



November 9, 2022

Mr. Jacob Evans
Crestone Peak Resources Operating, LLC. (Civitas Resources)
1801 California Street Suite 2500
Denver, Colorado 80202

Groundwater Assessment and Monitoring Report
Libsack 4-8-27
Vent Line Release
40.276553 / -104.644507
SW¹/₄ SE¹/₄ SEC.27 T4N R65W 6PM
Weld County, Colorado
Location ID 310312
Remediation # 23926

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present this Groundwater Assessment and Monitoring Report to Crestone Peak Resources Operating, LLC. (Crestone) for the above referenced site.

1.0 SITE BACKGROUND

In July 2022, Crestone requested EAGLE to perform subsurface assessment activities at the site in response to potential petroleum hydrocarbon impacts associated with an unintentional vent line release at the Libsack 4-8-27 site (site). In July 2022 and September 2022, EAGLE collected a grab groundwater sample and confirmation soil samples from the excavation. Based on groundwater analytical results, the grab groundwater sample (GW-01) contained a benzene concentration exceeding Colorado Oil and Gas Conservation Commission (COGCC) Table 915-1 regulatory limits. Confirmation soil samples collected from the excavation were in compliance with applicable COGCC Table 915-1 regulatory limits.

The following narrative details groundwater assessment and monitoring activities completed at the site.

2.0 SITE DESCRIPTION

The Libsack 4-8-27 site is located within the southwest quarter of the southeast quarter of Section 27, Township 4 North, Range 65 West, of the 6th Prime Meridian, in Weld County, Colorado. The vent line release was located at latitude: 40.276553 and longitude: -104.644507. A topographic site location map is presented as Figure 1. An aerial site location map is presented as Figure 2.

2.1 Site Hydrogeology

The soil lithology observed beneath the release location consists of clayey sand from the ground surface to approximately 12 feet below ground surface (bgs). Groundwater during initial assessment/excavation activities was observed at approximately 4 feet bgs. Groundwater during well installation and subsequent sampling activities was observed at approximately 2 to 4 feet bgs. A detailed description of the subsurface lithology beneath the site is presented in the boring logs included in Attachment A.

3.0 MONITORING WELL INSTALLATION ACTIVITIES

To assess the extents dissolved petroleum hydrocarbon impacts associated with the vent line release, six (6) initial monitoring wells (MW-01 through MW-06) were proposed for installation. Following approval, EAGLE scheduled soil boring advancement activities.

3.1 Field Work Preparation and Planning

The Utility Notification Center of Colorado (UNCC) was called at least 48 hours in advance of drilling activities to confirm that no unmarked utilities or other obstacles were present within the proposed drilling locations.

3.2 Soil Boring Advancement/Monitoring Well Completion Activities

On October 13, 2022, six (6) soil borings (MW-01 through MW-06) were advanced around the release area. Following advancement activities, each soil boring was completed as a 1-inch, groundwater monitoring well to define the extents of dissolved petroleum hydrocarbon impacts beneath the site. Soil boring advancement/monitoring well installation activities were completed by EAGLE using a 7822DT Series Geoprobe track rig.

Each location was logged in the field according to soil description, soil classification, moisture content, staining, and VOC concentrations. Monitoring wells, MW-01 through MW-06, were completed with 1-inch, schedule 40, poly vinyl chloride (PVC) pipe, each to a total depth of approximately 12 feet bgs. Approximately 11-feet of 0.010 slot, 1-inch, PVC screen was placed at the bottom of each boring followed by 1-foot of PVC riser. The well annulus of each monitoring well was backfilled with 10/20 silica sand to the top of screen, followed by a hydrated bentonite seal to the surface. All monitoring wells were completed at the surface with 8-inch, traffic-rated steel flush mounts. Following monitoring well completions, each well was developed through purging the location a minimum of six well volumes using disposable PVC bailers.

EAGLE recorded spatial locations of each boring using a Trimble GeoXT 6000 series instrument. Soil boring logs/monitoring well completion diagrams are included in Attachment A. Soil boring/monitoring well locations are presented in Figure 3. A geological cross section is included as Figure 4.

3.3 Soil Sampling Procedures

During soil boring advancement/monitoring well installation activities, soil samples were collected continuously within 5-foot, plastic sample liners, where applicable. The samples within the plastic liners were separated in 2.5-foot intervals for soil identification and analysis, where applicable. A portion from each 2.5-foot interval, where applicable, was placed in a sealable plastic bag, for volatile organic compound (VOC) headspace analysis utilizing a field-calibrated photoionization detector (PID). Another portion of the soil sample was placed in a 4-ounce glass jar and packed in an iced cooler. PID readings for select soil samples are summarized in Table 1.

