMENT DATA DATE: 2/1/2019 METHOD: Geopump DURATION: 1 hr RATE: 50 gallons
						FINAL MEASUREMENTS:
						pH Temperature (° C) Conductivity (*specify*) Turbidity (NTU)
						LEGEND
						CO BOTTOM OF CONCRETE TPC TOP OF PROTECTIVE CASING TRC TOP OF RISER CASING GS GROUND SURFACE BS BENTONITE SEAL FP FILTER PACK TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH
						 FILTER PACK  BENTONITE  CEMENT GROUT  CUTTINGS / BACKFILL  NATIVE MATERIAL

STANDARD WELL REPORT LOG A EWN02 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT GDT 4/1/19 REV.

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Vero Beach, FL 32963

**COMPLETION REPORT OF
WELL No. INJ-5**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-6

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/31/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 31, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-24' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand, grading to white (7.5 YR 7/1) with depth.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0'-20' BLS
CLAYEY SAND; reddish yellow (7.5 YR 6/8), very fine, soft, non-cohesive.	20					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	25					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	20			20.0		SEAL Type: Bentonite Interval: 20'-22' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft.	22			22.0		
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	25					
	30					SANDPACK Type: 20/30 Sand Interval: 22'-42' BLS
	35					
	40					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	41			41.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 24'-41' BLS
				41.3		
				42.0		

WELL DEVELOPMENT DATA

DATE: **2/1/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **55 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
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LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

CDM Smith

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Atlanta, Georgia 30339

COMPLETION REPORT OF WELL No. INJ-6

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-7

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/31/2019**






DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 31, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-24' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand, grading to white (7.5 YR 7/1) with depth.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0'-20' BLS
CLAYEY SAND; reddish yellow (7.5 YR 6/8), very fine, soft, non-cohesive.	20					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	25					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	20			20.0		SEAL Type: Bentonite Interval: 20'-22' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft.	25			22.0		
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	30					
	35					SANDPACK Type: 20/30 Sand Interval: 22'-39' BLS
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).				38.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 24'-38' BLS
				38.3		
				39.0		
						WELL DEVELOPMENT DATA DATE: 2/1/2019 METHOD: Geopump DURATION: 1 hr RATE: 50 gallons
						FINAL MEASUREMENTS:
						pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
						LEGEND
						 FILTER PACK
						 BENTONITE
						 CEMENT GROUT
						 CUTTINGS / BACKFILL
						 NATIVE MATERIAL
						CO BOTTOM OF CONCRETE TPC TOP OF PROTECTIVE CASING TRC TOP OF RISER CASING GS GROUND SURFACE BS BENTONITE SEAL FP FILTER PACK TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.



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**COMPLETION REPORT OF
WELL No. INJ-7**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-8

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/25/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 25, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-21' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0.5'-18' BLS
	18.0					
	20.0					
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	20					SEAL Type: Bentonite Interval: 18'-20' BLS
	25					
	30					
GRAVELLY SAND; pinkish whit (7.5 YR 8/2), well graded, coarse, gravel up to 5 cm, saturated.	30					SANDPACK Type: 20/30 Sand Interval: 20'-35' BLS
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	34.0					
	34.3					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	35					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 21'-34' BLS

WELL DEVELOPMENT DATA

DATE: **1/31/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **45 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
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LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

COMPLETION REPORT OF WELL No. INJ-8

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

**CDM
Smith**

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Atlanta, Georgia 30339

COMPLETION REPORT OF WELL No. INJ-9

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/24/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 24, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
CONCRETE	0			0.0	GS	RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-21' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					GROUT Type: Neat Portland Interval: 0.5'-19.5' BLS
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					SEAL Type: Bentonite Interval: 17.5'-19.5' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15			17.5		SANDPACK Type: 20/30 Sand Interval: 19.5'-44' BLS
				19.5		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 21'-34' BLS
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	20					WELL DEVELOPMENT DATA DATE: 1/31/2019 METHOD: Geopump DURATION: 1 hr RATE: 45 gallons
	25					
GRAVELLY SAND; pinkish whit (7.5 YR 8/2), well graded, coarse, gravel up to 5 cm, saturated.	30					FINAL MEASUREMENTS: pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	35			34.0		
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).				34.3		LEGEND <div> <div> FILTER PACK </div> <div> BENTONITE </div> <div> CEMENT GROUT </div> <div> CUTTINGS / BACKFILL </div> <div> NATIVE MATERIAL </div> <div> <div>CO</div> <div>TPC</div> <div>TRC</div> <div>GS</div> <div>BS</div> <div>FP</div> <div>TSC</div> <div>BSC</div> <div>TD</div> </div> <div> <div>BOTTOM OF CONCRETE</div> <div>TOP OF PROTECTIVE CASING</div> <div>TOP OF RISER CASING</div> <div>GROUND SURFACE</div> <div>BENTONITE SEAL</div> <div>FILTER PACK</div> <div>TOP OF SCREEN</div> <div>BOTTOM OF SCREEN</div> <div>TOTAL DEPTH</div> </div> </div>
				35.0		

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Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-9**

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-10

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/28/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 28, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
CONCRETE	0			0.0	GS	RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-20' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					GROUT Type: Neat Portland Interval: 0.5'-18' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					
	18.0			18.0		SEAL Type: Bentonite Interval: 18'-20' BLS
	20.0			20.0		
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	20					SANDPACK Type: 20/30 Sand Interval: 20'-34' BLS
	25					
GRAVELLY SAND; pinkish white (7.5 YR 8/2), well graded, coarse, gravel up to 5 cm, saturated.	30					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 22'-32' BLS
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 3 cm, saturated.	32.0			32.0		
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	32.3			32.3		WELL DEVELOPMENT DATA DATE: 1/31/2019 METHOD: Geopump DURATION: 1 hr RATE: 35 gallons, ran dry.
	34.0			34.0		
						FINAL MEASUREMENTS:
						pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
						LEGEND
						<div> <div> FILTER PACK </div> <div> BENTONITE </div> <div> CEMENT GROUT </div> <div> CUTTINGS / BACKFILL </div> <div> NATIVE MATERIAL </div> </div> <div> <div>CO</div> <div>TPC</div> <div>TRC</div> <div>GS</div> <div>BS</div> <div>FP</div> <div>TSC</div> <div>BSC</div> <div>TD</div> </div> <div> <div>BOTTOM OF CONCRETE</div> <div>TOP OF PROTECTIVE CASING</div> <div>TOP OF RISER CASING</div> <div>GROUND SURFACE</div> <div>BENTONITE SEAL</div> <div>FILTER PACK</div> <div>TOP OF SCREEN</div> <div>BOTTOM OF SCREEN</div> <div>TOTAL DEPTH</div> </div>

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

CDM Smith

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Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-10**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-12

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/24/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 24, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
SAND; black (10 YR 2/1), very fine to medium grained, quartz, organic with root traces.	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-21' BLS
SILTY SAND; very pale brown (10 YR 7/3) mottled with black (10 YR 2/1), very fine to fine grained sand, loosely cohesive.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0.5'-17.5' BLS
				17.5		
				19.5		
CLAYEY GRAVELLY SAND, pink (7.5 YR 8/4) grading to white (7.5 YR 8/1), soft, moist.	20					SEAL Type: Bentonite Interval: 17.5'-19.5' BLS
GRAVELLY SAND; pinkish gray (7.5 YR 7/2), poorly graded, gravel up to 3 cm, saturated.	25					
CLAY; pinkish gray (7.5 YR 7/2), soft.	30					
GRAVELLY SAND; pinkish gray (7.5 YR 7/2), poorly graded, gravel up to 3 cm, saturated.	35					SANDPACK Type: 20/30 Sand Interval: 19.5'-38' BLS
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).				36.0		
				36.3		
				38.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 21'-36' BLS

WELL DEVELOPMENT DATA

DATE: **1/31/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **50 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
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LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH



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COMPLETION REPORT OF WELL No. INJ-12

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWN02 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT GDT 2/19/19 REV.

COMPLETION REPORT OF WELL No. INJ-14

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/23/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 23, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
SAND; black (10 YR 2/1), very fine to medium grained, quartz, organic with root traces.	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-23' BLS
SILTY SAND; very pale brown (10 YR 7/3) mottled with black (10 YR 2/1), very fine to fine grained sand, loosely cohesive.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0.5'-19.5' BLS
				19.5		SEAL Type: Bentonite Interval: 19.5'-21.5' BLS
CLAYEY GRAVELLY SAND, pink (7.5 YR 8/4) grading to white (7.5 YR 8/1), soft, moist.	20			21.5		SANDPACK Type: 20/30 Sand Interval: 21.5'-39' BLS
GRAVELLY SAND; pinkish gray (7.5 YR 7/2), poorly graded, gravel up to 3 cm, saturated.	25					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	35					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 23'-38' BLS
				38.0		WELL DEVELOPMENT DATA DATE: 1/31/2019 METHOD: Geopump DURATION: 1 hr RATE: 50 gallons
				38.3		
				39.0		
						FINAL MEASUREMENTS: pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
LEGEND <div style="display: flex; justify-content: space-between;"> <div> FILTER PACK BENTONITE CEMENT GROUT CUTTINGS / BACKFILL NATIVE MATERIAL </div> <div> CO BOTTOM OF CONCRETE TPC TOP OF PROTECTIVE CASING TRC TOP OF RISER CASING GS GROUND SURFACE BS BENTONITE SEAL FP FILTER PACK TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH </div> </div>						

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.



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Atlanta, Georgia 30339

**COMPLETION REPORT OF
WELL No. INJ-14**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-15

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/23/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 23, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
	0			0.0	GS	RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-22' BLS
SAND; black (10 YR 2/1), very fine to medium grained, quartz, organic with root traces.						
SILTY SAND; very pale brown (10 YR 7/3) mottled with black (10 YR 2/1), very fine to fine grained sand, loosely cohesive.	5					GROUT Type: Neat Portland Interval: 0.5'-19' BLS
SILTY SAND; brown (10 YR 5/3), very fine grained quartz sand, increasing cohesiveness.	10					
CLAYEY SAND; reddish brown (5 YR 5/4), dense.	15					SEAL Type: Bentonite Interval: 19'-21' BLS
SANDY CLAY; reddish yellow (7.5 YR 6/6), stiff.	20			19.0		
CLAY; gray (7.5 YR 6/1), soft.	25			21.0		SANDPACK Type: 20/30 Sand Interval: 21'-40' BLS
GRAVELLY SAND; pinkish gray (7.5 YR 7/2), poorly graded, gravel up to 3 cm, saturated.	30					
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).	35					SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 22'-39' BLS
GRAVELLY CLAY; pale brown (10 YR 6/3), poorly graded, soft, saturated. Refusal at 44'.	40			39.0		
				39.3		WELL DEVELOPMENT DATA DATE: 1/31/2019 METHOD: Geopump DURATION: 1 hr RATE: 55 gallons
				40.0		
						FINAL MEASUREMENTS:
						pH _____ Temperature (° C) _____ Conductivity (*specify*) _____ Turbidity (NTU) _____
						LEGEND
						<div> <div> FILTER PACK </div> <div> BENTONITE </div> <div> CEMENT GROUT </div> <div> CUTTINGS / BACKFILL </div> <div> NATIVE MATERIAL </div> <div> <div>CO</div> <div>TPC</div> <div>TRC</div> <div>GS</div> <div>BS</div> <div>FP</div> <div>TSC</div> <div>BSC</div> <div>TD</div> </div> <div> <div>BOTTOM OF CONCRETE</div> <div>TOP OF PROTECTIVE CASING</div> <div>TOP OF RISER CASING</div> <div>GROUND SURFACE</div> <div>BENTONITE SEAL</div> <div>FILTER PACK</div> <div>TOP OF SCREEN</div> <div>BOTTOM OF SCREEN</div> <div>TOTAL DEPTH</div> </div> </div>

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

CDM Smith

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**COMPLETION REPORT OF
WELL No. INJ-15**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. INJ-16

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/22/2019**

DRILLING CONTRACTOR: **GeoLab**

DRILLING METHOD: **Hollow-Stem Auger**

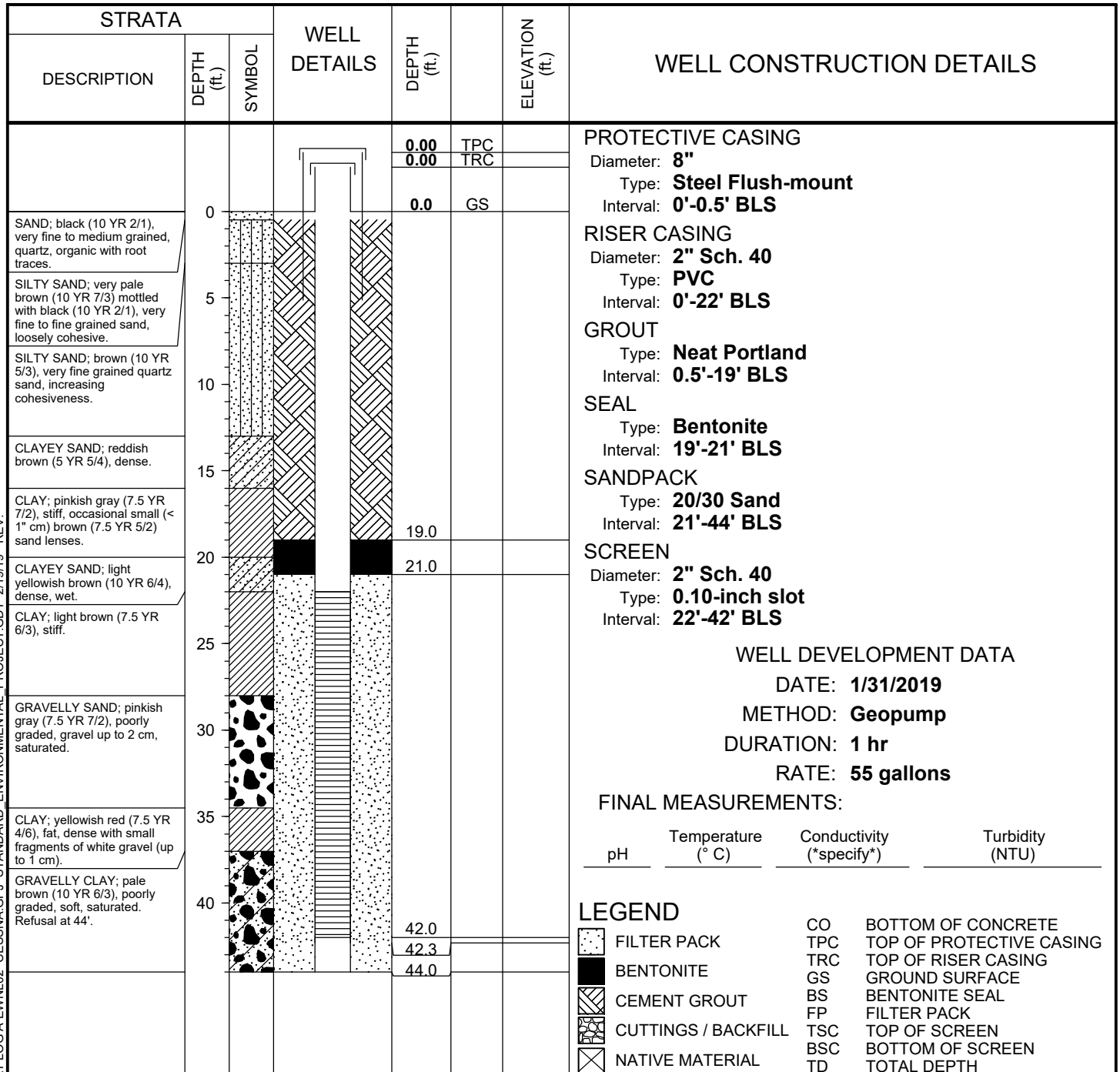
DATE COMPLETED: **January 22, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**



STANDARD WELL REPORT LOG A EWN02 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.



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**COMPLETION REPORT OF
WELL No. INJ-16**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. MW-8A

Sheet 1 of 1

PROJECT: **Cessna**
PROJECT NO: **233290**
PROJECT LOCATION: **Columbus, GA**

DATE: **1/31/2019**

DRILLING CONTRACTOR: **GeoLab**
DRILLING METHOD: **Hollow-Stem Auger**
DATE COMPLETED: **January 31, 2019**

GROUND SURFACE ELEVATION:

DATUM:

LOGGED BY: **Andrew J. Ryan, P.G.**

CHECKED BY: **J. Tom Duffey, P.G.**

STRATA			WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)	SYMBOL				
				0.00	TPC	PROTECTIVE CASING Diameter: 8" Type: Steel Flush-mount Interval: 0'-0.5' BLS
				0.00	TRC	
				0.0	GS	
CONCRETE	0					RISER CASING Diameter: 2" Sch. 40 Type: PVC Interval: 0'-25' BLS
SAND; pinkish gray (7.5 YR 7/2) mottled with black (10 YR 2/1), very fine to fine grained sand, grading to white (7.5 YR 7/1) with depth.	5					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	10					
CLAY; reddish yellow (7.5 YR 6/8), soft with yellowish brown mottling (10 YR 5/6).	15					GROUT Type: Neat Portland Interval: 0'-21' BLS
	20					
	25					
SILTY SAND; reddish yellow (7.5 YR 7/8), very fine grained quartz sand.	20			21.0		SEAL Type: Bentonite Interval: 21'-23' BLS
CLAY; reddish yellow (7.5 YR 6/8), soft.	25			23.0		
	30					
GRAVELLY SAND; pink (7.5 YR 7/3), poorly graded, upward fining, gravel up to 2 cm, saturated.	35					SANDPACK Type: 20/30 Sand Interval: 21'-41' BLS
	40			40.0		
				40.3		
CLAY; yellowish red (7.5 YR 4/6), fat, dense with small fragments of white gravel (up to 1 cm).				41.0		SCREEN Diameter: 2" Sch. 40 Type: 0.10-inch slot Interval: 25'-40' BLS

WELL DEVELOPMENT DATA

DATE: **2/1/2019**

METHOD: **Geopump**

DURATION: **1 hr**

RATE: **55 gallons**

FINAL MEASUREMENTS:

pH	Temperature (° C)	Conductivity (*specify*)	Turbidity (NTU)
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LEGEND

	FILTER PACK	CO	BOTTOM OF CONCRETE
	BENTONITE	TPC	TOP OF PROTECTIVE CASING
	CEMENT GROUT	TRC	TOP OF RISER CASING
	CUTTINGS / BACKFILL	GS	GROUND SURFACE
	NATIVE MATERIAL	BS	BENTONITE SEAL
		FP	FILTER PACK
		TSC	TOP OF SCREEN
		BSC	BOTTOM OF SCREEN
		TD	TOTAL DEPTH

CDM Smith
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**COMPLETION REPORT OF
WELL No. MW-8A**

Sheet 1 of 1

STANDARD WELL REPORT LOG A EWNLO2 CESSNA.GPJ STANDARD ENVIRONMENTAL PROJECT.GDT 2/19/19 REV.

Attachment A-2
Well Purge Records

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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:		SITE LOCATION:	
WELL NO:		SAMPLE ID: MW-6A	DATE: 2-22-19

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH: (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 5.35	PURGE PUMP TYPE: PP
DIAMETER (Inches): 2	DIAMETER (Inches):	PURGE METHOD: <input type="checkbox"/> Low-Flow <input type="checkbox"/> Traditional (3 Well)		
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (215 feet TOC - 5.35 feet TOC) X 0.16 gallons/foot = 2.58 gallons X 3 = 7.75				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (ml/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1050			300	5.75	4.86	17.9	0.052	11.1	2.71	129.4	
1059	0.4	0.4		5.75	4.84	17.7	0.052	6.57	2.27	123.7	
1100	1	0.8		5.75	4.87	17.7	0.052	6.01	2.03	117.2	
1125	1	1.2		5.75	4.94	17.8	0.052	5.33	1.93	107.3	
1140	1	1.6		5.75	4.98	17.7	0.052	4.79	1.92	107.8	
1145	1	2.0		5.75	4.97	17.7	0.052	7.16	1.88	106.8	
1150	2	2.4		5.75	4.96	17.7	0.053	6.49	1.87	105.1	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.05; 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David L. Smith		SAMPLER(S) SIGNATURE(S): [Signature]		SAMPLING INITIATED AT: 1120	SAMPLING ENDED AT:
PUMP OR TUBING		TUBING		FIELD-FILTERED: Y N FILTER SIZE: ____ mm	
DEPTH IN WELL (feet bgl): 15		MATERIAL CODE: Teflon		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)		DUPLICATE: 217 Y N			
SAMPLE CONTAINER SPECIFICATION		SAMPLE PRESERVATION (including wet ice)		INTENDED ANALYSIS AND/OR METHOD	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)
	2	CG	40	HCl	80
				FINAL pH	
				SAMPLING EQUIPMENT CODE	
				SAMPLE PUMP FLOW RATE (mL per minute)	

REMARKS/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₃, mg/L Final MnO₄, 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPF = 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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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: 2-21-19	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 36 to 41 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.1	PURGE PUMP TYPE: ESP
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (41 feet TOC - 18.1 feet TOC) X 0.16 gallons/foot = 3.7 gallons X 3 = 11				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 38.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 38.5	PURGING INITIATED AT: 0935	PURGING ENDED AT: 1015	TOTAL VOLUME PURGED (gallons): 3.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
0935			500	18.27	4.73	21.2	0.089	93.1	3.45	38.3	
0940	0.66	0.66	500	21.06	4.60	21.3	0.089	26.3	3.03	40.9	
0945	1.3	0.66	300	25.02	4.53	21.4	0.088	37.5	2.56	47.1	
0950	1.7	0.4		24.89	4.41	21.6	0.088	21.8	2.26	54.9	
0955	2.1			24.71	4.36	21.7	0.087	11.61	2.54	70.1	
1000	2.5			24.71	4.31	21.7	0.086	10.33	2.59	75.4	
1005	2.9			24.71	4.29	21.7	0.086	7.62	2.73	83.6	
1010	3.3			24.71	4.29	21.8	0.085	5.01	2.75	91.4	
1015	3.7			24.71	4.28	21.8	0.086	4.79	2.79	93.8	

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 = Baller; 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): [Signature]		SAMPLING INITIATED AT: 1015		SAMPLING ENDED AT:	
PUMP OR TUBING DEPTH IN WELL (feet bgl): 38.5		TUBING MATERIAL CODE: Teflon		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: ____ mm	
FIELD DECONTAMINATION: PUMP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> TUBING <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (replaced)		DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>					

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	1	LDPE	250	HNO ₃	250		Metals	APP	200
	2	CG	40	HCl	80		VOCs	RFPD	200

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.05 mg/L Final Sulfate, 2 mg/L Final CO₂, 65 mg/L Final MNO₄, mg/L
 Final Total Iron, 0.09 mg/L Final Nitrate, 1.9 mg/L Final Alkalinity, 20 mg/L Dilution Ratio:

Field Instruments:

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

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPD = 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: 2-21-19	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 42 to 47 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 18.80	PURGE PUMP TYPE: ESP
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (47 feet TOC - 18.8 feet TOC) X 0.16 gallons/foot = 4.5 gallons X 3 = 13.5				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 45	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 47	PURGING INITIATED AT: 1355	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons): 5.201