Based on field observations, select soil samples (MW-01@2.5-5', MW-02@2.5-5', MW-03@2.5-5', MW-04@2.5-5', MW-05@2.5-5', and MW-06@2.5-5') were submitted to Summit Scientific (Summit), located in Golden, Colorado, following standard chain-of-custody (COC) procedures, for laboratory analysis. Each soil sample was analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), 1,2,4-trimethylbenzene (1,2,4-TMB), 1,3,5-trimethylbenzene (1,3,5-TMB), and total petroleum hydrocarbons – gasoline range organics (TPH-GRO) following modified Environmental Protection Agency (EPA)

Method 8260D, total petroleum hydrocarbons – diesel range organics (TPH-DRO) and total petroleum hydrocarbons – residual range organics (TPH-RRO) following modified EPA Method 8015D, and Polycyclic Aromatic Hydrocarbons (PAHs) following modified EPA Method 8270D SIM

3.3.1 Soil Analytical Results

Based on laboratory analytical results:

- Soil samples MW-01@2.5-5', MW-02@2.5-5', MW-03@2.5-5', MW-04@2.5-5', MW-05@2.5-5', and MW-06@2.5-5' did not contain concentrations of BTEX, 1,2,4-TMB, 1,3,5-TMB, total petroleum hydrocarbons (TPH), or PAHs exceeding applicable COGCC Table 915-1 regulatory limits.

Monitoring well soil analytical results are summarized in Table 2 and presented in Figure 3. Monitoring well PAH analytical results are summarized in Table 3 and presented in Figure 5. The soil laboratory analytical report is included in Attachment B.

3.5 Groundwater Sampling Procedures

Groundwater samples were collected from monitoring wells MW-01 through MW-06 on October 20, 2022 and October 21, 2022. Prior to sample collection, depth to groundwater data was collected using a decontaminated interface probe capable of measuring the depth to groundwater or light non-aqueous phase liquid (LNAPL) to an accuracy of 0.01 feet, and each well was purged a minimum of three well volumes.

Groundwater elevation data for all monitoring wells were collected on October 20, 2022. Relative groundwater elevations within each monitoring well ranged from 97.56 (MW-05) to 98.21 (MW-03). The groundwater flow direction beneath the site during the October 2022 sampling event was predominantly to the south-southwest, with an average hydraulic gradient of 0.011 feet per foot (ft/ft) across the site (measured from MW-03 to MW-05). Groundwater elevation data are summarized in Table 4 and presented in Figure 6.

Groundwater samples were collected from each monitoring well in 40 milliliter (mL) amber vials and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB following EPA Method 8260D. Additional samples were collected for inorganic groundwater parameters of Chloride and Sulfate following Method 300.0, and Total Dissolved Solids (TDS) following Method 2540C. The samples were transported in an iced cooler under standard COC procedures to Summit, and were received within the required holding time.

3.5.1 Groundwater Analytical Results

Based on laboratory analytical results:

- Groundwater samples collected from monitoring wells MW-01 through MW-06 did not contain concentrations of BTEX, 1,2,4-TMB, 1,3,5-TMB, or naphthalene exceeding applicable COGCC Table 915-1 regulatory limits.
- Inorganic groundwater parameters collected from monitoring wells MW-01 through MW-06 did not exceed applicable COGCC Table 915-1 regulatory limits and/or local background.

Groundwater analytical results are summarized in Table 5 and presented in Figure 7. Inorganic groundwater parameters are summarized in Table 6 and presented in Figure 8. The groundwater laboratory analytical reports are included in Attachment B.

4.0 CONCLUSIONS

Based on the information collected during groundwater assessment activities completed at the site from October 13, 2022 through October 21, 2022, EAGLE concludes the following:

- On October 13, 2022, EAGLE advanced six (6) soil borings (MW-01 through MW-06) to delineate dissolved petroleum hydrocarbon impacts at the site.
- Soil samples MW-01@2.5-5', MW-02@2.5-5', MW-03@2.5-5', MW-04@2.5-5', MW-05@2.5-5' and MW-06@2.5-5' did not contain concentrations of BTEX, 1,2,4-TMB, 1,3,5-TMB, TPH, or PAHs exceeding applicable COGCC Table 915-1 regulatory limits
- Groundwater samples collected from monitoring wells MW-01 through MW-06 on October 20, 2022 did not contain concentrations of BTEX, 1,2,4-TMB, 1,3,5-TMB, or naphthalene exceeding applicable COGCC Table 915-1 regulatory limits.
- Inorganic groundwater parameters collected from monitoring wells MW-01 through MW-06 on October 21, 2022 did not exceed applicable COGCC Table 915-1 regulatory limits and/or local background.

5.0 RECOMMENDATIONS

Based on the information presented in this report, EAGLE recommends the following:

- Continue monitoring natural attenuation at the site in monitoring wells MW-01 through MW-06.

EAGLE sincerely appreciates the opportunity to provide our services. If you have any questions or require further information, please contact us at (303) 433-0479.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.



Trevor Copple
Staff Geologist



Andrew Newberry
Project Geologist

FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Monitoring Well Soil Analytical Map

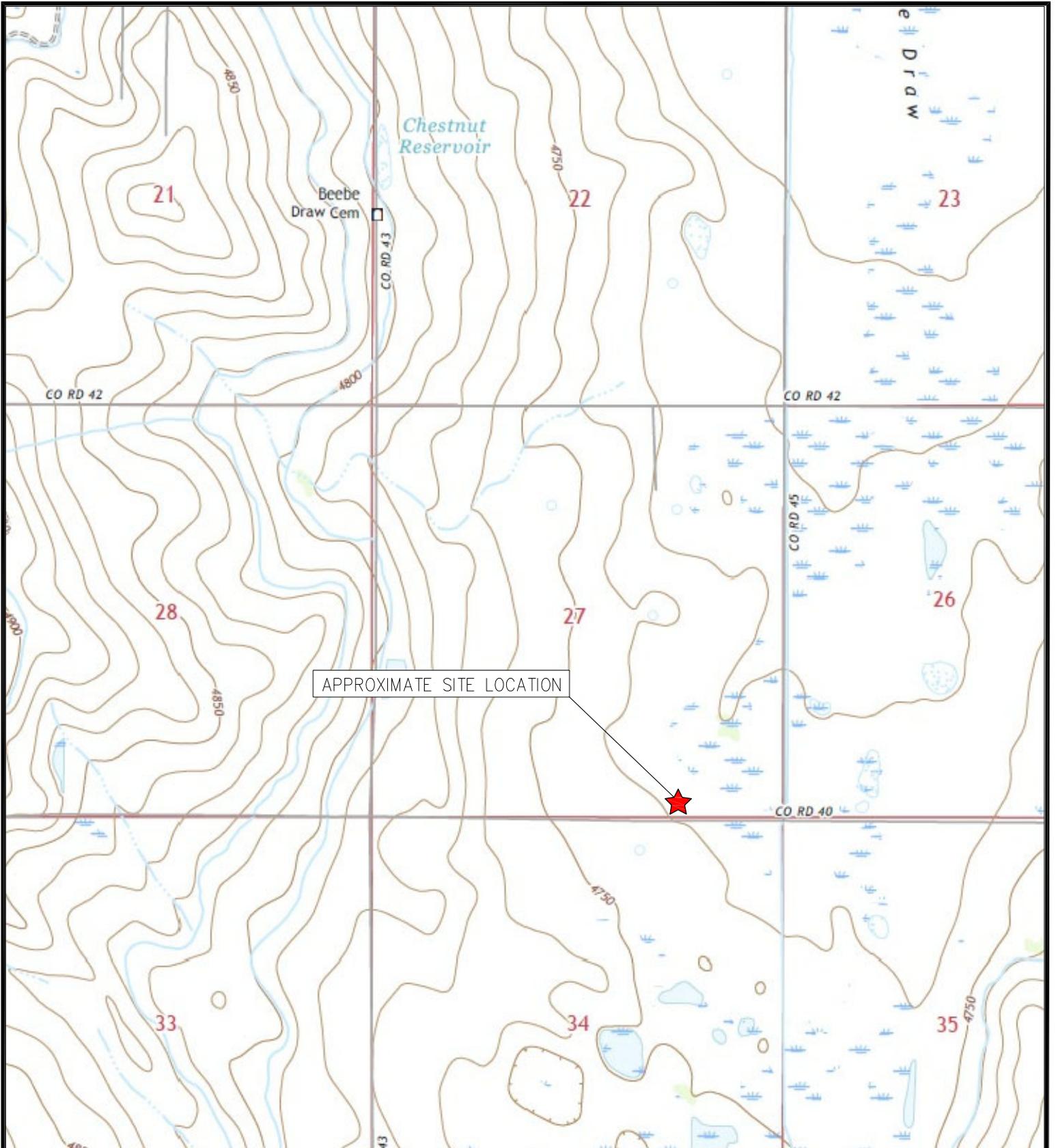
Figure 4: Geologic Cross-Section (A-A')

Figure 5: Monitoring Well Polycyclic Aromatic Hydrocarbons Map

Figure 6: Groundwater Elevation Map (10/20/22)

Figure 7: Groundwater Analytical Map (10/20/22)

Figure 8: Inorganic Groundwater Parameters Map (10/21/22)



APPROXIMATE SITE LOCATION



TOPOGRAPHIC SITE LOCATION MAP
 LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW¼ SE¼ SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926