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm) ml/min	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
1355			450	18.03	5.09	21.4	0.323	49.8	5.07	76.0	
1400	0.6	0.6		22.41	6.13	21.2	2.323	51.0	3.93	83.8	
1405	1	1.2		26.82	6.21	22.3	0.351	23.6	3.51	113.6	
1410	1	1.8		20.03	6.40	22.5	0.360	17.1	2.86	94.3	
1415	1	2.4		33.59	6.52	22.4	0.362	12.5	1.87	71.1	
1420	1	3.0		37.22	6.68	22.6	0.362	10.11	1.55	60.2	
1425	1	3.6		40.01	6.64	22.6	0.363	9.05	1.59	53.8	
1430	1	4.2		43.16	6.61	22.6	0.363	7.49	1.54	49.9	
1435	1	4.8		45.13	6.60	22.6	0.363	9.83	1.56	49.4	
Dry after 5 gm											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 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 = Bailor; 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): A m 99		SAMPLING INITIATED AT:		SAMPLING ENDED AT:	
PUMP OR TUBING 47		TUBING Teflon		FIELD-FILTERED: Y N FILTER SIZE: ____ mm			
DEPTH IN WELL (feet bgl):		MATERIAL CODE:		Filtration Equipment Type:			
FIELD DECONTAMINATION: PUMP Y N		TUBING Y N (replaced)		DUPLICATE: (Y) N			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	2	CG	40	HCl	80		VOCs	RFPP	200
	1	LDPE	250	HNO ₃	250		metals	APP	200

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, 0.76 mg/L Final Sulfate, 0 mg/L Final CO₂, 85 mg/L Final MnO₄, mg/L

Final Total Iron, 0.69 mg/L Final Nitrate, 1.3 mg/L Final Alkalinity, 15 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 = Bailor; 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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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:		SITE LOCATION:	
WELL NO:	SAMPLE ID: MW 7A	DATE: 2-22-19	

PURGING DATA

WELL DIAMETER (Inches): 2	TUBING DIAMETER (Inches): 1/4	WELL SCREEN INTERVAL DEPTH: 6-16 (feet TOC)	STATIC DEPTH TO WATER (feet TOC): 5.24	PURGE PUMP TYPE: PP
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY 16 feet TOC - 5.24 feet TOC X 0.16 gallons/foot = 1.72 gallons X 3 = 5.16				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 11	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 11	PURGING INITIATED AT: 0920	PURGING ENDED AT: 0950	TOTAL VOLUME PURGED (gallons): 3.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
0920			500	6.02	5.44	16.4	0.091	7.5	0.50	96.7	
0925	0.66	0.66	1	6.12	5.45	16.7	0.091	31.1	0.45	97.6	
0930	1	1.3	1	6.12	5.51	16.9	0.089	15.9	0.80	88.9	
0935	1	1.7	1	6.12	5.55	16.9	0.088	9.05	0.82	84.7	
0940	1	2.3	1	6.12	5.55	17.0	0.087	10.41	0.84	82.3	
0945	1	3.0	1	6.12	5.56	17.0	0.85	6.03	0.86	79.2	
0950	1	3.7	1	6.2	5.55	12.1	0.085	2.11	0.89	80.3	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Daniel C. Smith		SAMPLER(S) SIGNATURE(S): [Signature]		SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT:
PUMP OR TUBING: 11		TUBING: Teflon		FIELD-FILTERED: Y N	FILTER SIZE: mm
DEPTH IN WELL (feet bgl): 11		MATERIAL CODE: Teflon		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)
	1	LDPE	250	HNO₃	250		Metals	APP	
	2	CG	40	HCl	80		VOCs	RFPF	

REMARKS/NOTES:

Hach Field Data: Final Ferrous Iron, **0.08** mg/L Final Sulfate, **1** mg/L Final CO₂, **55** mg/L Final MNO₄, mg/L

Final Total Iron, **0.15** mg/L Final Nitrate, **1.8** mg/L Final Alkalinity, **25** 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = 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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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: $\pm 5\%$; 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: _____ LOCATION: _____ DATE: 2-21-19

WELL NO: _____ SAMPLE ID: MW-8A

PURGING DATA

WELL SCREEN INTERVAL DEPTH: _____ (feet TOC) STATIC DEPTH TO WATER: 20.2 (feet TOC) PURGE PUMP TYPE: PP

DIAMETER (inches): 2 TUBING DIAMETER (inches): _____

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

PURGE METHOD: ☐ Low-Flow ☐ Traditional (3 Well)

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (mmhos/cm or mS/cm)	TURBIDITY (NTUs)	DISSOLVED OXYGEN (mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)
1537			300	20.92	5.96	21.4	0.124	60.5	1.00	64.5	
1542	0.4	0.4		20.92	5.10	21.5	0.089	60.2	2.25	82.3	
1547		0.8		20.92	5.06	21.5	0.086	39.3	2.33	81.4	
1552		1.2		20.92	5.10	21.5	0.084	14.0	2.27	80.6	
1557		1.6		20.92	5.07	21.5	0.083	6.75	2.27	85.3	
1602		2.0		20.92	5.07	21.5	0.083	3.10	2.28	86.9	
1607		2.4		20.92	5.07	21.5	0.083	5.74	2.20	82.0	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Good / CDM Smith

SAMPLER(S) SIGNATURE(S): [Signature]

SAMPLING INITIATED AT: 1607 SAMPLING ENDED AT: _____

FIELD-FILTERED: Y FILTER SIZE: _____ mm

PUMP OR TUBING: _____ TUBING MATERIAL CODE: Teflon

DEPTH IN WELL (feet bgl): _____

FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced)

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)

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, _____ mg/L Final Sulfate, _____ mg/L Final CO₂, _____ mg/L Final MnO₄, _____ 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 = Bailor; 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: <u>Cessna</u>		LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>INJ-1</u>	SAMPLE ID: <u>INJ-1</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER	PURGE PUMP TYPE:							
DIAMETER (inches): 2	DIAMETER (inches): <u>1 1/4"</u>	<u>24-40</u> (feet TOC)	(feet TOC): <u>20.49</u>	<u>PP</u>							
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY											
<u>(40 feet TOC - 20.49 feet TOC) X 0.16 gallons/foot = 3.1 gallons X 3 = 9.3</u>											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>091532</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	PURGING INITIATED AT: <u>0915</u>	PURGING ENDED AT: <u>0945</u>	TOTAL VOLUME PURGED (gallons): <u>2.4</u>							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (ml/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
<u>0915</u>			<u>300</u>	<u>20.59</u>	<u>5.00</u>	<u>21.3</u>	<u>0.048</u>	<u>35.2</u>	<u>0.74</u>	<u>-14.3</u>	
<u>0920</u>	<u>0.4</u>	<u>0.4</u>	<u>300</u>	<u>20.59</u>	<u>4.58</u>	<u>21.4</u>	<u>0.058</u>	<u>19.6</u>	<u>0.218</u>	<u>50.7</u>	
<u>0925</u>	<u>0.8</u>		<u>300</u>	<u>20.59</u>	<u>4.57</u>	<u>21.4</u>	<u>0.057</u>	<u>17.8</u>	<u>2.36</u>	<u>57.2</u>	
<u>0930</u>	<u>1.2</u>		<u>300</u>	<u>20.59</u>	<u>4.54</u>	<u>21.4</u>	<u>0.057</u>	<u>12.2</u>	<u>2.28</u>	<u>85.4</u>	
<u>0935</u>	<u>1.6</u>		<u>300</u>	<u>20.59</u>	<u>4.51</u>	<u>21.4</u>	<u>0.057</u>	<u>8.49</u>	<u>2.27</u>	<u>99.1</u>	
<u>0940</u>	<u>2.0</u>		<u>300</u>	<u>20.59</u>	<u>4.51</u>	<u>21.4</u>	<u>0.057</u>	<u>6.13</u>	<u>2.30</u>	<u>110.0</u>	
<u>0945</u>	<u>2.4</u>		<u>300</u>	<u>20.59</u>	<u>4.51</u>	<u>21.4</u>	<u>0.057</u>	<u>9.07</u>	<u>2.35</u>	<u>123.2</u>	

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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel Good</u> / CDM Smith		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>0945</u>	SAMPLING ENDED AT:
PUMP OR TUBING		TUBING		FIELD-FILTERED: Y N	FILTER SIZE: ____ mm
DEPTH IN WELL (feet bgl): <u>32</u>		MATERIAL CODE: <u>LDPE</u>		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)
	<u>2</u>	<u>16</u>	<u>40</u>	<u>HCl</u>	<u>80</u>
				FINAL pH	
				INTENDED ANALYSIS AND/OR METHOD	
				SAMPLING EQUIPMENT CODE	
				SAMPLE PUMP FLOW RATE (mL per minute)	<u>200</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MnO₄, 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 = Baller; 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: <u>Cessna</u>		LOCATION: <u>Columbus GA</u>	
WELL NO: <u>INJ-2</u>	SAMPLE ID: <u>INJ-2</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER	PURGE PUMP TYPE:
DIAMETER (inches): 2	DIAMETER (inches): <u>1/4</u>	<u>25.90</u> (feet TOC)	(feet TOC): <u>20.65</u>	<u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
<u>140</u> feet TOC - <u>20.65</u> feet TOC X <u>0.16</u> gallons/foot = <u>3.1</u> gallons X 3 = <u>9.3</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	PURGING INITIATED AT: <u>1015</u>	PURGING ENDED AT: <u>1045</u>	TOTAL VOLUME PURGED (gallons): <u>2.4</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
<u>1015</u>			<u>300</u>	<u>20.80</u>	<u>4.21</u>	<u>21.3</u>	<u>0.049</u>	<u>38.1</u>	<u>1.48</u>	<u>163.1</u>	
<u>1020</u>	<u>0.4</u>	<u>0.4</u>		<u>20.76</u>	<u>4.47</u>	<u>21.6</u>	<u>0.049</u>	<u>24.3</u>	<u>1.10</u>	<u>132.9</u>	
<u>1025</u>		<u>0.8</u>		<u>20.76</u>	<u>4.47</u>	<u>21.6</u>	<u>0.049</u>	<u>16.4</u>	<u>0.98</u>	<u>127.8</u>	
<u>1030</u>		<u>1.2</u>		<u>20.76</u>	<u>4.44</u>	<u>21.6</u>	<u>0.050</u>	<u>8.53</u>	<u>0.93</u>	<u>123.7</u>	
<u>1035</u>		<u>1.6</u>		<u>20.76</u>	<u>4.41</u>	<u>21.6</u>	<u>0.049</u>	<u>5.76</u>	<u>0.87</u>	<u>121.0</u>	
<u>1040</u>		<u>2.0</u>		<u>20.76</u>	<u>4.42</u>	<u>21.6</u>	<u>0.049</u>	<u>6.01</u>	<u>0.90</u>	<u>119.9</u>	
<u>1045</u>		<u>2.4</u>		<u>20.76</u>	<u>4.41</u>	<u>21.6</u>	<u>0.049</u>	<u>4.12</u>	<u>0.89</u>	<u>118.3</u>	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.15; 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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel G. Smith</u> / CDM Smith	SAMPLER(S) SIGNATURE(S): <u>Daniel G. Smith</u>	SAMPLING INITIATED AT: <u>1015</u>	SAMPLING ENDED AT: <u>1045</u>
PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	TUBING: <u>LD PE</u>	FIELD-FILTERED: Y N	FILTER SIZE: ____ mm
FIELD DECONTAMINATION: PUMP Y N	MATERIAL CODE: <u>LD PE</u>	Filtration Equipment Type:	
SAMPLE CONTAINER SPECIFICATION		DUPLICATE: Y N	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME
	<u>2</u>	<u>66</u>	<u>40</u>
PRESERVATIVE USED		TOTAL VOL ADDED IN FIELD (mL)	FINAL pH
<u>H21</u>		<u>80</u>	
INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
<u>VOCs</u>		<u>RFP</u>	<u>200</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFP = 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: <u>Legsha</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>INV-3</u>	SAMPLE ID: <u>INV-3</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>22-32</u> (feet TOC)	STATIC DEPTH TO WATER (feet TOC): <u>20.45</u>	PURGE PUMP TYPE: <u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
<u>(32 feet TOC - 20.45 feet TOC) X 0.16 gallons/foot = 1.8 gallons X 3 = 5.5</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>27</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>27</u>	PURGING INITIATED AT: <u>0755</u>	PURGING ENDED AT: <u>0830</u>	TOTAL VOLUME PURGED (gallons): <u>2.8</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
<u>0755</u>			<u>300</u>	<u>20.52</u>	<u>4.57</u>	<u>21.1</u>	<u>0.053</u>	<u>31.3</u>	<u>3.94</u>	<u>157.4</u>	
<u>0800</u>	<u>0.4</u>	<u>0.4</u>		<u>20.52</u>	<u>4.55</u>	<u>21.2</u>	<u>0.053</u>	<u>29.6</u>	<u>3.07</u>	<u>157.1</u>	
<u>0805</u>	<u>1</u>	<u>0.8</u>		<u>20.52</u>	<u>4.51</u>	<u>21.3</u>	<u>0.053</u>	<u>34.7</u>	<u>2.99</u>	<u>149.5</u>	
<u>0810</u>	<u>1</u>	<u>1.2</u>		<u>20.52</u>	<u>4.41</u>	<u>21.3</u>	<u>0.053</u>	<u>29.4</u>	<u>2.86</u>	<u>162.7</u>	
<u>0815</u>	<u>1</u>	<u>1.6</u>		<u>20.52</u>	<u>4.46</u>	<u>21.3</u>	<u>0.053</u>	<u>21.3</u>	<u>2.74</u>	<u>162.9</u>	
<u>0820</u>	<u>1</u>	<u>2.0</u>		<u>20.52</u>	<u>4.46</u>	<u>21.3</u>	<u>0.053</u>	<u>17.6</u>	<u>2.47</u>	<u>182.7</u>	
<u>0825</u>	<u>1</u>	<u>2.4</u>		<u>20.52</u>	<u>4.45</u>	<u>21.3</u>	<u>0.053</u>	<u>2.79</u>	<u>2.44</u>	<u>199.9</u>	
<u>0830</u>	<u>1</u>	<u>2.8</u>		<u>20.52</u>	<u>4.44</u>	<u>21.3</u>	<u>0.053</u>	<u>6.13</u>	<u>2.43</u>	<u>219.0</u>	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel GORDON CDM Smith</u>		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>0830</u>	SAMPLING ENDED AT:
PUMP OR TUBING		TUBING		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: ____ mm
DEPTH IN WELL (feet bgl): <u>27</u>		MATERIAL CODE: <u>LDPE</u>		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)		DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	<u>2</u>	<u>14</u>	<u>40</u>	<u>HCL</u>	<u>80</u>		<u>VOCs</u>	<u>RFPP</u>	<u>2.0</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MnO₄, 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 = Bailor; 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: <u>Cessna</u>		SITE LOCATION: <u>Columbus GA</u>	
WELL NO: <u>60550 INV-4</u>	SAMPLE ID: <u>INV-4</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER	PURGE PUMP TYPE:
DIAMETER (inches): 2	DIAMETER (inches): <u>1/4</u>	<u>26-39.4</u> (feet TOC)	(feet TOC): <u>20.74</u>	<u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
PURGE METHOD: <input type="checkbox"/> Low-Flow <input type="checkbox"/> Traditional (3 Well)				
<u>1395</u> feet TOC - <u>20.74</u> feet TOC X <u>0.16</u> gallons/foot = <u>3</u> gallons X <u>3</u> = <u>9</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	PURGING INITIATED AT: <u>1400</u>	PURGING ENDED AT: <u>1430</u>	TOTAL VOLUME PURGED (gallons): <u>2.0</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1400			300	20.80	5.50	21.2	0.131	38.3	0.87	-9.6	
1405	0.4	0.4		20.80	5.07	21.2	0.082	72.0	2.14	2.8	
1410		0.8		20.80	4.63	21.3	0.065	51.5	2.98	26.7	
1415		1.2		20.80	4.59	21.3	0.062	16.9	3.36	60.4	
1420		1.6		20.80	4.56	21.3	0.062	6.61	3.69	72.9	
1425		2.0		20.80	4.52	21.3	0.061	5.07	3.75	100.0	
1430		2.4		20.80	4.51	21.3	0.061	8.73	3.68	104.1	

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" = 0.0005; 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>David G. Smith</u> / CDM Smith		SAMPLER(S) SIGNATURE(S): <u>Amel G.</u>		SAMPLING INITIATED AT: <u>1430</u>	SAMPLING ENDED AT:
PUMP OR TUBING		TUBING		FIELD-FILTERED: Y <input checked="" type="radio"/> N <input type="radio"/>	FILTER SIZE: <u> </u> mm
DEPTH IN WELL (feet bgl): <u>32</u>		MATERIAL CODE: <u>LDPE</u>		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="radio"/> N <input type="radio"/>		TUBING Y <input checked="" type="radio"/> N <input type="radio"/> (replaced)		DUPLICATE: Y <input type="radio"/> N <input checked="" type="radio"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	2	44	40	H21	30		VOL	REPP	200

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Bailor; 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: <u>Cesna</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>INJ-5</u>	SAMPLE ID: <u>INJ-5</u>	DATE: <u>2-19-18</u>	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>18.43</u> (feet TOC)	STATIC DEPTH TO WATER (feet TOC): <u>22-4</u>	PURGE PUMP TYPE: <u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
$(34.29 \text{ feet TOC} - 18.43 \text{ feet TOC}) \times 2.5 \text{ gallons/foot} = 2.5 \text{ gallons} \times 3 = 7.5$				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>28</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>28</u>	PURGING INITIATED AT: <u>1485</u>	PURGING ENDED AT: <u>1525</u>	TOTAL VOLUME PURGED (gallons): <u>25</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ ODOR (describe)
<u>1455</u>			<u>300</u>	<u>18.52</u>	<u>4.16</u>	<u>18.6</u>	<u>0.053</u>	<u>19.8</u>	<u>3.77</u>	<u>238.9</u>	
<u>1500</u>	<u>0.4</u>	<u>0.4</u>	<u>300</u>	<u>18.63</u>	<u>4.95</u>	<u>20.3</u>	<u>0.053</u>	<u>12.3</u>	<u>3.09</u>	<u>1715</u>	
<u>1505</u>		<u>0.8</u>		<u>18.50</u>	<u>4.80</u>	<u>20.3</u>	<u>0.053</u>	<u>8.37</u>	<u>2.93</u>	<u>166.4</u>	
<u>1510</u>		<u>1.2</u>		<u>17.51</u>	<u>4.74</u>	<u>20.0</u>	<u>0.053</u>	<u>6.81</u>	<u>2.62</u>	<u>167.5</u>	
<u>1515</u>		<u>1.6</u>		<u>17.51</u>	<u>4.78</u>	<u>20.0</u>	<u>0.054</u>	<u>4.63</u>	<u>2.57</u>	<u>163.4</u>	
<u>1520</u>		<u>2.0</u>		<u>17.51</u>	<u>4.75</u>	<u>20.0</u>	<u>0.054</u>	<u>5.18</u>	<u>2.57</u>	<u>162.0</u>	
<u>1525</u>		<u>2.4</u>		<u>17.5</u>	<u>4.72</u>	<u>22.0</u>	<u>0.054</u>	<u>4.95</u>	<u>2.57</u>	<u>163.2</u>	

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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel Gao / CDM Smith</u>		SAMPLER(S) SIGNATURE(S): <u>Daniel Gao</u>		SAMPLING INITIATED AT: <u>1525</u>		SAMPLING ENDED AT:	
PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>28</u>		TUBING MATERIAL CODE: <u>28</u>		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)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	<u>2</u>	<u>CG</u>	<u>40</u>	<u>HCL</u>	<u>80</u>		<u>NO3</u>	<u>RFPP</u>	<u>200</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MnO₄, 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 = Baller; 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: <u>Cessna</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>IND-6</u>	SAMPLE ID: <u>IND-6</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>24-41</u> (feet TOC)	STATIC DEPTH TO WATER (feet TOC): <u>21.03</u>	PURGE PUMP TYPE: <u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <u>(41 feet TOC - 21.03 feet TOC) X 0.16 gallons/foot = 3.2 gallons X 3 = 9.6</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>33</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>33</u>	PURGING INITIATED AT: <u>1215</u>	PURGING ENDED AT: <u>1250</u>	TOTAL VOLUME PURGED (gallons): <u>2.8</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1215			300	21.12	5.49	21.2	0.167	65.1	1.47	-55.8	
1220	0.4	0.4	300	21.12	5.56	21.3	0.079	26.5	1.80	-64.7	
1225		0.8		21.12	4.88	21.3	0.049	29.0	2.55	-18.3	
1230		1.2		21.12	4.85	21.3	0.049	30.2	2.54	4.0	
1235		1.6		21.12	4.87	21.4	0.054	19.6	2.27	16.4	
1240		2.0		21.12	4.89	21.4	0.062	8.40	1.89	22.2	
1245		2.4		21.12	4.86	21.4	0.062	6.19	1.88	23.1	
1250		2.8		21.12	4.89	21.4	0.062	3.40	1.86	22.8	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel Gans / CDM Smith</u>		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: _____		SAMPLING ENDED AT: _____	
PUMP OR TUBING: <u>33</u>		TUBING: <u>LDPE</u>		FIELD FILTERED: Y <u>(N)</u>		FILTER SIZE: _____ mm	
DEPTH IN WELL (feet bgl): <u>33</u>		MATERIAL CODE: <u>LDPE</u>		Filtration Equipment Type: _____			
FIELD DECONTAMINATION: PUMP Y <u>(N)</u>		TUBING Y <u>(N)</u> (replaced)		DUPLICATE: Y <u>(N)</u>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	<u>2</u>	<u>CG</u>	<u>40</u>	<u>HCL</u>	<u>80</u>		<u>NOCS</u>	<u>RFPD</u>	<u>202</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPD = 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: <u>Lesson</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>INV-7</u>	SAMPLE ID: <u>INV-7</u>	DATE: <u>2-20-19</u>	

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER	PURGE PUMP TYPE							
DIAMETER (inches): 2	DIAMETER (inches): <u>1/4</u>	<u>24-38</u> (feet TOC)	(feet TOC): <u>21.09</u>	<u>PP</u>							
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY											
PURGE METHOD: <input type="checkbox"/> Low-Flow <input type="checkbox"/> Traditional (3 Well)											
(<u>38</u> feet TOC - <u>21.09</u> feet TOC) X <u>0.16</u> gallons/foot = <u>2.7</u> gallons X <u>3</u> = <u>8.1</u>											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>31</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>31</u>	PURGING INITIATED AT: <u>1110</u>	PURGING ENDED AT: <u>1140</u>	TOTAL VOLUME PURGED (gallons): <u>2.4</u>							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1110			300	21.38	4.68	21.4	0.039	47.3	3.42	160.7	
1115	0.4	0.4	300	21.38	4.69	21.3	0.037	14.7	3.24	140.6	
1120		0.8	1	21.38	4.62	21.4	0.037	7.2	3.07	142.0	
1125		1.2	1	21.38	4.62	21.4	0.037	3.94	3.09	142.3	
1130		1.6	1	21.38	4.63	21.4	0.037	5.40	2.98	140.7	
1135		2.0	1	21.38	4.64	21.4	0.037	6.55	2.94	138.9	
1140		2.4	1	21.38	4.64	21.4	0.037	3.66	2.92	137.4	
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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: <u>Daniel Gooch</u> CDM Smith		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>1140</u>	SAMPLING ENDED AT:				
PUMP OR TUBING		TUBING	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N	FILTER SIZE: ____ mm					
DEPTH IN WELL (feet bgl): <u>31</u>		MATERIAL CODE: <u>LDPE</u>	Filtration Equipment Type:						
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N		TUBING Y <input checked="" type="checkbox"/> N (replaced)	DUPLICATE: Y <input checked="" type="checkbox"/> 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)
	<u>2</u>	<u>CG</u>	<u>40</u>	<u>HCl</u>	<u>80</u>		<u>VOCs</u>	<u>RFP</u>	<u>200</u>
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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump;									
RFP = 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)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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).