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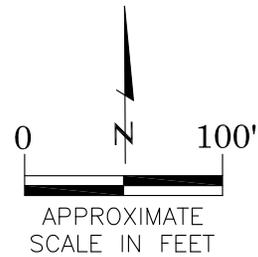
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP,
 LA SALLE, CO QUADRANGLE 2022

FIGURE 1



LEGEND

-  APPROXIMATE FACILITY BOUNDARIES
-  APPROXIMATE RELEASE LOCATION

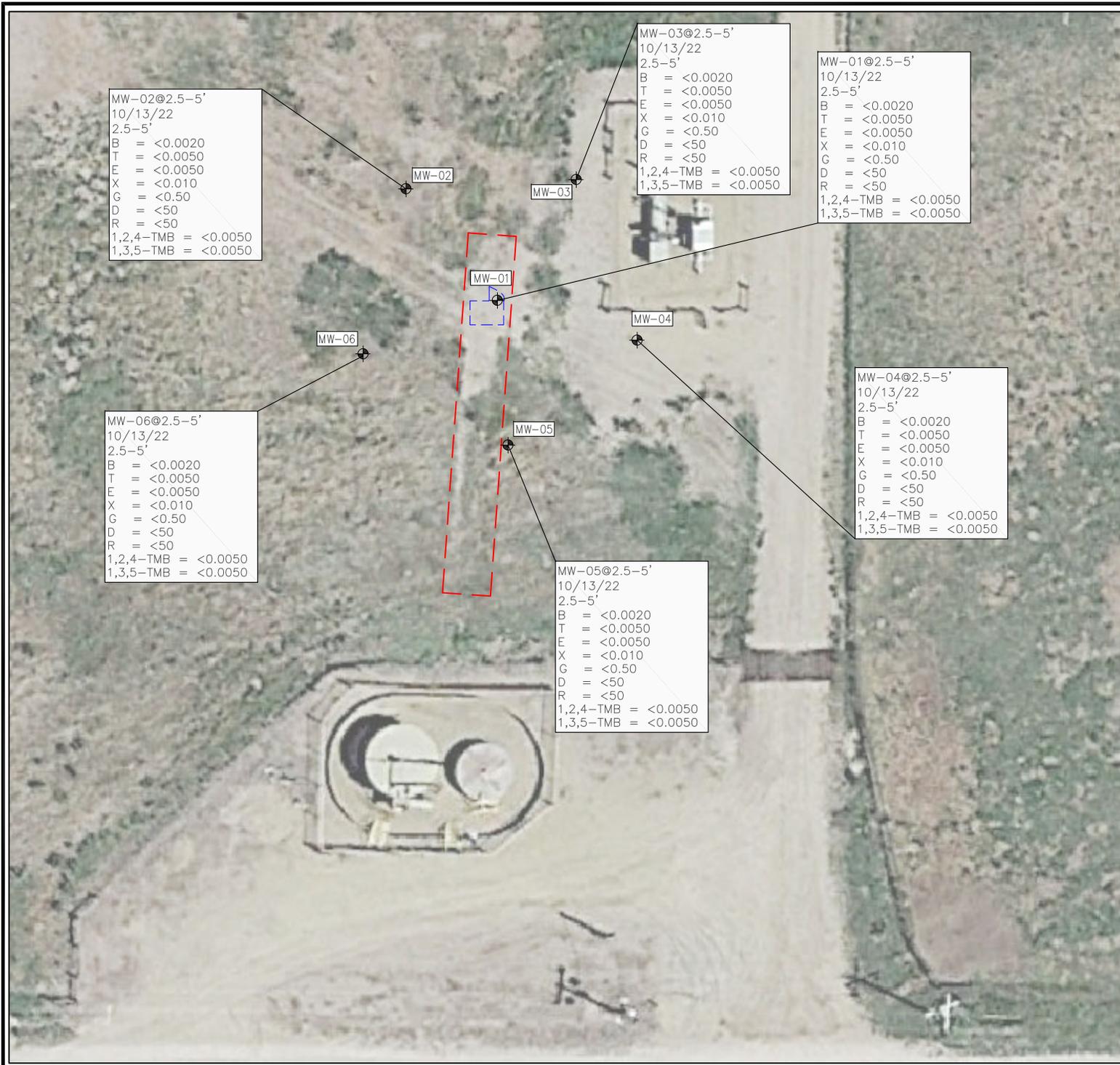


AERIAL SITE LOCATION MAP
 LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW¼ SE¼ SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926

DATE: 09/30/22	
FIG. NO. 2	DRAWN BY: AMN



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MW-02@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

MW-03@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

MW-01@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

MW-06@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

MW-05@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

MW-04@2.5-5'
10/13/22
2.5-5'
B = <0.0020
T = <0.0050
E = <0.0050
X = <0.010
G = <0.50
D = <50
R = <50
1,2,4-TMB = <0.0050
1,3,5-TMB = <0.0050