**CDM
Smith**

[illegible][illegible]

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: $\pm 5\%$; Turbidity: < 10 NTUs or until stable; Dissolved Oxygen: ± 0.2 mg/L or 10% saturation (whichever is greater)

**CDM
Smith**

PURGING DATA

SAMPLING DATA

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: $\pm 5\%$; 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: <u>Cesana</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>IND-12</u>	SAMPLE ID: <u>IND-12</u>	DATE: <u>2-19-18</u>	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>17.43</u> (feet TOC)	STATIC DEPTH TO WATER: <u>18.62</u> (feet TOC)	PURGE PUMP TYPE: <u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <u>(35.43 feet TOC - 17.43 feet TOC) X 0.16 gallons/foot = 3 gallons X 3 = 9</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>29</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>29</u>	PURGING INITIATED AT: <u>1025</u>	PURGING ENDED AT: <u>1110</u>	TOTAL VOLUME PURGED (gallons): <u>2.9</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1025	0.7		500	18.62	4.44	19.9	0.039	12.7	4.48	180.2	
1030	0.4	1.1	300	20.13	4.61	19.6	0.039	76.8	4.13	84.3	
1035	0.25	1.35	200	21.35	4.81	19.2	0.039	46.2	3.91	86.3	
1040	0.25	1.6		21.50	4.90	18.9	0.040	31.5	3.65	74.4	
1045	0.25	1.85		21.55	4.85	18.6	0.040	61.3	3.47	74.2	
1050	0.25	2.1	150	21.72	4.90	18.6	0.040	133.6 AU	3.35	63.7	
1055	0.2	2.3		21.70	5.00	18.7	0.041	127.3 AU	2.83	44.9	
1100	0.2	2.5		21.68	5.01	19.0	0.042	140.3 AU	2.69	41.1	
1105	0.2	2.7		21.68	4.96	18.9	0.042	135.5 AU	2.68	40.9	
1110	0.2	2.9		21.68	4.94	19.0	0.042	128.4 AU	2.61	47.0	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Amc 25</u> / CDM Smith		SAMPLER(S) SIGNATURE(S): <u>Amc 25</u>		SAMPLING INITIATED AT: <u>1110</u>	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>29</u>		TUBING MATERIAL CODE: <u>LDPE</u>	FIELD FILTERED: Y <u>(N)</u>	FILTER SIZE: ____ mm	
FIELD DECONTAMINATION: PUMP Y <u>(N)</u>		TUBING Y <u>(N)</u> (replaced)	DUPLICATE: Y <u>(N)</u>		

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

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPD = 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)

Slow Recharge

GROUNDWATER SAMPLING LOG

SITE NAME: Lesser LOCATION: Columbus, GA DATE: 2-19-19
 WELL NO: ENV-14 SAMPLE ID: ENV 14

PURGING DATA

WELL: ENV-14 TUBING: 44 WELL SCREEN INTERVAL DEPTH: 15.17-23.38 (feet TOC) STATIC DEPTH TO WATER: 18.19 (feet TOC) PURGE PUMP TYPE: PP

DIAMETER (Inches): 2 PURGE METHOD: ☐ Low-Flow ☐ Traditional (3 Well)

PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (38 feet TOC - 18.19 feet TOC) X 3 gallons/foot = 9 gallons X 3 = 9

INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 30 FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): 30 PURGING INITIATED AT: 1122 PURGING ENDED AT: 1152 TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1122	0.7		500	18.41	5.15	20.4	0.066	2.13	2.79	140.7	
1127	0.4	1.1	300	18.44	5.05	20.2	0.046	16.6	3.42	132.7	
1132	0.4	1.5	300	18.31	4.88	19.8	0.044	11.5	3.05	139.4	
1137	0.4	1.9	300	18.31	4.88	19.8	0.045	9.18	3.00	143.2	
1142	0.4	2.3	300	18.31	4.76	19.9	0.043	8.90	3.03	146.0	
1147	0.4	2.7	300	18.31	4.79	19.9	0.044	4.07	3.04	146.9	
1152	0.4	3.1	300	18.31	4.82	19.9	0.044	6.73	3.08	147.0	

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Walter Gash / CDM Smith SAMPLER(S) SIGNATURE: [Signature] SAMPLING INITIATED AT: 1152 SAMPLING ENDED AT:

PUMP OR TUBING: 30 TUBING: LDPE FIELD-FILTERED: Y FILTER SIZE: 0 mm
 DEPTH IN WELL (feet bgl): 30 MATERIAL CODE: LDPE Filtration Equipment Type: Y DUPLICATE: Y DN

FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) 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)
	<u>2</u>	<u>Ch</u>	<u>40</u>	<u>HCL</u>	<u>80</u>		<u>VOG</u>	<u>RFP</u>	<u>200</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = 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: <u>Cessna</u>		SITE LOCATION:	
WELL NO:	SAMPLE ID: <u>IN-15</u>	DATE: <u>2-17-17</u>	

PURGING DATA

WELL DIAMETER (Inches): 2	TUBING DIAMETER (Inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>22-39</u> (feet TOC)	STATIC DEPTH TO WATER (feet TOC): <u>44.4/17.4</u>	PURGE PUMP TYPE: <u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
PURGE METHOD: <input type="checkbox"/> Low-Flow <input type="checkbox"/> Traditional (3 Well)				
(39.4) feet TOC - 17.4 feet TOC X gallons/foot = 3.3 gallons X 3 = 9.9				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>31</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>31</u>	PURGING INITIATED AT: <u>1320</u>	PURGING ENDED AT: <u>1350</u>	TOTAL VOLUME PURGED (gallons): <u>2.4</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1320			300	18.66	5.35	20.4	0.149	28.1	2.82	193.9	
1325	0.4	0.4	300	18.67	4.93	20.3	0.074	22.3	4.31	154.4	
1330	1	0.8	300	18.09	4.79	20.2	0.072	19.2	4.37	166.2	
1335	1	1.2	300	17.53	4.73	20.1	0.069	12.3	4.38	174.7	
1340	1	1.6	300	17.49	4.72	20.2	0.066	9.61	4.45	174.9	
1345	1	2.0	300	17.49	4.70	20.3	0.066	8.35	4.41	172.4	
1350	1	2.4	300	17.49	4.73	20.3	0.066	7.02	4.38	172.0	

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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: <u>Daniel Good</u> CDM Smith		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>1350</u>	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>31</u>		TUBING MATERIAL CODE: <u>LDPE</u>		FIELD-FILTERED: <u>Y</u> <input checked="" type="radio"/>	FILTER SIZE: <u> </u> mm
FIELD DECONTAMINATION: PUMP <u>Y</u> <input checked="" type="radio"/> TUBING <u>Y</u> <input checked="" type="radio"/> (replaced)		DUPLICATE: <u>Y</u> <input checked="" type="radio"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	<u>2</u>	<u>LG</u>	<u>40</u>	<u>HCl</u>	<u>80</u>		<u>VOCs</u>	<u>RFPP</u>	<u>200</u>

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₄, 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 = Baller; 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: <u>CASSA</u>		SITE LOCATION: <u>Columbus, GA</u>	
WELL NO: <u>INV-16</u>	SAMPLE ID: <u>INV-16</u>	DATE: <u>2-19-17</u>	

PURGING DATA

WELL	TUBING	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER	PURGE PUMP TYPE:
DIAMETER (inches): 2	DIAMETER (inches): <u>1/4</u>	<u>22-42</u> (feet TOC)	<u>18.10</u> (feet TOC)	<u>PP</u>
PURGE VOLUME: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
PURGE METHOD: <input type="checkbox"/> Low-Flow <input type="checkbox"/> Traditional (3 Well)				
$(\cancel{39.46} \text{ feet TOC} - 18.10 \text{ feet TOC}) \times 0.10 \text{ gallons/foot} = 3.8 \text{ gallons} \times 3 = 11.4$				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet bgl): <u>32</u>	PURGING INITIATED AT: <u>1407</u>	PURGING ENDED AT: <u>1437</u>	TOTAL VOLUME PURGED (gallons): <u>24</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet TOC)	pH (standard units)	TEMP. (°C)	SP. COND. (circle units) mmhos/cm or mS/cm	TURBIDITY (NTUs)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)
1407			300	18.68	4.22	17.0	0.033		4.90	189.6	
1412	0.4	0.4	300	18.44	4.49	18.8	0.033	2.74	3.50	190.9	
1417		0.8	300	18.41	4.41	18.6	0.033	17.4	3.39	185.3	
1422		1.2	300	18.41	4.37	18.6	0.033	2.35	3.33	189.5	
1427		1.6	300	18.41	4.39	18.5	0.033	20.2	3.26	184.3	
1432		2.0	300	18.41	4.36	18.4	0.033	5.38	3.42	191.5	
1437		2.4	300	18.41	4.36	18.5	0.033	6.99	3.43	191.4	

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" = 0.005; 1/2" = 0.010; 5/8" = 0.016

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Daniel G. Smith</u>		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>1437</u>	SAMPLING ENDED AT:
PUMP OR TUBING		TUBING		FIELD-FILTERED: Y N FILTER SIZE: ____ mm	
DEPTH IN WELL (feet bgl): <u>32</u>		MATERIAL CODE: <u>LDPE</u>		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)		DUPLICATE: Y N			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	2	CG	40	HCL	60		NOLG	RFPP	2.0

REMARK/NOTES:

Hach Field Data: Final Ferrous Iron, mg/L Final Sulfate, mg/L Final CO₂, mg/L Final MNO₃, 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 = Baller; 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-3
Laboratory Reports



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 04, 2019

Tom Duffey
CDM Smith Inc.

3200 Windy Hill Road
Atlanta GA 30339

RE: Cessna

Dear Tom Duffey:

Order No: 1902M18

Analytical Environmental Services, Inc. received 35 samples on 2/23/2019 10:24:00 AM
for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES's accreditations are as follows:

-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/18-06/30/19.

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 (Metals and PCM Asbestos), 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
Project Manager

CHAIN OF CUSTODY

Work Order: 19021918

Date: 2-23-19 Page 1 of 3

COMPANY: CDMSmith						ADDRESS: 3200 Windy Hill Rd SE Ste 210W Atlanta, GA 30339						ANALYSIS REQUESTED								Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.			
PHONE: 404 720 1330						EMAIL: DuffeyJT@CDMsmith.com						VOCs Metals TCLP VOCs											
SAMPLED BY: Daniel Good						SIGNATURE: [Signature]																	
#	SAMPLE ID	DATE	TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes)								REMARKS								
1	INJ-8	2-19-19	0912	G		GW	X																
2	INJ-10		1010																				
3	INJ-12		1110																				
4	INJ-14		1152																				
5	INJ-15		1350																				
6	INJ-16		1437																				
7	INJ-5		1525																				
8	INJ-9		1620																				
9	MW-2A		1703																				
10	INJ-3	2-20-19	0830																				
11	INJ-1		0945																				
12	INJ-2		1045																				
13	INJ-7		1140																				
14	INJ-6		1250																				
RELINQUISHED BY:						DATE/TIME:						PROJECT INFORMATION						RECEIPT					
1. [Signature] 2-23-19 1024						2. M. VANDERBILT 2/23/19 1024						PROJECT NAME: Cessna						Total # of Containers 28					
2.						3.						PROJECT #:						Turnaround Time (TAT) Request					
3.						SHIPMENT METHOD						SITE ADDRESS: 4800 Largo Drive Columbus, GA						<input checked="" type="checkbox"/> Standard					
SPECIAL INSTRUCTIONS/COMMENTS:						OUT: / / VIA: client FedEx UPS US mail courier						SEND REPORT TO: Duffey JT@CDMsmith.com						<input type="checkbox"/> 2 Business Day Rush					
						IN: / / VIA: other:						INVOICE TO (IF DIFFERENT FROM ABOVE):						<input type="checkbox"/> Next Business Day Rush					
												QUOTE #: PO#:						<input type="checkbox"/> Same-Day Rush (auth req.)					
																		<input type="checkbox"/> Other					
																		STATE PROGRAM (if any):					
																		E-mail? <input type="checkbox"/> Fax? <input type="checkbox"/>					
																		DATA PACKAGE: I O II O III O IV O					

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. 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 arrangements are made.

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater 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.

3080 Presidential Drive Atlanta, GA 30340-3704

Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1902M18

Date: 2-23-19 Page 2 of 2

COMPANY: CDM Smith		ADDRESS: 3200 Windy Hill Rd. SE, Ste 210W Atlanta GA 30339		ANALYSIS REQUESTED												Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.		Number of Containers			
PHONE: 404 720 1330		EMAIL: DuffeyJT@CDMsmith.com		<div style="display: flex; justify-content: space-between;"> <div>VOCs</div> <div>Metals</div> <div>TCLP VOCs</div> </div>																	
SAMPLED BY: Daniel Good		SIGNATURE: [Signature]		PRESERVATION (see codes)												REMARKS					
#	SAMPLE ID	DATE	TIME	GRAB	COMPOSITE	MATRIX (see codes)															
1	INQ-4	2-20-19	1430	G		GW	X											2			
2	MW-3A	I	1545					X										3			
3	MW-4A	I	1650					X										3			
4	MW-3C	2-21-19	0855					X										2			
5	MW-3B	I	1015					X										3			
6	MW-4B	I	1607					X										2			
7	MW-8A																	3			
8	MW-5A	2-22-19	0805					X										3			
9	MW-7A		0950					X										3			
10	MW-7B		1020					X										2			
11	MW-6A		1120															2			
12	Dup-1	2-21-19	0800															2			
13	Dup-2	2-22-19	0800															2			
14	GW-D-1	2-22-19	1300		C				X									2			
RELINQUISHED BY: [Signature]		DATE/TIME: 2-23-19 1024		RECEIVED BY: [Signature]		DATE/TIME: 2-23-19 1024		PROJECT INFORMATION												RECEIPT	
1.				2.				PROJECT NAME: Cessna												Total # of Containers: 35	
2.				3.				PROJECT #: [Blank]												Turnaround Time (TAT) Request <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 2 Business Day Rush <input type="checkbox"/> Next Business Day Rush <input type="checkbox"/> Same-Day Rush (auth req.) <input type="checkbox"/> Other	
3.								SITE ADDRESS: 4800 Cargo Drive, Columbus GA													
SPECIAL INSTRUCTIONS/COMMENTS:				SHIPMENT METHOD				SEND REPORT TO:												STATE PROGRAM (if any):	
				OUT: / / VIA:				INVOICE TO (IF DIFFERENT FROM ABOVE):												E-mail? <input type="checkbox"/> Fax? <input type="checkbox"/>	
				IN: / / VIA:																DATA PACKAGE: I <input type="radio"/> II <input type="radio"/> III <input type="radio"/> IV <input type="radio"/>	
				other: client FedEx UPS US mail courier				QUOTE #: PO#:													

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. 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 arrangements are made.



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CHAIN OF CUSTODY

Work Order: 1902M18

Date: 2-23-19 Page 3 of 3

COMPANY: <div>CDM Smith</div>		ADDRESS: 3200 Windy Hill Rd SE Ste 204 Atlanta GA 30339		ANALYSIS REQUESTED								Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.		Number of Containers					
PHONE: 404 720 1330		EMAIL: DuffeyJT@CDMSmith.com		VOLs	Metals	TCLP VOCs													
SAMPLED BY: Daniel Good		SIGNATURE: [Signature]		PRESERVATION (see codes)								REMARKS							
#	SAMPLE ID	SAMPLED:		GRAB	COMPOSITE	MATRIX (see codes)													
		DATE	TIME																
1	GW-D-2	2-22-19	1305		C	GW		X											
2	IDW-SO-1	I	1310		I	SO		I											1
3	IDW-SO-2	I	1315		I	SO		I											1
4	IDW SO-3	I	1320		I	SO		I											1
5	GW-T-1	I	1330		I	GW		I											2
6	EB-1	2-22-19	1600	X		W	X												2
7	Trip Blank						X												2
8																			
9																			
10																			
11																			
12																			
13																			
14																			
RELINQUISHED BY:		DATE/TIME:		RECEIVED BY:		DATE/TIME:		PROJECT INFORMATION								RECEIPT			
1. [Signature] 2-23-19 1024		2-23-19 1024		1. M. YUANO		2-23-19 10:24		PROJECT NAME: Lessna								Total # of Containers	11		
2.				2.				PROJECT #:								Turnaround Time (TAT) Request			
3.				3.				SITE ADDRESS: 4800 Cargo Drive								<input checked="" type="checkbox"/> Standard			
SPECIAL INSTRUCTIONS/COMMENTS:				SHIPMENT METHOD		OUT: / / VIA: / / IN: / / VIA: / / Client FedEx UPS US mail courier other:		SEND REPORT TO: DuffeyJT@CDMSmith.com								<input type="checkbox"/> 2 Business Day Rush			
								INVOICE TO (IF DIFFERENT FROM ABOVE):								<input type="checkbox"/> Next Business Day Rush			
								QUOTE #: PO#:								<input type="checkbox"/> Same-Day Rush (auth req.)			
																<input type="checkbox"/> Other			
																STATE PROGRAM (if any):			
																E-mail? <input type="checkbox"/> Fax? <input type="checkbox"/>			
																DATA PACKAGE: I <input type="radio"/> II <input type="radio"/> III <input type="radio"/> IV <input type="radio"/>			

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. 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 arrangements are made.

Page 4 of 87

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater 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

Client: CDM Smith Inc.**Project:** Cessna**Lab ID:** 1902M18**Case Narrative**

Sample Receiving Non-conformance:

Collection time was not listed on the Chain of Custody for sample MW-4B. Sample was logged in according to the information on the container label.

Analytical Environmental Services, Inc
Date: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-001

Client Sample ID: INJ-8
Collection Date: 2/19/2019 9:12:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 02:41	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 02:41	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 02:41	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-001

Client Sample ID: INJ-8
 Collection Date: 2/19/2019 9:12:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 02:41	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 02:41	JE
Surr: 4-Bromofluorobenzene	103	64-125		%REC	275023	1	02/26/2019 02:41	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	1	02/26/2019 02:41	JE
Surr: Toluene-d8	97.4	78.3-116		%REC	275023	1	02/26/2019 02:41	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-002

Client Sample ID: INJ-10
Collection Date: 2/19/2019 10:10:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 03:05	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 03:05	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 03:05	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-002

Client Sample ID: INJ-10
 Collection Date: 2/19/2019 10:10:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:05	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 03:05	JE
Surr: 4-Bromofluorobenzene	101	64-125		%REC	275023	1	02/26/2019 03:05	JE
Surr: Dibromofluoromethane	99.5	76.4-125		%REC	275023	1	02/26/2019 03:05	JE
Surr: Toluene-d8	98.2	78.3-116		%REC	275023	1	02/26/2019 03:05	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-003

Client Sample ID: INJ-12
Collection Date: 2/19/2019 11:10:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 03:30	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 03:30	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 03:30	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-003

Client Sample ID: INJ-12
 Collection Date: 2/19/2019 11:10:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:30	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 03:30	JE
Surr: 4-Bromofluorobenzene	101	64-125		%REC	275023	1	02/26/2019 03:30	JE
Surr: Dibromofluoromethane	98.8	76.4-125		%REC	275023	1	02/26/2019 03:30	JE
Surr: Toluene-d8	99.4	78.3-116		%REC	275023	1	02/26/2019 03:30	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-004

Client Sample ID: INJ-14
Collection Date: 2/19/2019 11:52:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 03:55	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 03:55	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 03:55	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-004

Client Sample ID: INJ-14
 Collection Date: 2/19/2019 11:52:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Trichloroethene	430	50		ug/L	275023	10	02/27/2019 06:46	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 03:55	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 03:55	JE
Surr: 4-Bromofluorobenzene	98.6	64-125		%REC	275023	10	02/27/2019 06:46	JE
Surr: 4-Bromofluorobenzene	102	64-125		%REC	275023	1	02/26/2019 03:55	JE
Surr: Dibromofluoromethane	102	76.4-125		%REC	275023	1	02/26/2019 03:55	JE
Surr: Dibromofluoromethane	104	76.4-125		%REC	275023	10	02/27/2019 06:46	JE
Surr: Toluene-d8	97.5	78.3-116		%REC	275023	1	02/26/2019 03:55	JE
Surr: Toluene-d8	101	78.3-116		%REC	275023	10	02/27/2019 06:46	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-005

Client Sample ID: INJ-15
Collection Date: 2/19/2019 1:50:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 04:20	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 04:20	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 04:20	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-005

Client Sample ID: INJ-15
 Collection Date: 2/19/2019 1:50:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Trichloroethene	330	50		ug/L	275023	10	02/27/2019 07:11	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:20	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 04:20	JE
Surr: 4-Bromofluorobenzene	97.9	64-125		%REC	275023	10	02/27/2019 07:11	JE
Surr: 4-Bromofluorobenzene	102	64-125		%REC	275023	1	02/26/2019 04:20	JE
Surr: Dibromofluoromethane	97.3	76.4-125		%REC	275023	10	02/27/2019 07:11	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275023	1	02/26/2019 04:20	JE
Surr: Toluene-d8	99.1	78.3-116		%REC	275023	1	02/26/2019 04:20	JE
Surr: Toluene-d8	99.2	78.3-116		%REC	275023	10	02/27/2019 07:11	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-006

Client Sample ID: INJ-16
 Collection Date: 2/19/2019 2:37:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 04:44	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 04:44	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 04:44	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-006

Client Sample ID: INJ-16
 Collection Date: 2/19/2019 2:37:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 04:44	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 04:44	JE
Surr: 4-Bromofluorobenzene	98.4	64-125		%REC	275023	1	02/26/2019 04:44	JE
Surr: Dibromofluoromethane	88.9	76.4-125		%REC	275023	1	02/26/2019 04:44	JE
Surr: Toluene-d8	99.3	78.3-116		%REC	275023	1	02/26/2019 04:44	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-007

Client Sample ID: INJ-5
Collection Date: 2/19/2019 3:25:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,1-Dichloroethane	9.9	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 05:09	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 05:09	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
cis-1,2-Dichloroethene	8.1	5.0		ug/L	275023	1	02/26/2019 05:09	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 05:09	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-007

Client Sample ID: INJ-5
 Collection Date: 2/19/2019 3:25:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Trichloroethene	1500	250		ug/L	275023	50	02/27/2019 06:21	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:09	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 05:09	JE
Surr: 4-Bromofluorobenzene	99.2	64-125		%REC	275023	50	02/27/2019 06:21	JE
Surr: 4-Bromofluorobenzene	103	64-125		%REC	275023	1	02/26/2019 05:09	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275023	50	02/27/2019 06:21	JE
Surr: Dibromofluoromethane	99.9	76.4-125		%REC	275023	1	02/26/2019 05:09	JE
Surr: Toluene-d8	100	78.3-116		%REC	275023	50	02/27/2019 06:21	JE
Surr: Toluene-d8	92.7	78.3-116		%REC	275023	1	02/26/2019 05:09	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-008

Client Sample ID: INJ-9
Collection Date: 2/19/2019 4:20:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 05:34	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 05:34	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 05:34	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-008

Client Sample ID: INJ-9
 Collection Date: 2/19/2019 4:20:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Trichloroethene	49	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:34	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 05:34	JE
Surr: 4-Bromofluorobenzene	99.9	64-125		%REC	275023	1	02/26/2019 05:34	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	1	02/26/2019 05:34	JE
Surr: Toluene-d8	98	78.3-116		%REC	275023	1	02/26/2019 05:34	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-009

Client Sample ID: MW-2A
 Collection Date: 2/19/2019 5:03:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 05:58	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 05:58	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 05:58	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-009

Client Sample ID: MW-2A
 Collection Date: 2/19/2019 5:03:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 05:58	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 05:58	JE
Surr: 4-Bromofluorobenzene	102	64-125		%REC	275023	1	02/26/2019 05:58	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275023	1	02/26/2019 05:58	JE
Surr: Toluene-d8	101	78.3-116		%REC	275023	1	02/26/2019 05:58	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-010

Client Sample ID: INJ-3
Collection Date: 2/20/2019 8:30:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,1-Dichloroethane	9.0	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,1-Dichloroethene	40	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 06:23	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 06:23	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 06:23	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-010

Client Sample ID: INJ-3
 Collection Date: 2/20/2019 8:30:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Trichloroethene	570	50		ug/L	275023	10	02/27/2019 07:36	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 06:23	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 06:23	JE
Surr: 4-Bromofluorobenzene	98.7	64-125		%REC	275023	1	02/26/2019 06:23	JE
Surr: 4-Bromofluorobenzene	98.1	64-125		%REC	275023	10	02/27/2019 07:36	JE
Surr: Dibromofluoromethane	98.7	76.4-125		%REC	275023	1	02/26/2019 06:23	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	10	02/27/2019 07:36	JE
Surr: Toluene-d8	94.7	78.3-116		%REC	275023	1	02/26/2019 06:23	JE
Surr: Toluene-d8	102	78.3-116		%REC	275023	10	02/27/2019 07:36	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-011

Client Sample ID: INJ-1
 Collection Date: 2/20/2019 9:45:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,1-Dichloroethane	8.8	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,1-Dichloroethene	14	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
2-Butanone	BRL	500		ug/L	275023	10	02/26/2019 19:35	NP
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
Acetone	160	50		ug/L	275023	1	02/26/2019 19:10	NP
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
Chloroform	5.3	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 19:10	NP
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-011

Client Sample ID: INJ-1
 Collection Date: 2/20/2019 9:45:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Trichloroethene	270	50		ug/L	275023	10	02/26/2019 19:35	NP
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 19:10	NP
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 19:10	NP
Surr: 4-Bromofluorobenzene	109	64-125		%REC	275023	1	02/26/2019 19:10	NP
Surr: 4-Bromofluorobenzene	109	64-125		%REC	275023	10	02/26/2019 19:35	NP
Surr: Dibromofluoromethane	113	76.4-125		%REC	275023	1	02/26/2019 19:10	NP
Surr: Dibromofluoromethane	113	76.4-125		%REC	275023	10	02/26/2019 19:35	NP
Surr: Toluene-d8	104	78.3-116		%REC	275023	1	02/26/2019 19:10	NP
Surr: Toluene-d8	105	78.3-116		%REC	275023	10	02/26/2019 19:35	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-012

Client Sample ID: INJ-2
Collection Date: 2/20/2019 10:45:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 07:12	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 07:12	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 07:12	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-012

Client Sample ID: INJ-2
 Collection Date: 2/20/2019 10:45:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:12	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 07:12	JE
Surr: 4-Bromofluorobenzene	99.9	64-125		%REC	275023	1	02/26/2019 07:12	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	1	02/26/2019 07:12	JE
Surr: Toluene-d8	98.6	78.3-116		%REC	275023	1	02/26/2019 07:12	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-013

Client Sample ID: INJ-7
 Collection Date: 2/20/2019 11:40:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 07:37	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 07:37	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 07:37	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-013

Client Sample ID: INJ-7
 Collection Date: 2/20/2019 11:40:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 07:37	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 07:37	JE
Surr: 4-Bromofluorobenzene	101	64-125		%REC	275023	1	02/26/2019 07:37	JE
Surr: Dibromofluoromethane	105	76.4-125		%REC	275023	1	02/26/2019 07:37	JE
Surr: Toluene-d8	100	78.3-116		%REC	275023	1	02/26/2019 07:37	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-014

Client Sample ID: INJ-6
Collection Date: 2/20/2019 12:50:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 08:02	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 08:02	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 08:02	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-014

Client Sample ID: INJ-6
 Collection Date: 2/20/2019 12:50:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:02	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 08:02	JE
Surr: 4-Bromofluorobenzene	99.2	64-125		%REC	275023	1	02/26/2019 08:02	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	1	02/26/2019 08:02	JE
Surr: Toluene-d8	98.1	78.3-116		%REC	275023	1	02/26/2019 08:02	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-015

Client Sample ID: INJ-4
Collection Date: 2/20/2019 2:30:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,1-Dichloroethane	15	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,1-Dichloroethene	16	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 08:26	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 08:26	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 08:26	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-015

Client Sample ID: INJ-4
 Collection Date: 2/20/2019 2:30:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Trichloroethene	5100	500		ug/L	275023	100	02/27/2019 05:56	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:26	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 08:26	JE
Surr: 4-Bromofluorobenzene	95.4	64-125		%REC	275023	100	02/27/2019 05:56	JE
Surr: 4-Bromofluorobenzene	98.5	64-125		%REC	275023	1	02/26/2019 08:26	JE
Surr: Dibromofluoromethane	83.5	76.4-125		%REC	275023	1	02/26/2019 08:26	JE
Surr: Dibromofluoromethane	89	76.4-125		%REC	275023	100	02/27/2019 05:56	JE
Surr: Toluene-d8	90.2	78.3-116		%REC	275023	1	02/26/2019 08:26	JE
Surr: Toluene-d8	102	78.3-116		%REC	275023	100	02/27/2019 05:56	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-016

Client Sample ID: MW-3A
Collection Date: 2/20/2019 3:45:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 08:51	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 08:51	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 08:51	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-016

Client Sample ID: MW-3A
Collection Date: 2/20/2019 3:45:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Trichloroethene	690	50		ug/L	275023	10	02/27/2019 08:00	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 08:51	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 08:51	JE
Surr: 4-Bromofluorobenzene	98.6	64-125		%REC	275023	10	02/27/2019 08:00	JE
Surr: 4-Bromofluorobenzene	101	64-125		%REC	275023	1	02/26/2019 08:51	JE
Surr: Dibromofluoromethane	99.5	76.4-125		%REC	275023	10	02/27/2019 08:00	JE
Surr: Dibromofluoromethane	102	76.4-125		%REC	275023	1	02/26/2019 08:51	JE
Surr: Toluene-d8	98.3	78.3-116		%REC	275023	1	02/26/2019 08:51	JE
Surr: Toluene-d8	98.2	78.3-116		%REC	275023	10	02/27/2019 08:00	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 17:37	DG
Barium	0.0940	0.0200		mg/L	274970	1	02/27/2019 17:37	DG
Chromium	BRL	0.0100		mg/L	274970	1	02/27/2019 17:37	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 17:37	DG
Manganese	0.0600	0.0150		mg/L	274970	1	02/27/2019 17:37	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-017

Client Sample ID: MW-4A
Collection Date: 2/20/2019 4:50:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 09:35	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 09:35	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 09:35	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-017

Client Sample ID: MW-4A
 Collection Date: 2/20/2019 4:50:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 09:35	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 09:35	JE
Surr: 4-Bromofluorobenzene	99	64-125		%REC	275023	1	02/26/2019 09:35	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275023	1	02/26/2019 09:35	JE
Surr: Toluene-d8	96.9	78.3-116		%REC	275023	1	02/26/2019 09:35	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:00	DG
Barium	0.187	0.0200		mg/L	274970	1	02/27/2019 18:00	DG
Chromium	BRL	0.0100		mg/L	274970	1	02/27/2019 18:00	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:00	DG
Manganese	0.827	0.0150		mg/L	274970	1	02/27/2019 18:00	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-018

Client Sample ID: MW-3C
Collection Date: 2/21/2019 8:55:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 10:00	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 10:00	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 10:00	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-018

Client Sample ID: MW-3C
 Collection Date: 2/21/2019 8:55:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:00	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 10:00	JE
Surr: 4-Bromofluorobenzene	99.4	64-125		%REC	275023	1	02/26/2019 10:00	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275023	1	02/26/2019 10:00	JE
Surr: Toluene-d8	99	78.3-116		%REC	275023	1	02/26/2019 10:00	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-019

Client Sample ID: MW-3B
Collection Date: 2/21/2019 10:15:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 10:25	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 10:25	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 10:25	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-019

Client Sample ID: MW-3B
 Collection Date: 2/21/2019 10:15:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Trichloroethene	120	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:25	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 10:25	JE
Surr: 4-Bromofluorobenzene	100	64-125		%REC	275023	1	02/26/2019 10:25	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275023	1	02/26/2019 10:25	JE
Surr: Toluene-d8	99.4	78.3-116		%REC	275023	1	02/26/2019 10:25	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:02	DG
Barium	0.185	0.0200		mg/L	274970	1	02/27/2019 18:02	DG
Chromium	0.0103	0.0100		mg/L	274970	1	02/27/2019 18:02	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:02	DG
Manganese	0.0298	0.0150		mg/L	274970	1	02/27/2019 18:02	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-020

Client Sample ID: MW-4B
Collection Date: 2/21/2019 2:45:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
2-Butanone	BRL	50		ug/L	275023	1	02/26/2019 10:49	JE
2-Hexanone	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
Acetone	BRL	50		ug/L	275023	1	02/26/2019 10:49	JE
Benzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Bromodichloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Bromoform	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Bromomethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Carbon disulfide	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Carbon tetrachloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Chlorobenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Chloroethane	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
Chloroform	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Chloromethane	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Cyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Dibromochloromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Dichlorodifluoromethane	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
Ethylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Freon-113	BRL	10		ug/L	275023	1	02/26/2019 10:49	JE
Isopropylbenzene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
m,p-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Methyl acetate	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Methylcyclohexane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Methylene chloride	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
o-Xylene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-020

Client Sample ID: MW-4B
 Collection Date: 2/21/2019 2:45:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Tetrachloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Toluene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Trichloroethene	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275023	1	02/26/2019 10:49	JE
Vinyl chloride	BRL	2.0		ug/L	275023	1	02/26/2019 10:49	JE
Surr: 4-Bromofluorobenzene	101	64-125		%REC	275023	1	02/26/2019 10:49	JE
Surr: Dibromofluoromethane	104	76.4-125		%REC	275023	1	02/26/2019 10:49	JE
Surr: Toluene-d8	102	78.3-116		%REC	275023	1	02/26/2019 10:49	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:04	DG
Barium	0.755	0.0200		mg/L	274970	1	02/27/2019 18:04	DG
Chromium	BRL	0.0100		mg/L	274970	1	02/27/2019 18:04	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:04	DG
Manganese	0.249	0.0150		mg/L	274970	1	02/27/2019 18:04	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-021

Client Sample ID: MW-8A
Collection Date: 2/21/2019 4:07:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
2-Butanone	BRL	50		ug/L	275022	1	02/26/2019 11:49	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
Acetone	BRL	50		ug/L	275022	1	02/26/2019 11:49	JE
Benzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Chloroethane	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Chloromethane	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Freon-113	BRL	10		ug/L	275022	1	02/26/2019 11:49	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-021

Client Sample ID: MW-8A
 Collection Date: 2/21/2019 4:07:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Toluene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Trichloroethene	22	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/26/2019 11:49	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/26/2019 11:49	JE
Surr: 4-Bromofluorobenzene	98	64-125		%REC	275022	1	02/26/2019 11:49	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275022	1	02/26/2019 11:49	JE
Surr: Toluene-d8	95	78.3-116		%REC	275022	1	02/26/2019 11:49	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-022

Client Sample ID: MW-5A
Collection Date: 2/22/2019 8:05:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
2-Butanone	BRL	50		ug/L	275022	1	02/26/2019 12:13	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
Acetone	BRL	50		ug/L	275022	1	02/26/2019 12:13	JE
Benzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Chloroethane	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Chloromethane	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
cis-1,2-Dichloroethene	14	5.0		ug/L	275022	1	02/26/2019 12:13	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Freon-113	BRL	10		ug/L	275022	1	02/26/2019 12:13	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-022

Client Sample ID: MW-5A
Collection Date: 2/22/2019 8:05:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Toluene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Trichloroethene	1100	50		ug/L	275022	10	02/27/2019 08:25	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/26/2019 12:13	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/26/2019 12:13	JE
Surr: 4-Bromofluorobenzene	98.6	64-125		%REC	275022	1	02/26/2019 12:13	JE
Surr: 4-Bromofluorobenzene	98.7	64-125		%REC	275022	10	02/27/2019 08:25	JE
Surr: Dibromofluoromethane	99.3	76.4-125		%REC	275022	1	02/26/2019 12:13	JE
Surr: Dibromofluoromethane	102	76.4-125		%REC	275022	10	02/27/2019 08:25	JE
Surr: Toluene-d8	92.3	78.3-116		%REC	275022	1	02/26/2019 12:13	JE
Surr: Toluene-d8	100	78.3-116		%REC	275022	10	02/27/2019 08:25	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:07	DG
Barium	0.111	0.0200		mg/L	274970	1	02/27/2019 18:07	DG
Chromium	BRL	0.0100		mg/L	274970	1	02/27/2019 18:07	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:07	DG
Manganese	0.0539	0.0150		mg/L	274970	1	02/27/2019 18:07	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-023

Client Sample ID: MW-7A
Collection Date: 2/22/2019 9:50:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 08:50	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 08:50	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 08:50	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-023

Client Sample ID: MW-7A
 Collection Date: 2/22/2019 9:50:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Trichloroethene	180	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 08:50	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 08:50	JE
Surr: 4-Bromofluorobenzene	98.4	64-125		%REC	275022	1	02/27/2019 08:50	JE
Surr: Dibromofluoromethane	87.6	76.4-125		%REC	275022	1	02/27/2019 08:50	JE
Surr: Toluene-d8	101	78.3-116		%REC	275022	1	02/27/2019 08:50	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:09	DG
Barium	0.0925	0.0200		mg/L	274970	1	02/27/2019 18:09	DG
Chromium	BRL	0.0100		mg/L	274970	1	02/27/2019 18:09	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:09	DG
Manganese	BRL	0.0150		mg/L	274970	1	02/27/2019 18:09	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-024

Client Sample ID: MW-7B
Collection Date: 2/22/2019 10:20:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 09:15	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 09:15	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 09:15	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-024

Client Sample ID: MW-7B
 Collection Date: 2/22/2019 10:20:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:15	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 09:15	JE
Surr: 4-Bromofluorobenzene	97.8	64-125		%REC	275022	1	02/27/2019 09:15	JE
Surr: Dibromofluoromethane	89	76.4-125		%REC	275022	1	02/27/2019 09:15	JE
Surr: Toluene-d8	102	78.3-116		%REC	275022	1	02/27/2019 09:15	JE
METALS, TOTAL SW6010D				(SW3010A)				
Arsenic	BRL	0.0100		mg/L	274970	1	02/27/2019 18:11	DG
Barium	0.408	0.0200		mg/L	274970	1	02/27/2019 18:11	DG
Chromium	0.0146	0.0100		mg/L	274970	1	02/27/2019 18:11	DG
Lead	BRL	0.0100		mg/L	274970	1	02/27/2019 18:11	DG
Manganese	0.468	0.0150		mg/L	274970	1	02/27/2019 18:11	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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-025

Client Sample ID: MW-6A
Collection Date: 2/22/2019 11:20:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 09:40	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 09:40	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 09:40	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-025

Client Sample ID: MW-6A
 Collection Date: 2/22/2019 11:20:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 09:40	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 09:40	JE
Surr: 4-Bromofluorobenzene	98.6	64-125		%REC	275022	1	02/27/2019 09:40	JE
Surr: Dibromofluoromethane	102	76.4-125		%REC	275022	1	02/27/2019 09:40	JE
Surr: Toluene-d8	100	78.3-116		%REC	275022	1	02/27/2019 09:40	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-026

Client Sample ID: DUP-1
Collection Date: 2/21/2019 8:00:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 10:04	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 10:04	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 10:04	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-026

Client Sample ID: DUP-1
 Collection Date: 2/21/2019 8:00:00 AM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 10:04	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 10:04	JE
Surr: 4-Bromofluorobenzene	96.8	64-125		%REC	275022	1	02/27/2019 10:04	JE
Surr: Dibromofluoromethane	88.4	76.4-125		%REC	275022	1	02/27/2019 10:04	JE
Surr: Toluene-d8	99.8	78.3-116		%REC	275022	1	02/27/2019 10:04	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-027

Client Sample ID: DUP-2
Collection Date: 2/22/2019 8:00:00 AM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 05:07	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 05:07	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 05:07	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE

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: 4-Mar-19

Client:	CDM Smith Inc.	Client Sample ID:	DUP-2
Project Name:	Cessna	Collection Date:	2/22/2019 8:00:00 AM
Lab ID:	1902M18-027	Matrix:	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:07	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 05:07	JE
Surr: 4-Bromofluorobenzene	97.2	64-125		%REC	275022	1	02/27/2019 05:07	JE
Surr: Dibromofluoromethane	89	76.4-125		%REC	275022	1	02/27/2019 05:07	JE
Surr: Toluene-d8	101	78.3-116		%REC	275022	1	02/27/2019 05:07	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-028

Client Sample ID: GW-D-1
 Collection Date: 2/22/2019 1:00:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260D				(SW5030B)				
1,1-Dichloroethene	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
1,2-Dichloroethane	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
2-Butanone	BRL	0.20		mg/L	275284	20	03/01/2019 12:28	CC
Benzene	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Carbon tetrachloride	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Chlorobenzene	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Chloroform	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Tetrachloroethene	BRL	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Trichloroethene	0.25	0.10		mg/L	275284	20	03/01/2019 12:28	CC
Vinyl chloride	BRL	0.040		mg/L	275284	20	03/01/2019 12:28	CC
Surr: 4-Bromofluorobenzene	98.6	63.1-120		%REC	275284	20	03/01/2019 12:28	CC
Surr: Dibromofluoromethane	97.2	76.1-126		%REC	275284	20	03/01/2019 12:28	CC
Surr: Toluene-d8	107	75.3-119		%REC	275284	20	03/01/2019 12:28	CC

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-029

Client Sample ID: GW-D-2
Collection Date: 2/22/2019 1:05:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260D				(SW5030B)				
1,1-Dichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
1,2-Dichloroethane	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
2-Butanone	BRL	0.20		mg/L	275115	20	03/01/2019 02:47	CC
Benzene	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Carbon tetrachloride	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Chlorobenzene	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Chloroform	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Tetrachloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Trichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 02:47	CC
Vinyl chloride	BRL	0.040		mg/L	275115	20	03/01/2019 02:47	CC
Surr: 4-Bromofluorobenzene	96.7	63.1-120		%REC	275115	20	03/01/2019 02:47	CC
Surr: Dibromofluoromethane	106	76.1-126		%REC	275115	20	03/01/2019 02:47	CC
Surr: Toluene-d8	105	75.3-119		%REC	275115	20	03/01/2019 02:47	CC

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-030

Client Sample ID: IDW-SO-1
 Collection Date: 2/22/2019 1:10:00 PM
 Matrix: Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260D					(SW5030B)			
1,1-Dichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
1,2-Dichloroethane	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
2-Butanone	BRL	0.20		mg/L	275115	20	03/01/2019 03:15	CC
Benzene	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Carbon tetrachloride	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Chlorobenzene	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Chloroform	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Tetrachloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Trichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:15	CC
Vinyl chloride	BRL	0.040		mg/L	275115	20	03/01/2019 03:15	CC
Surr: 4-Bromofluorobenzene	100	63.1-120		%REC	275115	20	03/01/2019 03:15	CC
Surr: Dibromofluoromethane	102	76.1-126		%REC	275115	20	03/01/2019 03:15	CC
Surr: Toluene-d8	101	75.3-119		%REC	275115	20	03/01/2019 03:15	CC

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-031

Client Sample ID: IDW-SO-2
 Collection Date: 2/22/2019 1:15:00 PM
 Matrix: Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260D					(SW5030B)			
1,1-Dichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
1,2-Dichloroethane	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
2-Butanone	BRL	0.20		mg/L	275115	20	03/01/2019 03:42	CC
Benzene	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Carbon tetrachloride	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Chlorobenzene	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Chloroform	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Tetrachloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Trichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 03:42	CC
Vinyl chloride	BRL	0.040		mg/L	275115	20	03/01/2019 03:42	CC
Surr: 4-Bromofluorobenzene	97.8	63.1-120		%REC	275115	20	03/01/2019 03:42	CC
Surr: Dibromofluoromethane	105	76.1-126		%REC	275115	20	03/01/2019 03:42	CC
Surr: Toluene-d8	102	75.3-119		%REC	275115	20	03/01/2019 03:42	CC

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: 4-Mar-19

Client:	CDM Smith Inc.	Client Sample ID:	IDW-SO-3
Project Name:	Cessna	Collection Date:	2/22/2019 1:20:00 PM
Lab ID:	1902M18-032	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260D					(SW5030B)			
1,1-Dichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
1,2-Dichloroethane	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
2-Butanone	BRL	0.20		mg/L	275115	20	03/01/2019 04:09	CC
Benzene	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Carbon tetrachloride	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Chlorobenzene	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Chloroform	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Tetrachloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Trichloroethene	BRL	0.10		mg/L	275115	20	03/01/2019 04:09	CC
Vinyl chloride	BRL	0.040		mg/L	275115	20	03/01/2019 04:09	CC
Surr: 4-Bromofluorobenzene	96.8	63.1-120		%REC	275115	20	03/01/2019 04:09	CC
Surr: Dibromofluoromethane	104	76.1-126		%REC	275115	20	03/01/2019 04:09	CC
Surr: Toluene-d8	106	75.3-119		%REC	275115	20	03/01/2019 04:09	CC

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-033

Client Sample ID: GW-T-1
 Collection Date: 2/22/2019 1:30:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 05:32	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 05:32	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Carbon tetrachloride	9.4	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 05:32	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-033

Client Sample ID: GW-T-1
Collection Date: 2/22/2019 1:30:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Trichloroethene	90	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 05:32	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 05:32	JE
Surr: 4-Bromofluorobenzene	97.9	64-125		%REC	275022	1	02/27/2019 05:32	JE
Surr: Dibromofluoromethane	103	76.4-125		%REC	275022	1	02/27/2019 05:32	JE
Surr: Toluene-d8	101	78.3-116		%REC	275022	1	02/27/2019 05:32	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-034

Client Sample ID: EB-1
 Collection Date: 2/22/2019 4:00:00 PM
 Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
2-Butanone	BRL	50		ug/L	275022	1	02/27/2019 04:42	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
Acetone	BRL	50		ug/L	275022	1	02/27/2019 04:42	JE
Benzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Chloroethane	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Chloromethane	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Freon-113	BRL	10		ug/L	275022	1	02/27/2019 04:42	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-034

Client Sample ID: EB-1
 Collection Date: 2/22/2019 4:00:00 PM
 Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Toluene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/27/2019 04:42	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/27/2019 04:42	JE
Surr: 4-Bromofluorobenzene	98.3	64-125		%REC	275022	1	02/27/2019 04:42	JE
Surr: Dibromofluoromethane	90.8	76.4-125		%REC	275022	1	02/27/2019 04:42	JE
Surr: Toluene-d8	101	78.3-116		%REC	275022	1	02/27/2019 04:42	JE