LEGEND

- INITIAL ASSESSMENT EXTENTS
- APPROXIMATE EXCAVATION EXTENTS
- APPROXIMATE MONITORING WELL LOCATIONS

PARAMETERS

SAMPLE LOCATION
DATE
DEPTH (FEET)
B = BENZENE (mg/kg)
T = TOLUENE (mg/kg)
E = ETHYLBENZENE (mg/kg)
X = TOTAL XYLENES (mg/kg)
G = TPH-GRO (mg/kg)
D = TPH-DRO (mg/kg)
R = TPH-RRO (mg/kg)
1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)
1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)

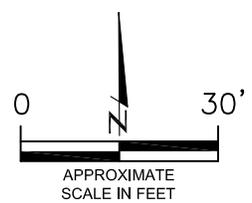
mg/kg = MILLIGRAMS PER KILOGRAM

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS
TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

NOTES:
VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED COGCC TABLE 915-1 REGULATORY LIMITS.

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION



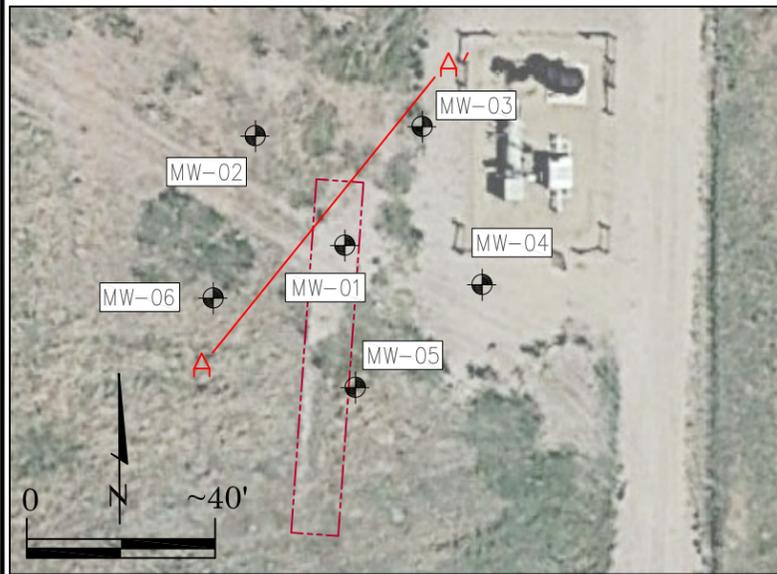
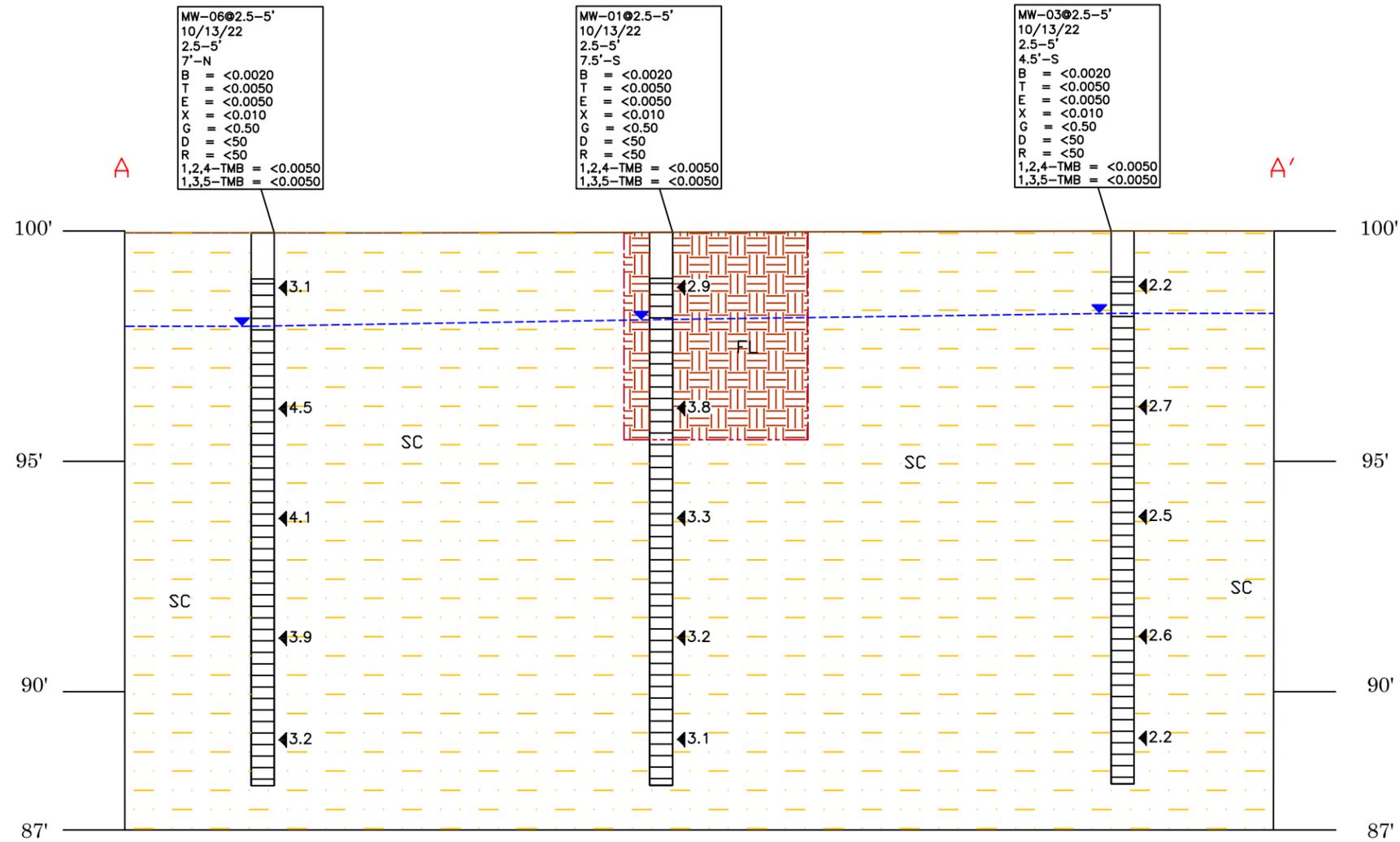
MONITORING WELL SOIL ANALYTICAL MAP

LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW¼ SE¼ SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMIEDIATION # 23926

DATE:
11/07/22
DRAWN BY:
TC
FIG.
NO. 3

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GEOLOGIC CROSS SECTION A-A'



LEGEND

- FILL/SANDY CLAY
- CLAYEY SAND
- GROUND SURFACE
- EXCAVATION BOUNDARIES
- OBSERVED GROUNDWATER (10/20/22)
- A—A' LINE OF CROSS SECTION

PARAMETERS

SAMPLE LOCATION
DATE
DEPTH (FEET)
OFFSET FROM A-A' (FEET-DIRECTION)

B = BENZENE (mg/kg)
T = TOLUENE (mg/kg)
E = ETHYLBENZENE (mg/kg)
X = TOTAL XYLENES (mg/kg)
G = TPH-GRO (mg/kg)
D = TPH-DRO (mg/kg)
R = TPH-RRO (mg/kg)
1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)
1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)

mg/kg = MILLISEGRAMS PER KILOGRAM

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS
TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

NOTES:
VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

PVC RISER
 PID (ppm-v)
 SLOTTED SCREEN

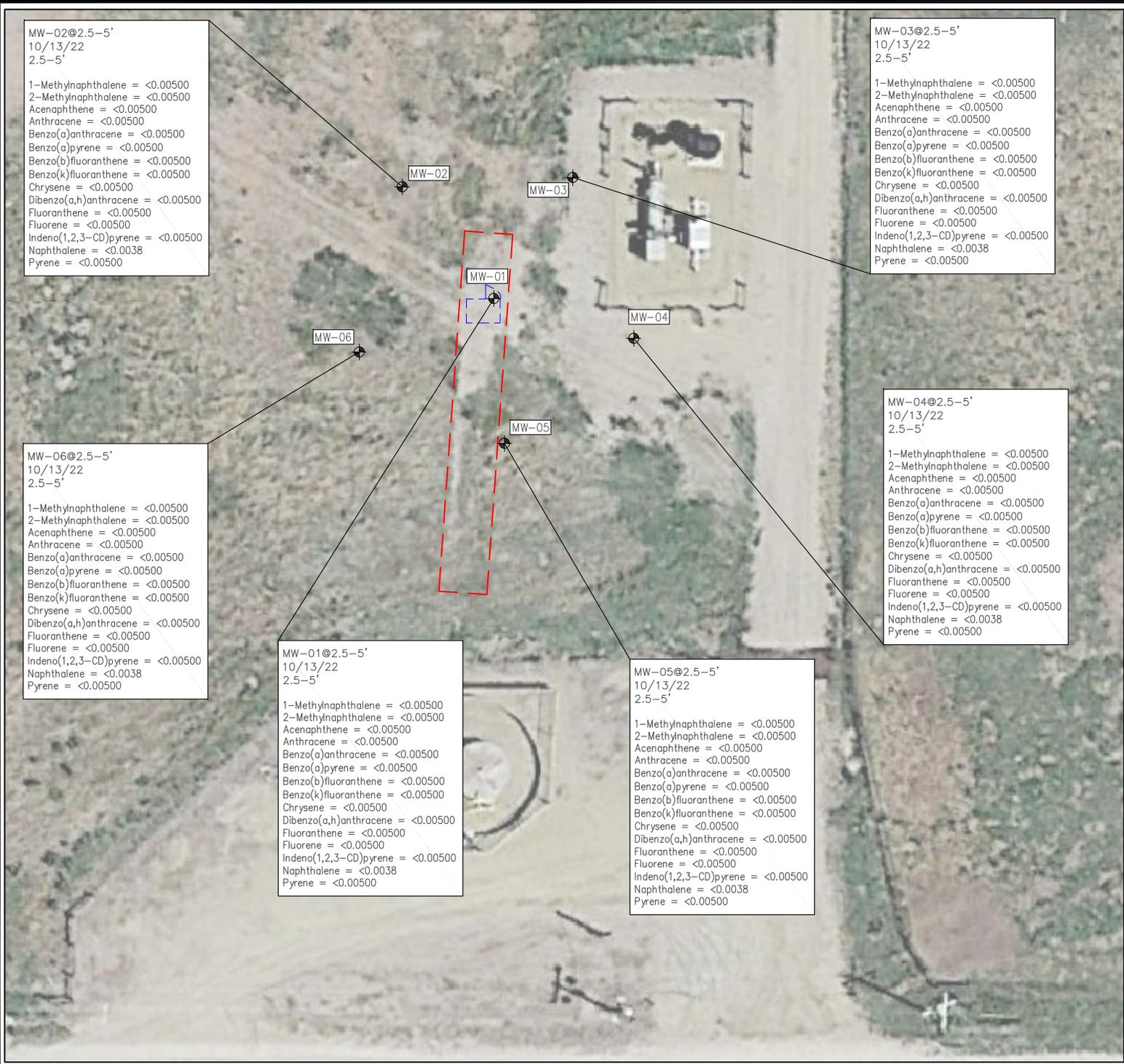
ppm-v = PARTS PER MILLION BY VOLUME

0 10'
APPROXIMATE
HORIZONTAL SCALE IN FEET
3x VERTICAL EXAGGERATION

GEOLOGIC CROSS SECTION (A-A')
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW¼ SE¼ SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDATION # 23926

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FIG. NO. 4 DATE: 11/08/22 DRAWN BY: AMN



LEGEND

- INITIAL ASSESSMENT EXTENTS
- APPROXIMATE EXCAVATION EXTENTS
- APPROXIMATE MONITORING WELL LOCATIONS

PARAMETERS

SAMPLE LOCATION
 DATE SAMPLE COLLECTED
 APPROXIMATE DEPTH

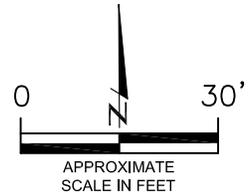
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLISEGRAMS PER KILOGRAM

NOTES:
 VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED COGCC TABLE 915-1 REGULATORY LIMITS.