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: 4-Mar-19

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902M18-035

Client Sample ID: TRIP BLANK
Collection Date: 2/19/2019
Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,1,2-Trichloroethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,1-Dichloroethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,1-Dichloroethene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2-Dibromoethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2-Dichloroethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,2-Dichloropropane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,3-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
1,4-Dichlorobenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
2-Butanone	BRL	50		ug/L	275022	1	02/25/2019 16:22	JE
2-Hexanone	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
4-Methyl-2-pentanone	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
Acetone	BRL	50		ug/L	275022	1	02/25/2019 16:22	JE
Benzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Bromodichloromethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Bromoform	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Bromomethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Carbon disulfide	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Carbon tetrachloride	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Chlorobenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Chloroethane	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
Chloroform	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Chloromethane	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
cis-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
cis-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Cyclohexane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Dibromochloromethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Dichlorodifluoromethane	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
Ethylbenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Freon-113	BRL	10		ug/L	275022	1	02/25/2019 16:22	JE
Isopropylbenzene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
m,p-Xylene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Methyl acetate	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Methyl tert-butyl ether	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Methylcyclohexane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Methylene chloride	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
o-Xylene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE

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: 4-Mar-19

Client: CDM Smith Inc.
 Project Name: Cessna
 Lab ID: 1902M18-035

Client Sample ID: TRIP BLANK
 Collection Date: 2/19/2019
 Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260D				(SW5030B)				
Styrene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Tetrachloroethene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Toluene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
trans-1,2-Dichloroethene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
trans-1,3-Dichloropropene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Trichloroethene	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Trichlorofluoromethane	BRL	5.0		ug/L	275022	1	02/25/2019 16:22	JE
Vinyl chloride	BRL	2.0		ug/L	275022	1	02/25/2019 16:22	JE
Surr: 4-Bromofluorobenzene	103	64-125		%REC	275022	1	02/25/2019 16:22	JE
Surr: Dibromofluoromethane	101	76.4-125		%REC	275022	1	02/25/2019 16:22	JE
Surr: Toluene-d8	99.4	78.3-116		%REC	275022	1	02/25/2019 16:22	JE

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

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: INJ-14 Lab ID: 1902M18-004 Collection Date: 2/19/2019 11:52:00 AM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
Trichloroethene	430		3.0	50	ug/L	275023	10
Client Sample ID: INJ-15 Lab ID: 1902M18-005 Collection Date: 2/19/2019 1:50:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
Trichloroethene	330		3.0	50	ug/L	275023	10
Client Sample ID: INJ-5 Lab ID: 1902M18-007 Collection Date: 2/19/2019 3:25:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
1,1-Dichloroethane	9.9		0.43	5.0	ug/L	275023	1
cis-1,2-Dichloroethene	8.1		0.28	5.0	ug/L	275023	1
Trichloroethene	1500		15	250	ug/L	275023	50
Client Sample ID: INJ-9 Lab ID: 1902M18-008 Collection Date: 2/19/2019 4:20:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
Trichloroethene	49		0.30	5.0	ug/L	275023	1
Client Sample ID: INJ-3 Lab ID: 1902M18-010 Collection Date: 2/20/2019 8:30:00 AM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
1,1-Dichloroethane	9.0		0.43	5.0	ug/L	275023	1
1,1-Dichloroethene	40		0.40	5.0	ug/L	275023	1
Trichloroethene	570		3.0	50	ug/L	275023	10
Client Sample ID: INJ-1 Lab ID: 1902M18-011 Collection Date: 2/20/2019 9:45:00 AM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
1,1-Dichloroethane	8.8		0.43	5.0	ug/L	275023	1
1,1-Dichloroethene	14		0.40	5.0	ug/L	275023	1
Acetone	160		3.6	50	ug/L	275023	1
Chloroform	5.3		0.20	5.0	ug/L	275023	1
Trichloroethene	270		3.0	50	ug/L	275023	10
Client Sample ID: INJ-4 Lab ID: 1902M18-015 Collection Date: 2/20/2019 2:30:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
1,1-Dichloroethane	15		0.43	5.0	ug/L	275023	1
1,1-Dichloroethene	16		0.40	5.0	ug/L	275023	1
Trichloroethene	5100		30	500	ug/L	275023	100
Client Sample ID: MW-3A Lab ID: 1902M18-016 Collection Date: 2/20/2019 3:45:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D (SW5030B)							
Trichloroethene	690		3.0	50	ug/L	275023	10
METALS, TOTAL SW6010D (SW3010A)							
Barium	0.0940		0.0027	0.0200	mg/L	274970	1
Manganese	0.0600		0.0009	0.0150	mg/L	274970	1

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: MW-4A				Lab ID: 1902M18-017			
Collection Date: 2/20/2019 4:50:00 PM				Matrix: Groundwater			
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.187		0.0027	0.0200	mg/L	274970	1
Manganese	0.827		0.0009	0.0150	mg/L	274970	1
Client Sample ID: MW-3B				Lab ID: 1902M18-019			
Collection Date: 2/21/2019 10:15:00 AM				Matrix: Groundwater			
TCL VOLATILE ORGANICS SW8260D				(SW5030B)			
Trichloroethene	120		0.30	5.0	ug/L	275023	1
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.185		0.0027	0.0200	mg/L	274970	1
Chromium	0.0103		0.0032	0.0100	mg/L	274970	1
Manganese	0.0298		0.0009	0.0150	mg/L	274970	1
Client Sample ID: MW-4B				Lab ID: 1902M18-020			
Collection Date: 2/21/2019 2:45:00 PM				Matrix: Groundwater			
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.755		0.0027	0.0200	mg/L	274970	1
Manganese	0.249		0.0009	0.0150	mg/L	274970	1
Client Sample ID: MW-8A				Lab ID: 1902M18-021			
Collection Date: 2/21/2019 4:07:00 PM				Matrix: Groundwater			
TCL VOLATILE ORGANICS SW8260D				(SW5030B)			
Trichloroethene	22		0.30	5.0	ug/L	275022	1
Client Sample ID: MW-5A				Lab ID: 1902M18-022			
Collection Date: 2/22/2019 8:05:00 AM				Matrix: Groundwater			
TCL VOLATILE ORGANICS SW8260D				(SW5030B)			
cis-1,2-Dichloroethene	14		0.28	5.0	ug/L	275022	1
Trichloroethene	1100		3.0	50	ug/L	275022	10
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.111		0.0027	0.0200	mg/L	274970	1
Manganese	0.0539		0.0009	0.0150	mg/L	274970	1
Client Sample ID: MW-7A				Lab ID: 1902M18-023			
Collection Date: 2/22/2019 9:50:00 AM				Matrix: Groundwater			
TCL VOLATILE ORGANICS SW8260D				(SW5030B)			
Trichloroethene	180		0.30	5.0	ug/L	275022	1
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.0925		0.0027	0.0200	mg/L	274970	1
Client Sample ID: MW-7B				Lab ID: 1902M18-024			
Collection Date: 2/22/2019 10:20:00 AM				Matrix: Groundwater			
METALS, TOTAL SW6010D				(SW3010A)			
Barium	0.408		0.0027	0.0200	mg/L	274970	1
Chromium	0.0146		0.0032	0.0100	mg/L	274970	1
Manganese	0.468		0.0009	0.0150	mg/L	274970	1
Client Sample ID: GW-D-1				Lab ID: 1902M18-028			
Collection Date: 2/22/2019 1:00:00 PM				Matrix: Groundwater			
VOLATILES, TCLP SW1311/8260D				(SW5030B)			

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: GW-D-1 Lab ID: 1902M18-028 Collection Date: 2/22/2019 1:00:00 PM Matrix: Groundwater							
VOLATILES, TCLP SW1311/8260D				(SW5030B)			
Trichloroethene	0.25		0.0061	0.10	mg/L	275284	20
Client Sample ID: GW-T-1 Lab ID: 1902M18-033 Collection Date: 2/22/2019 1:30:00 PM Matrix: Groundwater							
TCL VOLATILE ORGANICS SW8260D				(SW5030B)			
Carbon tetrachloride	9.4		0.29	5.0	ug/L	275022	1
Trichloroethene	90		0.30	5.0	ug/L	275022	1

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
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- 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

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: _____

AES Work Order Number: _____

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

	Yes	No	N/A	Details	Comments
3. Shipping container/cooler received in good condition?				damaged <input type="checkbox"/> leaking <input type="checkbox"/> other <input type="checkbox"/>	
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 <input type="checkbox"/>	
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. <input type="checkbox"/>	

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

	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 <input type="checkbox"/> illegible <input type="checkbox"/> no label <input type="checkbox"/> other <input type="checkbox"/>	
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 <input type="checkbox"/> samples listed on COC not received <input type="checkbox"/>	
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 <input type="checkbox"/> not listed on COC <input type="checkbox"/>	

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). _____

	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?					

I certify that I have completed sections 28-30 (dated initials). _____

Client: CDM Smith Inc.
 Project Name: Cessna
 Workorder: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 274970

Sample ID: MB-274970	Client ID:					Units: mg/L	Prep Date: 02/25/2019	Run No: 392052			
SampleType: MBLK	TestCode: METALS, TOTAL	SW6010D	BatchID: 274970				Analysis Date: 02/27/2019	Seq No: 8775215			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Arsenic BRL 0.0500
 Barium BRL 0.0200
 Chromium BRL 0.0100
 Lead BRL 0.0100
 Manganese BRL 0.0150

Sample ID: LCS-274970	Client ID:					Units: mg/L	Prep Date: 02/25/2019	Run No: 392052			
SampleType: LCS	TestCode: METALS, TOTAL	SW6010D				BatchID: 274970	Analysis Date: 02/27/2019	Seq No: 8775217			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Arsenic 1.038 0.0500 1.000 104 80 120
 Barium 1.059 0.0200 1.000 106 80 120
 Chromium 1.019 0.0100 1.000 102 80 120
 Lead 1.008 0.0100 1.000 101 80 120
 Manganese 1.028 0.0150 1.000 103 80 120

Sample ID: 1902M18-016BMS	Client ID: MW-3A	Units: mg/L				Prep Date: 02/25/2019	Run No: 392052				
SampleType: MS	TestCode: METALS, TOTAL SW6010D	BatchID: 274970				Analysis Date: 02/27/2019	Seq No: 8775225				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Arsenic 1.056 0.0500 1.000 106 75 125
 Barium 1.175 0.0200 1.000 0.09402 108 75 125
 Chromium 1.048 0.0100 1.000 105 75 125
 Lead 1.029 0.0100 1.000 103 75 125
 Manganese 1.111 0.0150 1.000 0.06002 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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 274970

Sample ID: 1902M18-016BMSD	Client ID: MW-3A					Units: mg/L	Prep Date: 02/25/2019	Run No: 392052			
SampleType: MSD	TestCode: METALS, TOTAL	SW6010D	BatchID: 274970				Analysis Date: 02/27/2019	Seq No: 8775227			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.047	0.0500	1.000		105	75	125	1.056	0.917	20	
Barium	1.154	0.0200	1.000	0.09402	106	75	125	1.175	1.86	20	
Chromium	1.030	0.0100	1.000		103	75	125	1.048	1.73	20	
Lead	1.015	0.0100	1.000		102	75	125	1.029	1.39	20	
Manganese	1.091	0.0150	1.000	0.06002	103	75	125	1.111	1.83	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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275022

Sample ID: MB-275022	Client ID:					Units: ug/L	Prep Date: 02/25/2019		Run No: 391778		
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275022	Analysis Date: 02/25/2019		Seq No: 8769766		
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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275022

Sample ID: MB-275022	Client ID:					Units: ug/L	Prep Date: 02/25/2019		Run No: 391778		
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS	SW8260D				BatchID: 275022	Analysis Date: 02/25/2019		Seq No: 8769766		
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	51.51	0	50.00		103	64	125				
Surr: Dibromofluoromethane	49.17	0	50.00		98.3	76.4	125				
Surr: Toluene-d8	49.95	0	50.00		99.9	78.3	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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275022

Sample ID: LCS-275022	Client ID:					Units: ug/L	Prep Date: 02/25/2019	Run No: 391778			
SampleType: LCS	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275022	Analysis Date: 02/25/2019	Seq No: 8769788			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	19.11	5.0	20.00		95.6	69	136				
Benzene	18.20	5.0	20.00		91.0	73.7	126				
Chlorobenzene	17.43	5.0	20.00		87.2	73.5	124				
Toluene	18.43	5.0	20.00		92.2	76.8	125				
Trichloroethene	18.21	5.0	20.00		91.0	70.9	124				
Surr: 4-Bromofluorobenzene	50.72	0	50.00		101	64	125				
Surr: Dibromofluoromethane	51.17	0	50.00		102	76.4	125				
Surr: Toluene-d8	50.42	0	50.00		101	78.3	116				

Sample ID: 1902M08-009AMS	Client ID:					Units: ug/L	Prep Date: 02/25/2019	Run No: 391778			
SampleType: MS	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275022	Analysis Date: 02/25/2019	Seq No: 8769809			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	21.33	5.0	20.00		107	63.8	146				
Benzene	20.35	5.0	20.00		102	70.2	137				
Chlorobenzene	18.83	5.0	20.00		94.2	72.7	141				
Toluene	19.69	5.0	20.00		98.4	67	141				
Trichloroethene	19.86	5.0	20.00		99.3	69.3	141				
Surr: 4-Bromofluorobenzene	50.55	0	50.00		101	64	125				
Surr: Dibromofluoromethane	51.28	0	50.00		103	76.4	125				
Surr: Toluene-d8	50.08	0	50.00		100	78.3	116				

Sample ID: 1902M08-009AMSD	Client ID:					Units: ug/L	Prep Date: 02/25/2019	Run No: 391778			
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275022	Analysis Date: 02/25/2019	Seq No: 8769810			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	21.22	5.0	20.00		106	63.8	146	21.33	0.517	20.8	
Benzene	20.75	5.0	20.00		104	70.2	137	20.35	1.95	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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275022

Sample ID: 1902M08-009AMSD	Client ID:					Units: ug/L	Prep Date: 02/25/2019	Run No: 391778			
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275022	Analysis Date: 02/25/2019	Seq No: 8769810			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	19.96	5.0	20.00		99.8	72.7	141	18.83	5.83	20	
Toluene	20.24	5.0	20.00		101	67	141	19.69	2.75	20	
Trichloroethene	20.53	5.0	20.00		103	69.3	141	19.86	3.32	17.9	
Surr: 4-Bromofluorobenzene	51.00	0	50.00		102	64	125	50.55	0	0	
Surr: Dibromofluoromethane	51.20	0	50.00		102	76.4	125	51.28	0	0	
Surr: Toluene-d8	50.16	0	50.00		100	78.3	116	50.08	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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275023

Sample ID: MB-275023	Client ID:				Units: ug/L	Prep Date: 02/26/2019	Run No: 391838				
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS SW8260D				BatchID: 275023	Analysis Date: 02/26/2019	Seq No: 8770646				
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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275023

Sample ID: MB-275023	Client ID:					Units: ug/L	Prep Date: 02/26/2019		Run No: 391838		
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS	SW8260D				BatchID: 275023	Analysis Date: 02/26/2019		Seq No: 8770646		
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	51.82	0	50.00		104	64	125				
Surr: Dibromofluoromethane	50.66	0	50.00		101	76.4	125				
Surr: Toluene-d8	50.12	0	50.00		100	78.3	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: 1902M18

ANALYTICAL QC SUMMARY REPORT**BatchID: 275023**

Sample ID: LCS-275023	Client ID:					Units: ug/L	Prep Date: 02/26/2019	Run No: 391838			
SampleType: LCS	TestCode: TCL VOLATILE ORGANICS SW8260D					BatchID: 275023	Analysis Date: 02/26/2019	Seq No: 8770710			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	22.91	5.0	20.00		115	69	136				
Benzene	22.32	5.0	20.00		112	73.7	126				
Chlorobenzene	20.88	5.0	20.00		104	73.5	124				
Toluene	22.19	5.0	20.00		111	76.8	125				
Trichloroethene	23.31	5.0	20.00		117	70.9	124				
Surr: 4-Bromofluorobenzene	50.88	0	50.00		102	64	125				
Surr: Dibromofluoromethane	50.78	0	50.00		102	76.4	125				
Surr: Toluene-d8	50.61	0	50.00		101	78.3	116				

Sample ID: 1902M18-001AMS	Client ID: INJ-8	Units: ug/L				Prep Date: 02/26/2019	Run No: 391903				
SampleType: MS	TestCode: TCL VOLATILE ORGANICS SW8260D	BatchID: 275023				Analysis Date: 02/26/2019	Seq No: 8772957				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	50.88	5.0	50.00		102	63.8	146				
Benzene	50.52	5.0	50.00		101	70.2	137				
Chlorobenzene	49.30	5.0	50.00		98.6	72.7	141				
Toluene	53.99	5.0	50.00		108	67	141				
Trichloroethene	53.33	5.0	50.00		107	69.3	141				
Surr: 4-Bromofluorobenzene	49.70	0	50.00		99.4	64	125				
Surr: Dibromofluoromethane	45.77	0	50.00		91.5	76.4	125				
Surr: Toluene-d8	51.18	0	50.00		102	78.3	116				

Sample ID: 1902M18-001AMSD	Client ID: INJ-8	Units: ug/L			Prep Date: 02/26/2019	Run No: 391903					
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260D	BatchID: 275023			Analysis Date: 02/26/2019	Seq No: 8772959					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	57.30	5.0	50.00		115	63.8	146	50.88	11.9	20.8	
Benzene	53.19	5.0	50.00		106	70.2	137	50.52	5.15	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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275023

Sample ID: 1902M18-001AMSD	Client ID: INJ-8	Units: ug/L	Prep Date: 02/26/2019	Run No: 391903							
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260D	BatchID: 275023	Analysis Date: 02/26/2019	Seq No: 8772959							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Chlorobenzene	49.47	5.0	50.00		98.9	72.7	141	49.30	0.344	20	
Toluene	53.38	5.0	50.00		107	67	141	53.99	1.14	20	
Trichloroethene	54.52	5.0	50.00		109	69.3	141	53.33	2.21	17.9	
Surr: 4-Bromofluorobenzene	49.17	0	50.00		98.3	64	125	49.70	0	0	
Surr: Dibromofluoromethane	50.76	0	50.00		102	76.4	125	45.77	0	0	
Surr: Toluene-d8	50.56	0	50.00		101	78.3	116	51.18	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: 1902M18

ANALYTICAL QC SUMMARY REPORT**BatchID: 275115**

Sample ID: MB-275115	Client ID:					Units: mg/L	Prep Date: 02/27/2019	Run No: 391923			
SampleType: MBLK	TestCode: VOLATILES, TCLP SW1311/8260D					BatchID: 275115	Analysis Date: 02/27/2019	Seq No: 8773535			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	BRL	0.10									
1,2-Dichloroethane	BRL	0.10									
2-Butanone	BRL	0.20									
Benzene	BRL	0.10									
Carbon tetrachloride	BRL	0.10									
Chlorobenzene	BRL	0.10									
Chloroform	BRL	0.10									
Tetrachloroethene	BRL	0.10									
Trichloroethene	BRL	0.10									
Vinyl chloride	BRL	0.040									
Surr: 4-Bromofluorobenzene	0.9766	0	1.000		97.7	63.1	120				
Surr: Dibromofluoromethane	1.024	0	1.000		102	76.1	126				
Surr: Toluene-d8	0.9698	0	1.000		97.0	75.3	119				

Sample ID: LCS-275115	Client ID:					Units: mg/L	Prep Date: 02/27/2019	Run No: 391923			
SampleType: LCS	TestCode: VOLATILES, TCLP SW1311/8260D					BatchID: 275115	Analysis Date: 02/27/2019	Seq No: 8773534			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.5546	0.10	0.4000		139	57.3	140				
1,2-Dichloroethane	0.4298	0.10	0.4000		107	66	134				
2-Butanone	0.9526	0.20	0.8000		119	60.5	138				
Benzene	0.5026	0.10	0.4000		126	72.4	129				
Carbon tetrachloride	0.4600	0.10	0.4000		115	67.9	140				
Chlorobenzene	0.4708	0.10	0.4000		118	76	131				
Chloroform	0.4832	0.10	0.4000		121	63.7	132				
Tetrachloroethene	0.4452	0.10	0.4000		111	73.7	139				
Trichloroethene	0.4646	0.10	0.4000		116	72.2	136				
Vinyl chloride	0.4812	0.040	0.4000		120	55.8	136				

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: 1902M18

ANALYTICAL QC SUMMARY REPORT**BatchID: 275115**

Sample ID: LCS-275115	Client ID:						Units: mg/L	Prep Date: 02/27/2019	Run No: 391923		
SampleType: LCS	TestCode: VOLATILES, TCLP SW1311/8260D						BatchID: 275115	Analysis Date: 02/27/2019	Seq No: 8773534		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Surr: 4-Bromofluorobenzene	1.049	0	1.000		105	63.1	120				
Surr: Dibromofluoromethane	1.027	0	1.000		103	76.1	126				
Surr: Toluene-d8	1.071	0	1.000		107	75.3	119				

Sample ID: 1902N17-001AMS	Client ID:					Units: mg/L	Prep Date: 02/27/2019	Run No: 391923			
SampleType: MS	TestCode: VOLATILES, TCLP SW1311/8260D					BatchID: 275115	Analysis Date: 02/27/2019	Seq No: 8774922			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.5264	0.10	0.4000		132	62.3	137				
1,2-Dichloroethane	0.4466	0.10	0.4000		112	65.8	133				
2-Butanone	0.8122	0.20	0.8000		102	57.2	140				
Benzene	0.5048	0.10	0.4000		126	72.2	134				
Carbon tetrachloride	0.4650	0.10	0.4000		116	69.3	140				
Chlorobenzene	0.4318	0.10	0.4000		108	73.8	136				
Chloroform	0.4810	0.10	0.4000		120	61.4	136				
Tetrachloroethene	0.3912	0.10	0.4000		97.8	73.1	138				
Trichloroethene	0.4418	0.10	0.4000		110	72.5	138				
Vinyl chloride	0.4310	0.040	0.4000		108	60.8	135				
Surr: 4-Bromofluorobenzene	0.9594	0	1.000		95.9	63.1	120				
Surr: Dibromofluoromethane	1.119	0	1.000		112	76.1	126				
Surr: Toluene-d8	1.130	0	1.000		113	75.3	119				

Sample ID: 1902N17-001ADUP	Client ID:				Units: mg/L	Prep Date: 02/27/2019	Run No: 391923				
SampleType: DUP	TestCode: VOLATILES, TCLP SW1311/8260D				BatchID: 275115	Analysis Date: 02/27/2019	Seq No: 8774921				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	BRL	0.10						0	0	30	
1,2-Dichloroethane	BRL	0.10						0	0	30	

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: 1902M18

ANALYTICAL QC SUMMARY REPORT

BatchID: 275115

Sample ID: 1902N17-001ADUP		Client ID:				Units: mg/L		Prep Date: 02/27/2019		Run No: 391923	
SampleType: DUP		TestCode: VOLATILES, TCLP SW1311/8260D				BatchID: 275115		Analysis Date: 02/27/2019		Seq No: 8774921	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Butanone	BRL	0.20						0	0	30	
Benzene	BRL	0.10						0	0	30	
Carbon tetrachloride	BRL	0.10						0	0	30	
Chlorobenzene	BRL	0.10						0	0	30	
Chloroform	BRL	0.10						0	0	30	
Tetrachloroethene	BRL	0.10						0	0	30	
Trichloroethene	BRL	0.10						0	0	30	
Vinyl chloride	BRL	0.040						0	0	30	
Surr: 4-Bromofluorobenzene	0.9264	0	1.000		92.6	64.3	123	0.9326	0	0	
Surr: Dibromofluoromethane	1.142	0	1.000		114	71.7	127	1.005	0	0	
Surr: Toluene-d8	1.010	0	1.000		101	75.1	118	0.9858	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: 2nd 2018 Semi-Annual
SVE System Monitoring Report

1st 2019 Semi-Annual SVE System Monitoring Report

Cessna Aircraft Company GA1 Facility Columbus, Muscogee County, Georgia

The Georgia Environmental Protection Division (EPD) accepted this site into Georgia's Voluntary Remediation Program (VRP) on September 27, 2016, and approved the Voluntary Investigation and Remediation Plan (VIRP) and VRP application dated March 24, 2016. As part of Cessna's voluntary remediation efforts, a soil vapor extraction (SVE) system was installed beneath the building to mitigate volatile organic compounds (VOCs) in soil gas from potentially migrating into the building. The SVE system began operation on February 1, 2017. This report summarizes the SVE system monitoring data for the first 2019 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 3,958 hours from September 1, 2018, through February 28, 2019. This represents 386 hours of downtime, or approximately 9 percent. Minor downtime was incurred because of a full condensate knockout tank on three occasions.

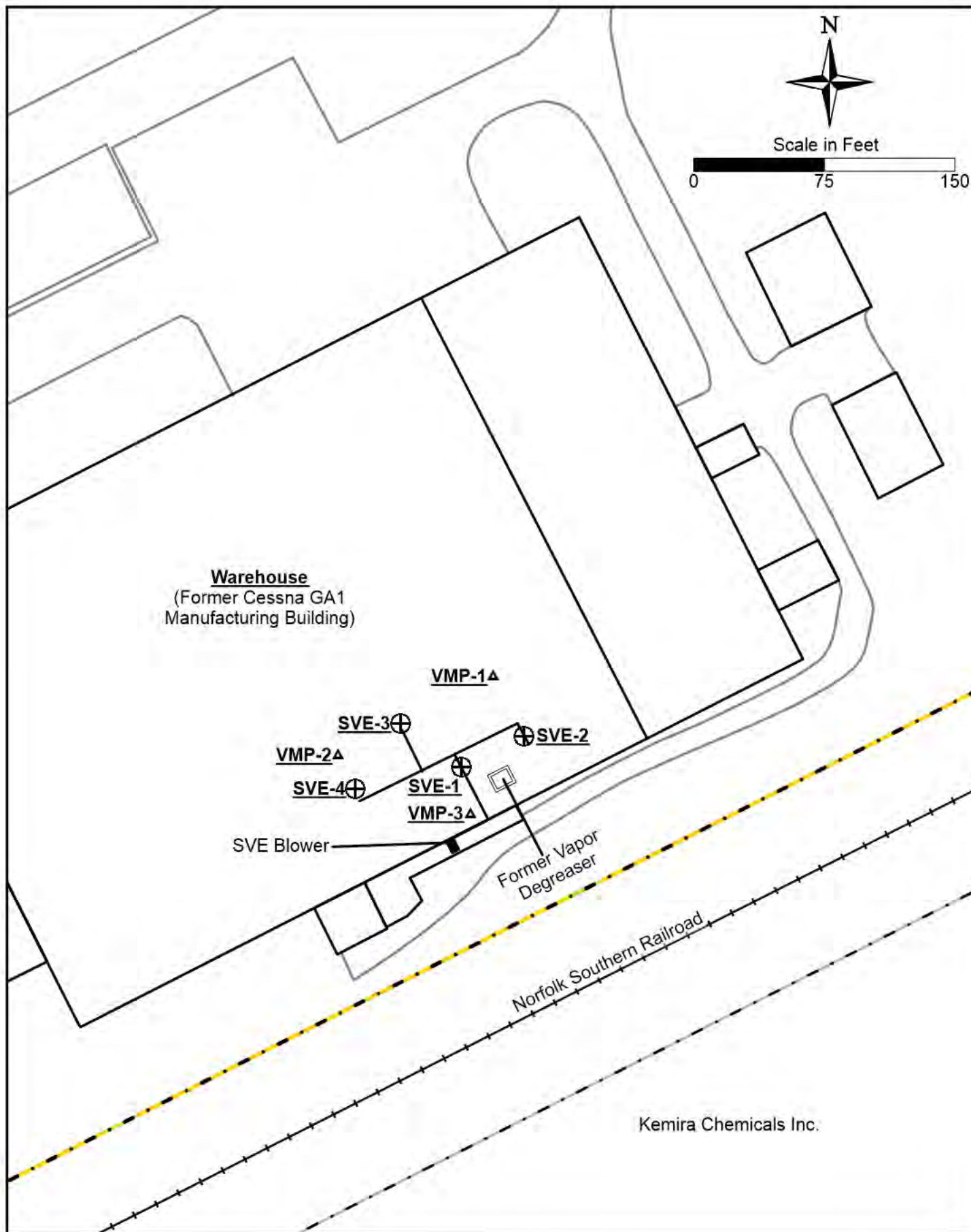
SVE well sampling was completed on February 18, 2019. The analytical results for each SVE well are summarized in **Table B-1** through **Table B-4**. The combined flow at the SVE discharge is sampled to calculate emission rates (**Table B-5**). The full laboratory reports are in **Attachment B-1**. The following vacuum measurements were recorded from the vapor monitoring points.

- VMP-1 – 2.43 Inches of water
- VMP-2 – 3.62 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. TCE has been reduced by approximately 99.9% over the period of SVE system operation in the combined discharge. The combined discharge from the system remains below the permitting requirements.

TCE exceeded the Vapor Intrusion Screening Level (VISL) in SVE-1 and SVE-2 but did not exceed in SVE-3 and SVE-4. The cumulative vapor intrusion risks were calculated for the maximum VOC concentrations reported for this sampling event (**Attachment B-2**) and using the Environmental Protection Agency's VISL Calculator on March 22, 2019. The cumulative risks exceeded the Target Hazard Quotient of 1 and the Target Risk of 1.0E-05. The risk exceedances were driven by TCE.



Constituent (ug/m ³)	VISL _{SG}	Pre-SVE	SVE-1 Operation						
			02/01/17	08/15/17	03/09/18	08/08/18	02/18/19		
1,1,1-Trichloroethane	73,000	<2.5	1,700	10	<5.5	<5.5	<5.5		
1,1,2-Trichloroethane	2.92	<2.1	2,200	31	10	5.5	<5.5		
1,1-Dichloroethane	2,560	<1.0	17,000	170	130	25	16		
1,1-Dichloroethene	2,920	120	34,000	140	130	27	19		
1,2,4-Trimethylbenzene	876	9.6	<49	15	<4.9	16	<4.9		
2-Butanone	73,000	<15	74	10	5	17	10		
2-Propanol	2,920	<120	<180	130	58	74	<18		
Acetone	451,000	320	<120	57	36	51	15		
Benzene	438	10	89	6.9	<3.2	9.7	<3.2		
Carbon Disulfide	10,200	<16	86	17	<3.1	<3.1	<3.1		
Chloroform	178	<4.0	3,800	28	13	6.6	<4.9		
Chloromethane	1,310	<1.9	<21	8.1	<2.1	<2.1	<2.1		
cis-1,2-Dichloroethene	NC	<1.4	38,000	950	580	190	110		
Cyclohexane	87,600	10	<34	7.2	<3.4	<3.4	<3.4		
Ethyl Acetate	1,020	-	<36	140	<3.6	1,100	<3.6		
Ethyl Benzene	1,640	9.4	<43	9.3	<4.3	10	<4.3		
Methylene Chloride	8,760	<18	68	<3.5	3.8	<3.5	<3.5		
Styrene	14,600	<8.6	<43	<4.3	<4.3	<4.3	<4.3		
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6	<5.6	<5.6		
Trichlorotrifluoroethane	73,000	-	170	<7.7	<7.7	<7.7	<7.7		
Tetrachloroethene	584	<1.6	550	<6.8	<6.8	<6.8	<6.8		
Tetrahydrofuran	29,200	<42	3,200	10	8.8	10	10		
Toluene	73,000	79	62	62	3.8	81	5.3		
trans-1,2-Dichloroethene	NC	<1.6	3,400	56	34	11	6.1		
Trichloroethene	29.2	160	6,100,000	26,000	26,000	9,600	3,700		
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	<3.5	<3.5		
Vinyl Chloride	929	150	180	4	<2.6	<2.6	<2.6		
Xylene, m&p	1,460	33	<87	24	<8.7	34	<8.7		
Xylene, o	1,460	12	<43	9.6	<4.3	14	<4.3		

VISL_{SG} - Soil gas vapor intrusion screening level

< - Not detected, value is the detection limit

Bold/shaded values exceed the VISL_{SG}

NC - Not calculated, supporting toxicity data not available

- Not analyzed

Constituent (ug/m ³)	VISL _{SG}	Pre-SVE	SVE-2 Operation						
			02/01/17	08/15/17	03/09/18	08/08/18	02/18/19		
1,1,1-Trichloroethane	73,000	<3,600	580	<5.5	<5.5	<5.5	<5.5		
1,1,2-Trichloroethane	2.92	<3,000	<55	<5.5	8.5	<5.5	<5.5		
1,1-Dichloroethane	2,560	<11,000	2,600	16	26	6.9	4.2		
1,1-Dichloroethene	2,920	<11,000	2,900	12	14	6.5	<4.0		
1,2,4-Trimethylbenzene	876	<3,000	<49	15	<4.9	6.6	<4.9		
2-Butanone	73,000	<2,200	<29	11	5.9	9.7	11		
2-Propanol	2,920	<34,000	<180	110	51	<18	<18		
Acetone	451,000	<29,000	<120	52	41	59	20		
Benzene	438	<1,900	<32	5.4	3.5	5.4	<3.2		
Carbon Disulfide	10,200	<1,900	<31	16	<3.1	<3.1	<3.1		
Chloroform	178	<5,700	700	14	8.1	5.9	<4.9		
Chloromethane	1,310	<2,700	<21	7.7	<2.1	<2.1	<2.1		
cis-1,2-Dichloroethene	NC	22,000	15,000	77	75	22	9.9		
Cyclohexane	87,600	<1,900	<34	6.7	20	4.1	<3.4		
Ethyl Acetate	1,020	-	420	120	<3.6	9.2	<3.6		
Ethyl Benzene	1,640	<2,000	<43	8.7	<4.3	5	<4.3		
Methylene Chloride	8,760	<8,900	<35	<3.5	<3.5	<3.5	<3.5		
Styrene	14,600	<2,600	<43	<4.3	<4.3	8.9	<4.3		
Trichlorofluoromethane	NC	<3,000	<56	<5.6	<5.6	<5.6	<5.6		
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7	<7.7	<7.7		
Tetrachloroethene	584	<2,200	<68	<6.8	<6.8	<6.8	<6.8		
Tetrahydrofuran	29,200	<59,000	2,400	14	9.6	4.6	10		
Toluene	73,000	<5,000	38	57	4.9	110	4.7		
trans-1,2-Dichloroethene	NC	<2,400	840	<4.0	<4.0	<4.0	<4.0		
Trichloroethene	29.2	2,600,000	700,000	2,100	9,700	1,400	440		
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	<3.5	<3.5		
Vinyl Chloride	929	<1,200	60	<2.6	<2.6	<2.6	<2.6		
Xylene, m&p	1,460	<4,400	<87	22	<8.7	13	<8.7		
Xylene, o	1,460	<2,300	<43	8.9	<4.3	4.8	<4.3		

VISL_{SG} - Soil gas vapor intrusion screening level

< - Not detected, value is the detection limit

Bold/shaded values exceed the VISL_{SG}

NC - Not calculated, supporting toxicity data not available

- Not analyzed

Constituent (ug/m ³)	VISL _{SG}	Pre-SVE	SVE-3 Operation						
			02/01/17	08/15/17	03/09/18	08/08/18	02/18/19		
1,1,1-Trichloroethane	73,000	<2.6	140	<5.5	<5.5	<5.5	<5.5		
1,1,2-Trichloroethane	2.92	<2.2	<55	<5.5	<5.5	<5.5	<5.5		
1,1-Dichloroethane	2,560	<8.3	1,100	11	4	<4.0	<4.0		
1,1-Dichloroethene	2,920	120	3,900	12	7.1	<4.0	<4.0		
1,2,4-Trimethylbenzene	876	<2.2	<49	16	8.8	17	<4.9		
2-Butanone	73,000	<15	<29	8	19	19	9.9		
2-Propanol	2,920	<130	<180	110	41	90	<18		
Acetone	451,000	380	<120	50	91	57	14		
Benzene	438	<6.5	<32	5.8	21	11	<3.2		
Carbon Disulfide	10,200	<16	<31	14	<3.1	28	<3.1		
Chloroform	178	<4.1	78	11	<4.9	<4.9	<4.9		
Chloromethane	1,310	<2.0	<21	2.8	<2.1	<2.1	<2.1		
cis-1,2-Dichloroethene	NC	15	46	<4.0	<4.0	<4.0	<4.0		
Cyclohexane	87,600	<7.0	<34	6.4	6.5	3.6	<3.4		
Ethyl Acetate	1,020	-	280	110	<3.6	1,100	<3.6		
Ethyl Benzene	1,640	<1.5	<43	9.6	11	13	<4.3		
Methylene Chloride	8,760	<6.4	<35	<3.5	<3.5	<3.5	<3.5		
Styrene	14,600	<1.9	<43	<4.3	6.8	<4.3	<4.3		
Trichlorofluoromethane	NC	<2.2	<56	<5.6	<5.6	<5.6	<5.6		
Trichlorotrifluoroethane	73,000	-	<77	<7.7	<7.7	<7.7	<7.7		
Tetrachloroethene	584	<1.6	<68	<6.8	<6.8	<6.8	<6.8		
Tetrahydrofuran	29,200	<42	960	4.9	14	10	9.6		
Toluene	73,000	<3.6	<38	59	290	94	4.7		
trans-1,2-Dichloroethene	NC	<1.7	<40	<4.0	<4.0	<4.0	<4.0		
Trichloroethene	29.2	110	81,000	260	32	30	9.1		
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	24	<3.5		
Vinyl Chloride	929	<5.2	<26	<2.6	<2.6	<2.6	<2.6		
Xylene, m&p	1,460	<3.1	<87	24	35	43	<8.7		
Xylene, o	1,460	<1.6	<43	10	12	17	<4.3		

VISL_{SG} - Soil gas vapor intrusion screening level

< - Not detected, value is the detection limit

Bold/shaded values exceed the VISL_{SG}

NC - Not calculated, supporting toxicity data not available

- Not analyzed

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	02/18/19			
1,1,1-Trichloroethane	73,000	44	32	<5.5	<5.5	<5.5	<5.5			
1,1,2-Trichloroethane	2.92	<7.4	<5.5	<5.5	<5.5	<5.5	<5.5			
1,1-Dichloroethane	2,560	54	110	4.5	<4.0	<4.0	<4.0			
1,1-Dichloroethene	2,920	1,400	1,700	14	<4.0	<4.0	<4.0			
1,2,4-Trimethylbenzene	876	<34	<4.9	14	<4.9	17	<4.9			
2-Butanone	73,000	<5.3	5.9	7.5	<2.9	18	11			
2-Propanol	2,920	<83	33	96	25	78	<18			
Acetone	451,000	<71	34	41	20	63	17			
Benzene	438	<22	7.8	5.4	<3.2	10	<3.2			
Carbon Disulfide	10,200	<4.6	<3.1	13	<3.1	<3.1	<3.1			
Chloroform	178	<14	15	<4.9	<4.9	<4.9	<4.9			
Chloromethane	1,310	<6.6	<2.1	5.9	5.8	<2.1	<2.1			
cis-1,2-Dichloroethene	NC	<4.8	<4.0	5	<4.0	<4.0	<4.0			
Cyclohexane	87,600	<4.6	<3.4	5.3	<3.4	3.8	<3.4			
Ethyl Acetate	1,020	-	470	100	<3.6	910	<3.6			
Ethyl Benzene	1,640	<30	7.2	8.5	<4.3	13	<4.3			
Methylene Chloride	8,760	<22	<3.5	<3.5	<3.5	120	<3.5			
Styrene	14,600	<6.3	<4.3	<4.3	<4.3	<4.3	<4.3			
Trichlorofluoromethane	NC	80	69	<5.6	<5.6	<5.6	<5.6			
Trichlorotrifluoroethane	73,000	<61	95	<7.7	<7.7	<7.7	<7.7			
Tetrachloroethene	584	<47	<6.8	<6.8	<6.8	<6.8	<6.8			
Tetrahydrofuran	29,200	530	290	3.8	6	9.4	9.6			
Toluene	73,000	77	61	54	<3.8	89	4.7			
trans-1,2-Dichloroethene	NC	<5.9	<4.0	<4.0	<4.0	<4.0	<4.0			
Trichloroethene	29.2	4,600	2,000	200	150	30	17			
Vinyl Acetate	2,920	-	<35	<3.5	<3.5	28	<3.5			
Vinyl Chloride	929	<2.8	<2.6	<2.6	<2.6	<2.6	<2.6			
Xylene, m&p	1,460	<75	31	23	<8.7	43	<8.7			
Xylene, o	1,460	<30	6.3	8.9	<4.3	17	<4.3			

VISL_{SG} - Soil gas vapor intrusion screening level

< - Not detected, value is the detection limit

Bold/shaded values exceed the VISL_{SG}

NC - Not calculated, supporting toxicity data not available

- Not analyzed

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	2/18/2019
1,1,1-Trichloroethane	71556	0.24	BRL	BRL	BRL	BRL
1,1,2,2-Tetrachloroethane	79345	BRL	BRL	BRL	BRL	BRL
1,1,2-Trichloroethane	79005	0.057	BRL	BRL	BRL	BRL
1,1-Dichloroethane	75343	2.6	0.017	0.041	0.0077	BRL
1,1-Dichloroethene	75354	5	0.019	0.034	0.0073	0.0046
1,2,4-Trichlorobenzene	120821	BRL	BRL	BRL	BRL	BRL
1,2-Dibromoethane	106934	BRL	BRL	BRL	BRL	BRL
1,2-Dichloroethane	107062	BRL	BRL	BRL	BRL	BRL
1,2-Dichloropropane	78875	BRL	BRL	BRL	BRL	BRL
1,3-Butadiene	106990	BRL	BRL	BRL	BRL	BRL
1,4-Dichlorobenzene	106467	BRL	BRL	BRL	BRL	BRL
1,4-Dioxane	123911	BRL	BRL	BRL	BRL	BRL
2,2,4-Trimethylpentane	540841	BRL	BRL	0.039	BRL	BRL
Allyl Chloride	107051	BRL	BRL	BRL	BRL	BRL
Benzene	71432	BRL	BRL	0.0059	0.0038	BRL
Benzyl Chloride	100447	BRL	BRL	BRL	BRL	BRL
Bromoform	75252	BRL	BRL	BRL	BRL	BRL
Bromomethane (Methyl Bromide)	74839	BRL	BRL	BRL	BRL	BRL
Carbon Disulfide	75150	BRL	BRL	BRL	BRL	BRL
Carbon Tetrachloride	56235	BRL	BRL	BRL	BRL	BRL
Chlorobenzene	108907	BRL	BRL	BRL	BRL	BRL
Chloroethane (Ethyl Chloride)	75003	BRL	BRL	BRL	BRL	BRL
Chloroform	67663	0.36	0.0076	0.0085	0.0088	BRL
Chloromethane (Methyl Chloride)	74873	BRL	BRL	BRL	BRL	BRL
Ethylbenzene	100414	BRL	BRL	0.0048	0.0061	BRL
Hexachlorobutadiene	87683	BRL	BRL	BRL	BRL	BRL
Methyl Ethyl Ketone (2-Butanone)	78933	BRL	BRL	0.0069	BRL	BRL
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108101	BRL	BRL	BRL	BRL	BRL
Methyl Tert-Butyl Ether (MTBE)	1634044	BRL	BRL	BRL	BRL	BRL
Methylene Chloride (Dichloromethane)	75092	BRL	BRL	BRL	BRL	BRL
n-Hexane	110543	BRL	BRL	0.042	0.0039	BRL
Styrene	100425	BRL	BRL	BRL	0.0079	BRL
Tetrachloroethene	127184	BRL	0.0078	BRL	0.072	BRL
Toluene	108883	BRL	BRL	0.096	0.077	BRL
Trichloroethene	79016	510	3.5	9.9	3.9	0.69
Vinyl Bromide (Bromoethene)	593602	BRL	BRL	BRL	BRL	BRL
Vinyl Chloride	75014	BRL	BRL	BRL	BRL	BRL
Xylenes, Total	1330207	BRL	BRL	0.021	0.023	BRL
Total HAPs		518	3.55	10	4	1
Flowrate, cubic feet/minute		115	131	114	130	129
Daily Emission Rate, pounds/day		5.4	0.04	0.1	0.05	0.01

BRL - Below reporting level

Attachment B-1
Laboratory Reports



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 27, 2019

Tom Duffey
CDM Smith Inc.

3200 Windy Hill Road, Suite 210 West
Atlanta GA 30339

RE: Cessna

Dear Tom Duffey:

Order No: 1902H32

Analytical Environmental Services, Inc. received 5 samples on 2/19/2019 1:47:00 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
07/01/18-06/30/19.