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION



MONITORING WELL POLYCYCLIC AROMATIC HYDROCARBONS MAP

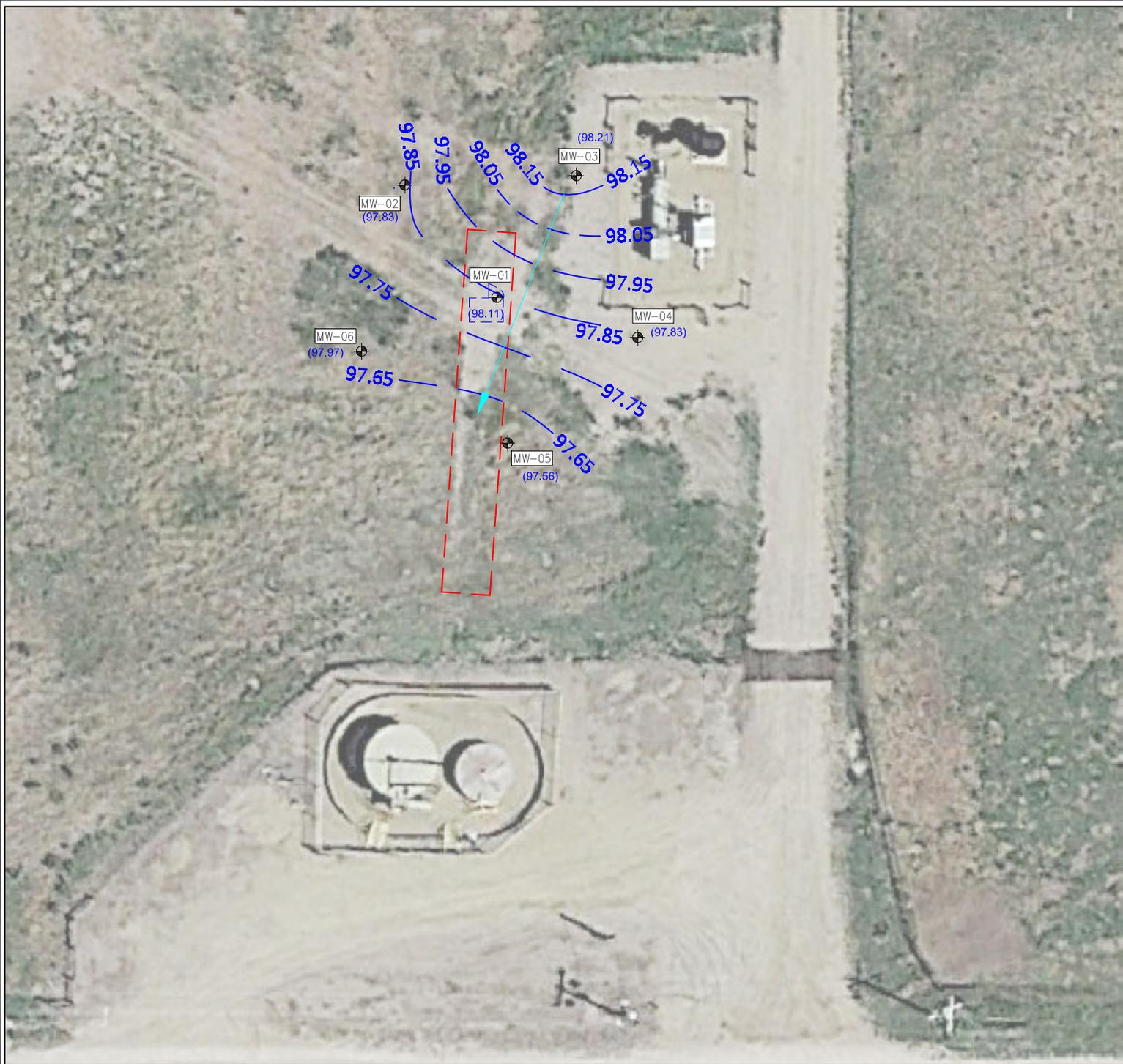
LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW¼ SE¼ SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926

DATE:
11/07/22

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FIG.
NO. 5

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LEGEND

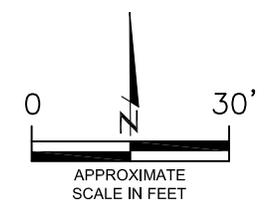
- INITIAL ASSESSMENT EXTENTS
- APPROXIMATE EXCAVATION EXTENTS
- APPROXIMATE MONITORING WELL LOCATIONS
- (91.45) RELATIVE GROUNDWATER ELEVATION (FT.)
- INFERRED GROUNDWATER ELEVATION CONTOUR (FT.)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

FT. = FEET

NOTE: GROUNDWATER ELEVATION DATA COLLECTED ON 10/20/22.

GROUNDWATER ELEVATION DATA COLLECTED FROM MW-01 AND MW-06 WAS NOT USED IN THE CONSTRUCTION OF INFERRED GROUNDWATER ELEVATION CONTOURS

HYDRAULIC GRADIENT (MW-03 TO MW-05): 0.011 FT./FT



GROUNDWATER ELEVATION MAP
(10/20/22)