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
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	<i>o</i> -Dichlorobenzene	X	X	
1,3-Dichlorobenzene	541-73-1	<i>m</i> -Dichlorobenzene	X	X	
1,4-Dichlorobenzene	106-46-7	<i>p</i> -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	
<i>cis</i> -1,2-Dichloroethene	156-59-2	<i>cis</i> -1,2-Dichloroethylene	X	X	
<i>trans</i> -1,2-Dichloroethene	156-60-5	<i>trans</i> -1,2-Dichloroethylene		X	
1,2-Dichloropropane	78-87-5		X	X	
<i>cis</i> -1,3-Dichloropropene	10061-01-5		X	X	
<i>trans</i> -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

Work Order #: 1902H32
Date: 2-18-19
Page: 1 of 1

COMPANY INFORMATION		PROJECT INFORMATION		INVOICE INFORMATION				SAMPLING INFORMATION							
Company Name: CDM Smith		Project Name: Cessna		Company Name: CDM Smith		Invoice To Name(s): Tom Duffey		Sampled By (print): Daniel Good							
Address: 3200 Windy Hill Rd SE, Ste 210W		Project #:		Company Address: 3200 Windy Hill Rd SE Ste 210W		Invoice To Email(s): DuffeyJT@cdmsmith.com		Sampler Signature: [Signature]							
City, State, Zip: Atlanta, GA 30339		Report To Name(s): TOM Duffey		Company City, State, Zip: Atlanta GA 30339		Invoice To Phone # (s): 404 720 1330		Date: 2-18-19							
Phone #: 404 720 1330		Report To Email(s): DuffeyJT@cdmsmith.com		AES Project Manager: Jonana Posner		AES Quote # and/or PO #:		State/Project Location: Columbus, GA							
SPECIAL INSTRUCTIONS				REQUESTED TURNAROUND TIME				REPORTING REQUIREMENTS							
Special list of analytes or other comments:				Standard (Five Days) <input checked="" type="checkbox"/> Two Day Rush <input type="checkbox"/>				Standard/Level II Data Package <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Client Courier <input type="checkbox"/>							
				Four Day Rush <input type="checkbox"/> Next Day Rush <input type="checkbox"/>				Level III Data Package <input type="checkbox"/> UPS <input type="checkbox"/> US Mail <input type="checkbox"/>							
				Three Day Rush <input type="checkbox"/>				Level IV Data Package <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: <input type="checkbox"/>							
				Other:				EDD <input type="checkbox"/> AES Courier <input type="checkbox"/>							
#	Sample ID	Sample Start		Sample Finish		Sample Matrix IA = Indoor Air AA = Ambient Air SS = Subslab SV = Soil Vapor	Canister Serial #	Flow Controller ID	Canister Pressure In Field ("Hg)		Analysis Requested				Remarks
		Date	Time (24hr)	Date	Time (24hr)				Start	Stop	TO-15				
1	System	2-18-19	1236	2-18-19	1245	SS	01053	01143	30	4	X				
2	SVE-1	1	1251	1	1258	1	01049	01136	29	4	X				
3	SVE-2	1	1253	1	1301	1	01054	01098	30	4	X				
4	SVE-3	1	1305	1	1313	1	01041	01100	30	5	X				
5	SVE-4	1	1306	1	1314	1	01046	01141	30	4	X				
6															
7															
8															
9															
10															
SAMPLE RECEIPT															
Relinquished								Received							
Relinquished By: [Signature]		Date: 2-18-19		Time: 1500				Received By: [Signature]		Date: 2-19-19		Time: 1347			
Relinquished By:		Date:		Time:				Received By:		Date:		Time:			
Relinquished By:		Date:		Time:				Received By:		Date:		Time:			

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. 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. Visit our website at www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-001

Client Sample ID: SYSTEM
Collection Date: 2/18/2019 12:45:00 PM
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	273983	2	02/21/2019 23:04	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	273983	2	02/21/2019 23:04	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	273983	2	02/21/2019 23:04	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,1-Dichloroethene	4.6	4.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	273983	2	02/21/2019 23:04	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/21/2019 23:04	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	273983	2	02/21/2019 23:04	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	273983	2	02/21/2019 23:04	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/21/2019 23:04	MD
1,3-Butadiene	BRL	2.2		ug/m3	273983	2	02/21/2019 23:04	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/21/2019 23:04	MD
1,4-Dioxane	BRL	3.6		ug/m3	273983	2	02/21/2019 23:04	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	273983	2	02/21/2019 23:04	MD
2-Butanone	BRL	2.9		ug/m3	273983	2	02/21/2019 23:04	MD
2-Hexanone	BRL	4.1		ug/m3	273983	2	02/21/2019 23:04	MD
4-Ethyltoluene	BRL	4.9		ug/m3	273983	2	02/21/2019 23:04	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	273983	2	02/21/2019 23:04	MD
Acetone	42	12		ug/m3	273983	2	02/21/2019 23:04	MD
Allyl chloride	BRL	3.1		ug/m3	273983	2	02/21/2019 23:04	MD
Benzene	BRL	3.2		ug/m3	273983	2	02/21/2019 23:04	MD
Benzyl chloride	BRL	5.2		ug/m3	273983	2	02/21/2019 23:04	MD
Bromodichloromethane	BRL	6.7		ug/m3	273983	2	02/21/2019 23:04	MD
Bromoform	BRL	10		ug/m3	273983	2	02/21/2019 23:04	MD
Bromomethane	BRL	3.9		ug/m3	273983	2	02/21/2019 23:04	MD
Carbon disulfide	BRL	3.1		ug/m3	273983	2	02/21/2019 23:04	MD
Carbon tetrachloride	BRL	6.3		ug/m3	273983	2	02/21/2019 23:04	MD
Chlorobenzene	BRL	4.6		ug/m3	273983	2	02/21/2019 23:04	MD
Chloroethane	BRL	2.6		ug/m3	273983	2	02/21/2019 23:04	MD
Chloroform	BRL	4.9		ug/m3	273983	2	02/21/2019 23:04	MD
Chloromethane	BRL	2.1		ug/m3	273983	2	02/21/2019 23:04	MD
cis-1,2-Dichloroethene	17	4.0		ug/m3	273983	2	02/21/2019 23:04	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/21/2019 23:04	MD
Cyclohexane	BRL	3.4		ug/m3	273983	2	02/21/2019 23:04	MD
Dibromochloromethane	BRL	8.5		ug/m3	273983	2	02/21/2019 23:04	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	273983	2	02/21/2019 23:04	MD
Ethyl acetate	BRL	3.6		ug/m3	273983	2	02/21/2019 23:04	MD
Ethylbenzene	BRL	4.3		ug/m3	273983	2	02/21/2019 23:04	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-001

Client Sample ID: SYSTEM
Collection Date: 2/18/2019 12:45:00 PM
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	273983	2	02/21/2019 23:04	MD
Freon-114	BRL	7.0		ug/m3	273983	2	02/21/2019 23:04	MD
Hexachlorobutadiene	BRL	11		ug/m3	273983	2	02/21/2019 23:04	MD
Isopropyl alcohol	BRL	18		ug/m3	273983	2	02/21/2019 23:04	MD
m,p-Xylene	BRL	8.7		ug/m3	273983	2	02/21/2019 23:04	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	273983	2	02/21/2019 23:04	MD
Methylene chloride	BRL	3.5		ug/m3	273983	2	02/21/2019 23:04	MD
n-Heptane	BRL	4.1		ug/m3	273983	2	02/21/2019 23:04	MD
n-Hexane	BRL	3.5		ug/m3	273983	2	02/21/2019 23:04	MD
o-Xylene	BRL	4.3		ug/m3	273983	2	02/21/2019 23:04	MD
Propene	38	1.7		ug/m3	273983	2	02/21/2019 23:04	MD
Styrene	BRL	4.3		ug/m3	273983	2	02/21/2019 23:04	MD
Tetrachloroethene	BRL	6.8		ug/m3	273983	2	02/21/2019 23:04	MD
Tetrahydrofuran	BRL	2.9		ug/m3	273983	2	02/21/2019 23:04	MD
Toluene	BRL	3.8		ug/m3	273983	2	02/21/2019 23:04	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/21/2019 23:04	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/21/2019 23:04	MD
Trichloroethene	690	5.4		ug/m3	273983	2	02/21/2019 23:04	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	273983	2	02/21/2019 23:04	MD
Vinyl acetate	BRL	3.5		ug/m3	273983	2	02/21/2019 23:04	MD
Vinyl bromide	BRL	4.4		ug/m3	273983	2	02/21/2019 23:04	MD
Vinyl chloride	BRL	2.6		ug/m3	273983	2	02/21/2019 23:04	MD
Xylenes, Total	BRL	13		ug/m3	273983	2	02/21/2019 23:04	MD
Surr: 4-Bromofluorobenzene	95.5	70-130		%REC	273983	2	02/21/2019 23:04	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-002

Client Sample ID: SVE-1
Collection Date: 2/18/2019 12:58:00 PM
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	273983	2	02/22/2019 12:56	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	273983	2	02/22/2019 12:56	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	273983	2	02/22/2019 12:56	MD
1,1-Dichloroethane	16	4.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,1-Dichloroethene	19	4.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	273983	2	02/22/2019 12:56	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 12:56	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	273983	2	02/22/2019 12:56	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	273983	2	02/22/2019 12:56	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 12:56	MD
1,3-Butadiene	BRL	2.2		ug/m3	273983	2	02/22/2019 12:56	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 12:56	MD
1,4-Dioxane	BRL	3.6		ug/m3	273983	2	02/22/2019 12:56	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	273983	2	02/22/2019 12:56	MD
2-Butanone	10	2.9		ug/m3	273983	2	02/22/2019 12:56	MD
2-Hexanone	BRL	4.1		ug/m3	273983	2	02/22/2019 12:56	MD
4-Ethyltoluene	BRL	4.9		ug/m3	273983	2	02/22/2019 12:56	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	273983	2	02/22/2019 12:56	MD
Acetone	15	12		ug/m3	273983	2	02/22/2019 12:56	MD
Allyl chloride	BRL	3.1		ug/m3	273983	2	02/22/2019 12:56	MD
Benzene	BRL	3.2		ug/m3	273983	2	02/22/2019 12:56	MD
Benzyl chloride	BRL	5.2		ug/m3	273983	2	02/22/2019 12:56	MD
Bromodichloromethane	BRL	6.7		ug/m3	273983	2	02/22/2019 12:56	MD
Bromoform	BRL	10		ug/m3	273983	2	02/22/2019 12:56	MD
Bromomethane	BRL	3.9		ug/m3	273983	2	02/22/2019 12:56	MD
Carbon disulfide	BRL	3.1		ug/m3	273983	2	02/22/2019 12:56	MD
Carbon tetrachloride	BRL	6.3		ug/m3	273983	2	02/22/2019 12:56	MD
Chlorobenzene	BRL	4.6		ug/m3	273983	2	02/22/2019 12:56	MD
Chloroethane	BRL	2.6		ug/m3	273983	2	02/22/2019 12:56	MD
Chloroform	BRL	4.9		ug/m3	273983	2	02/22/2019 12:56	MD
Chloromethane	BRL	2.1		ug/m3	273983	2	02/22/2019 12:56	MD
cis-1,2-Dichloroethene	110	4.0		ug/m3	273983	2	02/22/2019 12:56	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 12:56	MD
Cyclohexane	BRL	3.4		ug/m3	273983	2	02/22/2019 12:56	MD
Dibromochloromethane	BRL	8.5		ug/m3	273983	2	02/22/2019 12:56	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	273983	2	02/22/2019 12:56	MD
Ethyl acetate	BRL	3.6		ug/m3	273983	2	02/22/2019 12:56	MD
Ethylbenzene	BRL	4.3		ug/m3	273983	2	02/22/2019 12:56	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-002

Client Sample ID: SVE-1
Collection Date: 2/18/2019 12:58:00 PM
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	273983	2	02/22/2019 12:56	MD
Freon-114	BRL	7.0		ug/m3	273983	2	02/22/2019 12:56	MD
Hexachlorobutadiene	BRL	11		ug/m3	273983	2	02/22/2019 12:56	MD
Isopropyl alcohol	BRL	18		ug/m3	273983	2	02/22/2019 12:56	MD
m,p-Xylene	BRL	8.7		ug/m3	273983	2	02/22/2019 12:56	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	273983	2	02/22/2019 12:56	MD
Methylene chloride	BRL	3.5		ug/m3	273983	2	02/22/2019 12:56	MD
n-Heptane	BRL	4.1		ug/m3	273983	2	02/22/2019 12:56	MD
n-Hexane	BRL	3.5		ug/m3	273983	2	02/22/2019 12:56	MD
o-Xylene	BRL	4.3		ug/m3	273983	2	02/22/2019 12:56	MD
Propene	47	1.7		ug/m3	273983	2	02/22/2019 12:56	MD
Styrene	BRL	4.3		ug/m3	273983	2	02/22/2019 12:56	MD
Tetrachloroethene	BRL	6.8		ug/m3	273983	2	02/22/2019 12:56	MD
Tetrahydrofuran	10	2.9		ug/m3	273983	2	02/22/2019 12:56	MD
Toluene	5.3	3.8		ug/m3	273983	2	02/22/2019 12:56	MD
trans-1,2-Dichloroethene	6.1	4.0		ug/m3	273983	2	02/22/2019 12:56	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 12:56	MD
Trichloroethene	3700	210		ug/m3	273983	2	02/21/2019 17:51	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	273983	2	02/22/2019 12:56	MD
Vinyl acetate	BRL	3.5		ug/m3	273983	2	02/22/2019 12:56	MD
Vinyl bromide	BRL	4.4		ug/m3	273983	2	02/22/2019 12:56	MD
Vinyl chloride	BRL	2.6		ug/m3	273983	2	02/22/2019 12:56	MD
Xylenes, Total	BRL	13		ug/m3	273983	2	02/22/2019 12:56	MD
Surr: 4-Bromofluorobenzene	93.8	70-130		%REC	273983	2	02/22/2019 12:56	MD
Surr: 4-Bromofluorobenzene	91	70-130		%REC	273983	2	02/21/2019 17:51	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-003

Client Sample ID: SVE-2
Collection Date: 2/18/2019 1:01:00 PM
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	273983	2	02/22/2019 10:57	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	273983	2	02/22/2019 10:57	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	273983	2	02/22/2019 10:57	MD
1,1-Dichloroethane	4.2	4.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	273983	2	02/22/2019 10:57	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:57	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	273983	2	02/22/2019 10:57	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	273983	2	02/22/2019 10:57	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:57	MD
1,3-Butadiene	BRL	2.2		ug/m3	273983	2	02/22/2019 10:57	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:57	MD
1,4-Dioxane	BRL	3.6		ug/m3	273983	2	02/22/2019 10:57	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	273983	2	02/22/2019 10:57	MD
2-Butanone	11	2.9		ug/m3	273983	2	02/22/2019 10:57	MD
2-Hexanone	BRL	4.1		ug/m3	273983	2	02/22/2019 10:57	MD
4-Ethyltoluene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:57	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	273983	2	02/22/2019 10:57	MD
Acetone	20	12		ug/m3	273983	2	02/22/2019 10:57	MD
Allyl chloride	BRL	3.1		ug/m3	273983	2	02/22/2019 10:57	MD
Benzene	BRL	3.2		ug/m3	273983	2	02/22/2019 10:57	MD
Benzyl chloride	BRL	5.2		ug/m3	273983	2	02/22/2019 10:57	MD
Bromodichloromethane	BRL	6.7		ug/m3	273983	2	02/22/2019 10:57	MD
Bromoform	BRL	10		ug/m3	273983	2	02/22/2019 10:57	MD
Bromomethane	BRL	3.9		ug/m3	273983	2	02/22/2019 10:57	MD
Carbon disulfide	BRL	3.1		ug/m3	273983	2	02/22/2019 10:57	MD
Carbon tetrachloride	BRL	6.3		ug/m3	273983	2	02/22/2019 10:57	MD
Chlorobenzene	BRL	4.6		ug/m3	273983	2	02/22/2019 10:57	MD
Chloroethane	BRL	2.6		ug/m3	273983	2	02/22/2019 10:57	MD
Chloroform	BRL	4.9		ug/m3	273983	2	02/22/2019 10:57	MD
Chloromethane	BRL	2.1		ug/m3	273983	2	02/22/2019 10:57	MD
cis-1,2-Dichloroethene	9.9	4.0		ug/m3	273983	2	02/22/2019 10:57	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 10:57	MD
Cyclohexane	BRL	3.4		ug/m3	273983	2	02/22/2019 10:57	MD
Dibromochloromethane	BRL	8.5		ug/m3	273983	2	02/22/2019 10:57	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	273983	2	02/22/2019 10:57	MD
Ethyl acetate	BRL	3.6		ug/m3	273983	2	02/22/2019 10:57	MD
Ethylbenzene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:57	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-003

Client Sample ID: SVE-2
Collection Date: 2/18/2019 1:01:00 PM
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	273983	2	02/22/2019 10:57	MD
Freon-114	BRL	7.0		ug/m3	273983	2	02/22/2019 10:57	MD
Hexachlorobutadiene	BRL	11		ug/m3	273983	2	02/22/2019 10:57	MD
Isopropyl alcohol	BRL	18		ug/m3	273983	2	02/22/2019 10:57	MD
m,p-Xylene	BRL	8.7		ug/m3	273983	2	02/22/2019 10:57	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	273983	2	02/22/2019 10:57	MD
Methylene chloride	BRL	3.5		ug/m3	273983	2	02/22/2019 10:57	MD
n-Heptane	BRL	4.1		ug/m3	273983	2	02/22/2019 10:57	MD
n-Hexane	BRL	3.5		ug/m3	273983	2	02/22/2019 10:57	MD
o-Xylene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:57	MD
Propene	14	1.7		ug/m3	273983	2	02/22/2019 10:57	MD
Styrene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:57	MD
Tetrachloroethene	BRL	6.8		ug/m3	273983	2	02/22/2019 10:57	MD
Tetrahydrofuran	10	2.9		ug/m3	273983	2	02/22/2019 10:57	MD
Toluene	4.7	3.8		ug/m3	273983	2	02/22/2019 10:57	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 10:57	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 10:57	MD
Trichloroethene	440	5.4		ug/m3	273983	2	02/22/2019 10:57	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	273983	2	02/22/2019 10:57	MD
Vinyl acetate	BRL	3.5		ug/m3	273983	2	02/22/2019 10:57	MD
Vinyl bromide	BRL	4.4		ug/m3	273983	2	02/22/2019 10:57	MD
Vinyl chloride	BRL	2.6		ug/m3	273983	2	02/22/2019 10:57	MD
Xylenes, Total	BRL	13		ug/m3	273983	2	02/22/2019 10:57	MD
Surr: 4-Bromofluorobenzene	94.5	70-130		%REC	273983	2	02/22/2019 10:57	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-004

Client Sample ID: SVE-3
Collection Date: 2/18/2019 1:13:00 PM
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	273983	2	02/22/2019 10:17	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	273983	2	02/22/2019 10:17	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	273983	2	02/22/2019 10:17	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	273983	2	02/22/2019 10:17	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:17	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	273983	2	02/22/2019 10:17	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	273983	2	02/22/2019 10:17	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:17	MD
1,3-Butadiene	BRL	2.2		ug/m3	273983	2	02/22/2019 10:17	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 10:17	MD
1,4-Dioxane	BRL	3.6		ug/m3	273983	2	02/22/2019 10:17	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	273983	2	02/22/2019 10:17	MD
2-Butanone	9.9	2.9		ug/m3	273983	2	02/22/2019 10:17	MD
2-Hexanone	BRL	4.1		ug/m3	273983	2	02/22/2019 10:17	MD
4-Ethyltoluene	BRL	4.9		ug/m3	273983	2	02/22/2019 10:17	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	273983	2	02/22/2019 10:17	MD
Acetone	14	12		ug/m3	273983	2	02/22/2019 10:17	MD
Allyl chloride	BRL	3.1		ug/m3	273983	2	02/22/2019 10:17	MD
Benzene	BRL	3.2		ug/m3	273983	2	02/22/2019 10:17	MD
Benzyl chloride	BRL	5.2		ug/m3	273983	2	02/22/2019 10:17	MD
Bromodichloromethane	BRL	6.7		ug/m3	273983	2	02/22/2019 10:17	MD
Bromoform	BRL	10		ug/m3	273983	2	02/22/2019 10:17	MD
Bromomethane	BRL	3.9		ug/m3	273983	2	02/22/2019 10:17	MD
Carbon disulfide	BRL	3.1		ug/m3	273983	2	02/22/2019 10:17	MD
Carbon tetrachloride	BRL	6.3		ug/m3	273983	2	02/22/2019 10:17	MD
Chlorobenzene	BRL	4.6		ug/m3	273983	2	02/22/2019 10:17	MD
Chloroethane	BRL	2.6		ug/m3	273983	2	02/22/2019 10:17	MD
Chloroform	BRL	4.9		ug/m3	273983	2	02/22/2019 10:17	MD
Chloromethane	BRL	2.1		ug/m3	273983	2	02/22/2019 10:17	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 10:17	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 10:17	MD
Cyclohexane	BRL	3.4		ug/m3	273983	2	02/22/2019 10:17	MD
Dibromochloromethane	BRL	8.5		ug/m3	273983	2	02/22/2019 10:17	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	273983	2	02/22/2019 10:17	MD
Ethyl acetate	BRL	3.6		ug/m3	273983	2	02/22/2019 10:17	MD
Ethylbenzene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:17	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-004

Client Sample ID: SVE-3
Collection Date: 2/18/2019 1:13:00 PM
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	273983	2	02/22/2019 10:17	MD
Freon-114	BRL	7.0		ug/m3	273983	2	02/22/2019 10:17	MD
Hexachlorobutadiene	BRL	11		ug/m3	273983	2	02/22/2019 10:17	MD
Isopropyl alcohol	BRL	18		ug/m3	273983	2	02/22/2019 10:17	MD
m,p-Xylene	BRL	8.7		ug/m3	273983	2	02/22/2019 10:17	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	273983	2	02/22/2019 10:17	MD
Methylene chloride	BRL	3.5		ug/m3	273983	2	02/22/2019 10:17	MD
n-Heptane	BRL	4.1		ug/m3	273983	2	02/22/2019 10:17	MD
n-Hexane	BRL	3.5		ug/m3	273983	2	02/22/2019 10:17	MD
o-Xylene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:17	MD
Propene	47	1.7		ug/m3	273983	2	02/22/2019 10:17	MD
Styrene	BRL	4.3		ug/m3	273983	2	02/22/2019 10:17	MD
Tetrachloroethene	BRL	6.8		ug/m3	273983	2	02/22/2019 10:17	MD
Tetrahydrofuran	9.6	2.9		ug/m3	273983	2	02/22/2019 10:17	MD
Toluene	4.7	3.8		ug/m3	273983	2	02/22/2019 10:17	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 10:17	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 10:17	MD
Trichloroethene	9.1	5.4		ug/m3	273983	2	02/22/2019 10:17	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	273983	2	02/22/2019 10:17	MD
Vinyl acetate	BRL	3.5		ug/m3	273983	2	02/22/2019 10:17	MD
Vinyl bromide	BRL	4.4		ug/m3	273983	2	02/22/2019 10:17	MD
Vinyl chloride	BRL	2.6		ug/m3	273983	2	02/22/2019 10:17	MD
Xylenes, Total	BRL	13		ug/m3	273983	2	02/22/2019 10:17	MD
Surr: 4-Bromofluorobenzene	94.2	70-130		%REC	273983	2	02/22/2019 10:17	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-005

Client Sample ID: SVE-4
Collection Date: 2/18/2019 1:14:00 PM
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	273983	2	02/22/2019 09:37	MD
1,1,2,2-Tetrachloroethane	BRL	6.9		ug/m3	273983	2	02/22/2019 09:37	MD
1,1,2-Trichloroethane	BRL	5.5		ug/m3	273983	2	02/22/2019 09:37	MD
1,1-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,1-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,2,4-Trichlorobenzene	BRL	7.4		ug/m3	273983	2	02/22/2019 09:37	MD
1,2,4-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 09:37	MD
1,2-Dibromoethane	BRL	7.7		ug/m3	273983	2	02/22/2019 09:37	MD
1,2-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,2-Dichloroethane	BRL	4.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,2-Dichloropropane	BRL	4.6		ug/m3	273983	2	02/22/2019 09:37	MD
1,3,5-Trimethylbenzene	BRL	4.9		ug/m3	273983	2	02/22/2019 09:37	MD
1,3-Butadiene	BRL	2.2		ug/m3	273983	2	02/22/2019 09:37	MD
1,3-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,4-Dichlorobenzene	BRL	6.0		ug/m3	273983	2	02/22/2019 09:37	MD
1,4-Dioxane	BRL	3.6		ug/m3	273983	2	02/22/2019 09:37	MD
2,2,4-Trimethylpentane	BRL	4.7		ug/m3	273983	2	02/22/2019 09:37	MD
2-Butanone	11	2.9		ug/m3	273983	2	02/22/2019 09:37	MD
2-Hexanone	BRL	4.1		ug/m3	273983	2	02/22/2019 09:37	MD
4-Ethyltoluene	BRL	4.9		ug/m3	273983	2	02/22/2019 09:37	MD
4-Methyl-2-pentanone	BRL	4.1		ug/m3	273983	2	02/22/2019 09:37	MD
Acetone	17	12		ug/m3	273983	2	02/22/2019 09:37	MD
Allyl chloride	BRL	3.1		ug/m3	273983	2	02/22/2019 09:37	MD
Benzene	BRL	3.2		ug/m3	273983	2	02/22/2019 09:37	MD
Benzyl chloride	BRL	5.2		ug/m3	273983	2	02/22/2019 09:37	MD
Bromodichloromethane	BRL	6.7		ug/m3	273983	2	02/22/2019 09:37	MD
Bromoform	BRL	10		ug/m3	273983	2	02/22/2019 09:37	MD
Bromomethane	BRL	3.9		ug/m3	273983	2	02/22/2019 09:37	MD
Carbon disulfide	BRL	3.1		ug/m3	273983	2	02/22/2019 09:37	MD
Carbon tetrachloride	BRL	6.3		ug/m3	273983	2	02/22/2019 09:37	MD
Chlorobenzene	BRL	4.6		ug/m3	273983	2	02/22/2019 09:37	MD
Chloroethane	BRL	2.6		ug/m3	273983	2	02/22/2019 09:37	MD
Chloroform	BRL	4.9		ug/m3	273983	2	02/22/2019 09:37	MD
Chloromethane	BRL	2.1		ug/m3	273983	2	02/22/2019 09:37	MD
cis-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 09:37	MD
cis-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 09:37	MD
Cyclohexane	BRL	3.4		ug/m3	273983	2	02/22/2019 09:37	MD
Dibromochloromethane	BRL	8.5		ug/m3	273983	2	02/22/2019 09:37	MD
Dichlorodifluoromethane	BRL	4.9		ug/m3	273983	2	02/22/2019 09:37	MD
Ethyl acetate	BRL	3.6		ug/m3	273983	2	02/22/2019 09:37	MD
Ethylbenzene	BRL	4.3		ug/m3	273983	2	02/22/2019 09:37	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: CDM Smith Inc.
Project Name: Cessna
Lab ID: 1902H32-005

Client Sample ID: SVE-4
Collection Date: 2/18/2019 1:14:00 PM
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	273983	2	02/22/2019 09:37	MD
Freon-114	BRL	7.0		ug/m3	273983	2	02/22/2019 09:37	MD
Hexachlorobutadiene	BRL	11		ug/m3	273983	2	02/22/2019 09:37	MD
Isopropyl alcohol	BRL	18		ug/m3	273983	2	02/22/2019 09:37	MD
m,p-Xylene	BRL	8.7		ug/m3	273983	2	02/22/2019 09:37	MD
Methyl tert-butyl ether	BRL	3.6		ug/m3	273983	2	02/22/2019 09:37	MD
Methylene chloride	BRL	3.5		ug/m3	273983	2	02/22/2019 09:37	MD
n-Heptane	BRL	4.1		ug/m3	273983	2	02/22/2019 09:37	MD
n-Hexane	BRL	3.5		ug/m3	273983	2	02/22/2019 09:37	MD
o-Xylene	BRL	4.3		ug/m3	273983	2	02/22/2019 09:37	MD
Propene	50	1.7		ug/m3	273983	2	02/22/2019 09:37	MD
Styrene	BRL	4.3		ug/m3	273983	2	02/22/2019 09:37	MD
Tetrachloroethene	BRL	6.8		ug/m3	273983	2	02/22/2019 09:37	MD
Tetrahydrofuran	9.6	2.9		ug/m3	273983	2	02/22/2019 09:37	MD
Toluene	4.7	3.8		ug/m3	273983	2	02/22/2019 09:37	MD
trans-1,2-Dichloroethene	BRL	4.0		ug/m3	273983	2	02/22/2019 09:37	MD
trans-1,3-Dichloropropene	BRL	4.5		ug/m3	273983	2	02/22/2019 09:37	MD
Trichloroethene	17	5.4		ug/m3	273983	2	02/22/2019 09:37	MD
Trichlorofluoromethane	BRL	5.6		ug/m3	273983	2	02/22/2019 09:37	MD
Vinyl acetate	BRL	3.5		ug/m3	273983	2	02/22/2019 09:37	MD
Vinyl bromide	BRL	4.4		ug/m3	273983	2	02/22/2019 09:37	MD
Vinyl chloride	BRL	2.6		ug/m3	273983	2	02/22/2019 09:37	MD
Xylenes, Total	BRL	13		ug/m3	273983	2	02/22/2019 09:37	MD
Surr: 4-Bromofluorobenzene	96	70-130		%REC	273983	2	02/22/2019 09:37	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SYSTEM				Lab ID: 1902H32-001			
Collection Date: 2/18/2019 12:45:00 PM				Matrix: Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
1,1-Dichloroethene	4.6		0.24	4.0	ug/m3	273983	2
Acetone	42		0.34	12	ug/m3	273983	2
cis-1,2-Dichloroethene	17		0.24	4.0	ug/m3	273983	2
Propene	38		0.10	1.7	ug/m3	273983	2
Trichloroethene	690		0.58	5.4	ug/m3	273983	2
Client Sample ID: SVE-1				Lab ID: 1902H32-002			
Collection Date: 2/18/2019 12:58:00 PM				Matrix: Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
1,1-Dichloroethane	16		0.34	4.0	ug/m3	273983	2
1,1-Dichloroethene	19		0.24	4.0	ug/m3	273983	2
2-Butanone	10		0.35	2.9	ug/m3	273983	2
Acetone	15		0.34	12	ug/m3	273983	2
cis-1,2-Dichloroethene	110		0.24	4.0	ug/m3	273983	2
Propene	47		0.10	1.7	ug/m3	273983	2
Tetrahydrofuran	10		0.23	2.9	ug/m3	273983	2
Toluene	5.3		0.29	3.8	ug/m3	273983	2
trans-1,2-Dichloroethene	6.1		0.24	4.0	ug/m3	273983	2
Trichloroethene	3700		23	210	ug/m3	273983	2
Client Sample ID: SVE-2				Lab ID: 1902H32-003			
Collection Date: 2/18/2019 1:01:00 PM				Matrix: Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
1,1-Dichloroethane	4.2		0.34	4.0	ug/m3	273983	2
2-Butanone	11		0.35	2.9	ug/m3	273983	2
Acetone	20		0.34	12	ug/m3	273983	2
cis-1,2-Dichloroethene	9.9		0.24	4.0	ug/m3	273983	2
Propene	14		0.10	1.7	ug/m3	273983	2
Tetrahydrofuran	10		0.23	2.9	ug/m3	273983	2
Toluene	4.7		0.29	3.8	ug/m3	273983	2
Trichloroethene	440		0.58	5.4	ug/m3	273983	2
Client Sample ID: SVE-3				Lab ID: 1902H32-004			
Collection Date: 2/18/2019 1:13:00 PM				Matrix: Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
2-Butanone	9.9		0.35	2.9	ug/m3	273983	2
Acetone	14		0.34	12	ug/m3	273983	2
Propene	47		0.10	1.7	ug/m3	273983	2
Tetrahydrofuran	9.6		0.23	2.9	ug/m3	273983	2
Toluene	4.7		0.29	3.8	ug/m3	273983	2
Trichloroethene	9.1		0.58	5.4	ug/m3	273983	2
Client Sample ID: SVE-4				Lab ID: 1902H32-005			
Collection Date: 2/18/2019 1:14:00 PM				Matrix: Air			
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
2-Butanone	11		0.35	2.9	ug/m3	273983	2
Acetone	17		0.34	12	ug/m3	273983	2
Propene	50		0.10	1.7	ug/m3	273983	2

Page 15 of 25

SUMMARY OF ANALYTES DETECTED

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	Dilution Factor
Client Sample ID: SVE-4 Lab ID: 1902H32-005 Collection Date: 2/18/2019 1:14:00 PM Matrix: Air							
VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				(TO-15)			
Tetrahydrofuran	9.6		0.23	2.9	ug/m3	273983	2
Toluene	4.7		0.29	3.8	ug/m3	273983	2
Trichloroethene	17		0.58	5.4	ug/m3	273983	2

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample Receipt Checklist for Air Canisters

Client CDM Smith Inc.

Work Order Number 1902H32

Checklist completed by M. J. W. G. 2/20/19
Signature Date

Carrier name: FedEx ☒ UPS ☐ Courier ☐ Client ^{mh 2/20} ☒ 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: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: MB-273983	Client ID:				Units: ug/m3	Prep Date: 02/21/2019	Run No: 391616				
SampleType: MBLK	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				BatchID: 273983	Analysis Date: 02/21/2019	Seq No: 8764719				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	BRL	1.1
1,1,2,2-Tetrachloroethane	BRL	1.4
1,1,2-Trichloroethane	BRL	1.1
1,1-Dichloroethane	BRL	0.81
1,1-Dichloroethene	BRL	0.79
1,2,4-Trichlorobenzene	BRL	1.5
1,2,4-Trimethylbenzene	BRL	0.98
1,2-Dibromoethane	BRL	1.5
1,2-Dichlorobenzene	BRL	1.2
1,2-Dichloroethane	BRL	0.81
1,2-Dichloropropane	BRL	0.92
1,3,5-Trimethylbenzene	BRL	0.98
1,3-Butadiene	BRL	0.44
1,3-Dichlorobenzene	BRL	1.2
1,4-Dichlorobenzene	BRL	1.2
1,4-Dioxane	BRL	0.72
2,2,4-Trimethylpentane	BRL	0.93
2-Butanone	BRL	0.59
2-Hexanone	BRL	0.82
4-Ethyltoluene	BRL	0.98
4-Methyl-2-pentanone	BRL	0.82
Acetone	BRL	2.4
Allyl chloride	BRL	0.63
Benzene	BRL	0.64
Benzyl chloride	BRL	1.0
Bromodichloromethane	BRL	1.3
Bromoform	BRL	2.1

Qualifiers:

>	Greater than Result value
BRL	Below reporting limit
J	Estimated value detected below Reporting Limit
Rpt Lim	Reporting Limit

<	Less than Result value
E	Estimated (value above quantitation range)
N	Analyte not NELAC certified
S	Spike Recovery outside limits due to matrix

B	Analyte detected in the associated method blank
H	Holding times for preparation or analysis exceeded
R	RPD outside limits due to matrix

Client: CDM Smith Inc.
 Project Name: Cessna
 Workorder: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: MB-273983	Client ID:				Units: ug/m3	Prep Date: 02/21/2019	Run No: 391616				
SampleType: MBLK	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				BatchID: 273983	Analysis Date: 02/21/2019	Seq No: 8764719				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

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

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

Client: CDM Smith Inc.
 Project Name: Cessna
 Workorder: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: MB-273983	Client ID:	Units: ug/m3			Prep Date: 02/21/2019	Run No: 391616					
SampleType: MBLK	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051	BatchID: 273983			Analysis Date: 02/21/2019	Seq No: 8764719					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Tetrahydrofuran	BRL	0.59									
Toluene	BRL	0.75									
trans-1,2-Dichloroethene	BRL	0.79									
trans-1,3-Dichloropropene	BRL	0.91									
Trichloroethene	BRL	1.1									
Trichlorofluoromethane	BRL	1.1									
Vinyl acetate	BRL	0.70									
Vinyl bromide	BRL	0.87									
Vinyl chloride	BRL	0.51									
Xylenes, Total	BRL	2.6									
Surr: 4-Bromofluorobenzene	3.610	0	4.000		90.2	70	130				

Sample ID: LCS-273983	Client ID:				Units: ug/m3	Prep Date: 02/21/2019	Run No: 391616				
SampleType: LCS	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051				BatchID: 273983	Analysis Date: 02/21/2019	Seq No: 8764740				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	11.68	1.1	10.91		107	70	130				
1,1,2,2-Tetrachloroethane	15.04	1.4	13.73		110	70	130				
1,1,2-Trichloroethane	11.35	1.1	10.91		104	70	130				
1,1-Dichloroethane	8.540	0.81	8.095		106	70	130				
1,1-Dichloroethene	8.485	0.79	7.930		107	70	130				
1,2,4-Trichlorobenzene	16.18	1.5	14.85		109	70	130				
1,2,4-Trimethylbenzene	10.27	0.98	9.832		104	70	130				
1,2-Dibromoethane	16.91	1.5	15.37		110	70	130				
1,2-Dichlorobenzene	12.45	1.2	12.02		104	70	130				
1,2-Dichloroethane	8.095	0.81	8.095		100	70	130				
1,2-Dichloropropane	9.521	0.92	9.243		103	70	130				
1,3,5-Trimethylbenzene	11.16	0.98	9.832		114	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: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: LCS-273983	Client ID:	Units: ug/m3				Prep Date: 02/21/2019	Run No: 391616				
SampleType: LCS	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051	BatchID: 273983				Analysis Date: 02/21/2019	Seq No: 8764740				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,3-Butadiene	4.380	0.44	4.425		99.0	70	130				
1,3-Dichlorobenzene	12.75	1.2	12.02		106	70	130				
1,4-Dichlorobenzene	12.39	1.2	12.02		103	70	130				
1,4-Dioxane	7.893	0.72	7.208		110	70	130				
2,2,4-Trimethylpentane	9.528	0.93	9.342		102	70	130				
2-Butanone	6.252	0.59	5.899		106	70	130				
2-Hexanone	8.237	0.82	8.196		100	70	130				
4-Ethyltoluene	10.86	0.98	9.832		110	70	130				
4-Methyl-2-pentanone	7.991	0.82	8.196		97.5	70	130				
Acetone	5.083	2.4	4.751		107	70	130				
Allyl chloride	6.135	0.63	6.260		98.0	70	130				
Benzene	6.677	0.64	6.389		104	70	130				
Benzyl chloride	11.39	1.0	10.36		110	70	130				
Bromodichloromethane	13.80	1.3	13.40		103	70	130				
Bromoform	22.02	2.1	20.68		106	70	130				
Bromomethane	8.349	0.78	7.766		108	70	130				
Carbon disulfide	6.851	0.62	6.228		110	70	130				
Carbon tetrachloride	13.21	1.3	12.58		105	70	130				
Chlorobenzene	9.994	0.92	9.211		108	70	130				
Chloroethane	5.410	0.53	5.278		102	70	130				
Chloroform	10.60	0.98	9.767		108	70	130				
Chloromethane	4.399	0.41	4.130		106	70	130				
cis-1,2-Dichloroethene	8.524	0.79	7.930		108	70	130				
cis-1,3-Dichloropropene	9.216	0.91	9.080		102	70	130				
Cyclohexane	6.919	0.69	6.884		100	70	130				
Dibromochloromethane	18.40	1.7	17.04		108	70	130				
Dichlorodifluoromethane	10.98	0.99	9.890		111	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: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: LCS-273983	Client ID:	Units: ug/m3				Prep Date: 02/21/2019	Run No: 391616				
SampleType: LCS	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051	BatchID: 273983				Analysis Date: 02/21/2019	Seq No: 8764740				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethyl acetate	7.783	0.72	7.207		108	70	130				
Ethylbenzene	9.382	0.87	8.687		108	70	130				
Freon-113	16.94	1.5	15.33		110	70	130				
Freon-114	15.59	1.4	13.98		112	70	130				
Hexachlorobutadiene	16.75	2.1	21.33		78.5	70	130				
Isopropyl alcohol	5.236	3.7	4.916		106	70	130				
m,p-Xylene	19.29	1.7	17.37		111	70	130				
Methyl tert-butyl ether	7.427	0.72	7.211		103	70	130				
Methylene chloride	7.191	0.69	6.948		104	70	130				
n-Heptane	7.950	0.82	8.196		97.0	70	130				
n-Hexane	7.119	0.70	7.049		101	70	130				
o-Xylene	9.773	0.87	8.687		112	70	130				
Propene	4.182	0.34	3.442		122	70	130				
Styrene	9.069	0.85	8.515		106	70	130				
Tetrachloroethene	14.92	1.4	13.56		110	70	130				
Tetrahydrofuran	5.663	0.59	5.899		96.0	70	130				
Toluene	7.838	0.75	7.537		104	70	130				
trans-1,2-Dichloroethene	8.485	0.79	7.930		107	70	130				
trans-1,3-Dichloropropene	9.488	0.91	9.080		104	70	130				
Trichloroethene	11.39	1.1	10.75		106	70	130				
Trichlorofluoromethane	12.19	1.1	11.24		108	70	130				
Vinyl acetate	7.500	0.70	7.042		106	70	130				
Vinyl bromide	9.444	0.87	8.744		108	70	130				
Vinyl chloride	5.445	0.51	5.112		106	70	130				
Xylenes, Total	29.06	2.6	26.06		112	70	130				
Surr: 4-Bromofluorobenzene	4.100	0	4.000		102	70	130				

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

Client: CDM Smith Inc.
 Project Name: Cessna
 Workorder: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: 1902I14-003ADUP		Client ID:		Units: ug/m3		Prep Date: 02/21/2019		Run No: 391616			
SampleType: DUP		TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051		BatchID: 273983		Analysis Date: 02/21/2019		Seq No: 8764784			
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						4.916	0	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						1.721	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	BRL	4.7						0	0	25	
2-Butanone	12.39	2.9						12.53	1.18	25	
2-Hexanone	BRL	4.1						0	0	25	
4-Ethyltoluene	BRL	4.9						0.9832	0	25	
4-Methyl-2-pentanone	BRL	4.1						3.688	0	25	
Acetone	53.57	12						54.75	2.19	25	
Allyl chloride	BRL	3.1						0	0	25	
Benzene	BRL	3.2						1.597	0	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
 BRL Below reporting limit
 J Estimated value detected below Reporting Limit
 Rpt Lim Reporting Limit

< Less than Result value
 E Estimated (value above quantitation range)
 N Analyte not NELAC certified
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank
 H Holding times for preparation or analysis exceeded
 R RPD outside limits due to matrix

Client: CDM Smith Inc.
 Project Name: Cessna
 Workorder: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: 1902114-003ADUP	Client ID:	Units: ug/m3				Prep Date: 02/21/2019	Run No: 391616				
SampleType: DUP	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051	BatchID: 273983				Analysis Date: 02/21/2019	Seq No: 8764784				
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	BRL	3.4						0	0	25	
Dibromochloromethane	BRL	8.5						0	0	25	
Dichlorodifluoromethane	BRL	4.9						0	0	25	
Ethyl acetate	BRL	3.6						0	0	25	
Ethylbenzene	BRL	4.3						1.520	0	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						3.810	0	25	
m,p-Xylene	BRL	8.7						6.081	0	25	
Methyl tert-butyl ether	BRL	3.6						0	0	25	
Methylene chloride	BRL	3.5						0	0	25	
n-Heptane	BRL	4.1						0	0	25	
n-Hexane	BRL	3.5						0	0	25	
o-Xylene	BRL	4.3						2.389	0	25	
Propene	11.70	1.7						12.31	5.02	25	
Styrene	BRL	4.3						4.045	0	25	
Tetrachloroethene	191.2	6.8						191.9	0.354	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: 1902H32

ANALYTICAL QC SUMMARY REPORT

BatchID: 273983

Sample ID: 1902114-003ADUP	Client ID:	Units: ug/m3				Prep Date: 02/21/2019	Run No: 391616				
SampleType: DUP	TestCode: VOCs in Air by TO-15/TO-14A/AES SOP OA-11051	BatchID: 273983				Analysis Date: 02/21/2019	Seq No: 8764784				
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	38.06	3.8						38.82	1.96	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						1.344	0	25	
Trichlorofluoromethane	37.37	5.6						37.93	1.49	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	BRL	13						8.470	0	25	
Surr: 4-Bromofluorobenzene	19.00	0	20.00		95.0	70	130	19.35	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

Vapor Intrusion Risks

Site-specific VISL Results

Commercial Equation Inputs

* Inputted values different from Commercial defaults are highlighted.

Output generated 22MAR2019:07:57:11

Variable	Commercial Air Default Value	Value
Groundwater) unitless	0.001	0.001
AF _{ss} (Attenuation Factor Sub-Slab) unitless	0.03	0.03
worker)	365	365
composite worker) yr	25	25
composite worker) day/yr	250	250
worker) hr	8	8
unitless	0.1	1
LT (lifetime) yr	70	70
TR (target risk) unitless	0.000001	0.00001

Site Sub-Slab Soil Gas Concentration is the maximum reported for February 18, 2019.

Commercial Vapor Intrusion Risk

Output generated 22MAR2019:07:57:11

Chemical	CAS Number	Site Sub-Slab and Exterior Soil Gas Concentration C _{sg} (µg/m ³)	Site Indoor Air Concentration C _{i,a} (µg/m ³)	VI Carcinogenic Risk CR	VI Hazard HQ	IUR (ug/m ³) ⁻¹	IUR Ref	Chronic RfC (mg/m ³)	RfC Ref	Temperature (°C) for Groundwater Vapor Concentration	Mutagen?
Acetone	67-64-1	20	0.6		4.43E-06			30.9	U	19.4	No
Dichloroethane, 1,1-	75-34-3	16	0.48	6.26E-08		1.6E-06	U			19.4	No
Dichloroethylene, 1,1-	75-35-4	19	0.57		0.000651			0.2	U	19.4	No
Dichloroethylene, 1,2-cis-	156-59-2	110								19.4	No
Dichloroethylene, 1,2-trans-	156-60-5	6.1								19.4	No
Methyl Ethyl Ketone (2-Butanone)	78-93-3	11	0.33		0.0000151			5	U	19.4	No
Tetrahydrofuran	109-99-9	10	0.3		0.0000342			2	U	19.4	No
Toluene	108-88-3	5.3	0.159		7.26E-06			5	U	19.4	No
Trichloroethylene	79-01-6	3700	111	3.71E-05	12.7	4.1E-06	U	0.002	U	19.4	Mut
*Sum				4.0E-05	13						

Attachment B-2: Cumulative Vapor Intrusion Risk

Cessna GA1 Facility
Columbus, Muscogee County, Georgia

Attachment C: Well Location Map



- | | | |
|------------------------------|---|--|
| ⊕ Soil Vapor Extraction Well | ⊗ Unit A Sediments Monitoring Well | ⊗ Unit B Saprolite Monitoring Well |
| ▲ Vapor Monitoring Point | ⊗ Unit A/B Monitoring Well | ⊗ Unit C Upper Bedrock Monitoring Well |
| | ○ Unit A/B Tracer Test Monitoring Point | |
| | ✕ Unit A/B Injection Well | |

- | | |
|--------------------|------------------|
| Offsite Properties | Stream Tributary |
| Site Boundary | SVE Piping |

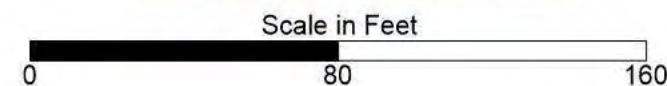


Figure C-1: 2019 Well Location Map
 Cessna GA1 Facility
 Columbus, Muscogee County, Georgia

Attachment D: 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: April 3, 2019



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	12/22/19	2	Senior hydrogeologist and technical lead for corrective action
		1/5/19	2.5	
		1/12/19	5	
		1/19/19	7.5	
		1/26/19	12.5	
		2/2/19	6	
		2/9/19	8	
		2/16/19	18.5	
		2/23/19	2.5	
		3/2/19	4	
John Reichling	Engineer PE017367	11/17/19	1	CDM Smith Officer in Charge and person overall responsible for project execution and quality
		12/1/19	1	
		12/15/19	1	
		12/29/18	1	
		1/12/19	1	
		1/26/19	1	
		2/9/19	1	
		2/23/19	1	
Jeff Weeber	Engineer PE032278	12/8/19	4	Final design reviewer and design engineer, including SVE system and associated troubleshooting
		1/5/19	1	
		1/12/19	1.5	
		1/19/19	1	
		1/26/19	4	
		2/2/19	6	
		2/9/19	4.5	
		2/16/19	2	
		2/23/19	1	