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW¼ SE¼ SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDIATION # 23926

DATE:
11/07/22

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FIG.
NO. 6

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LEGEND

- INITIAL ASSESSMENT EXTENTS
- APPROXIMATE EXCAVATION EXTENTS
- APPROXIMATE MONITORING WELL LOCATIONS

PARAMETERS

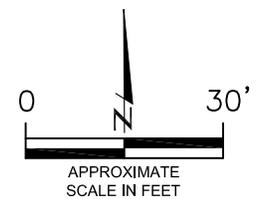
GROUNDWATER SAMPLE LOCATION	
DATE	
B	= BENZENE (µg/L)
T	= TOLUENE (µg/L)
E	= ETHYLBENZENE (µg/L)
X	= TOTAL XYLENES (µg/L)
N	= NAPHTHALENE (µg/L)
1,2,4-TMB	= 1,2,4-TRIMETHYLBENZENE (µg/L)
1,3,5-TMB	= 1,3,5-TRIMETHYLBENZENE (µg/L)

µg/L = MICROGRAMS PER LITER

NOTES:
 VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE THE LABORATORY REPORTING LIMIT

VALUES PRESENTED IN **BOLD** EXCEED THE COGCC TABLE 915-1 REGULATORY LIMITS FOR THAT COMPOUND

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION



GROUNDWATER ANALYTICAL MAP

(10/20/22)
 LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW¼ SE¼ SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926

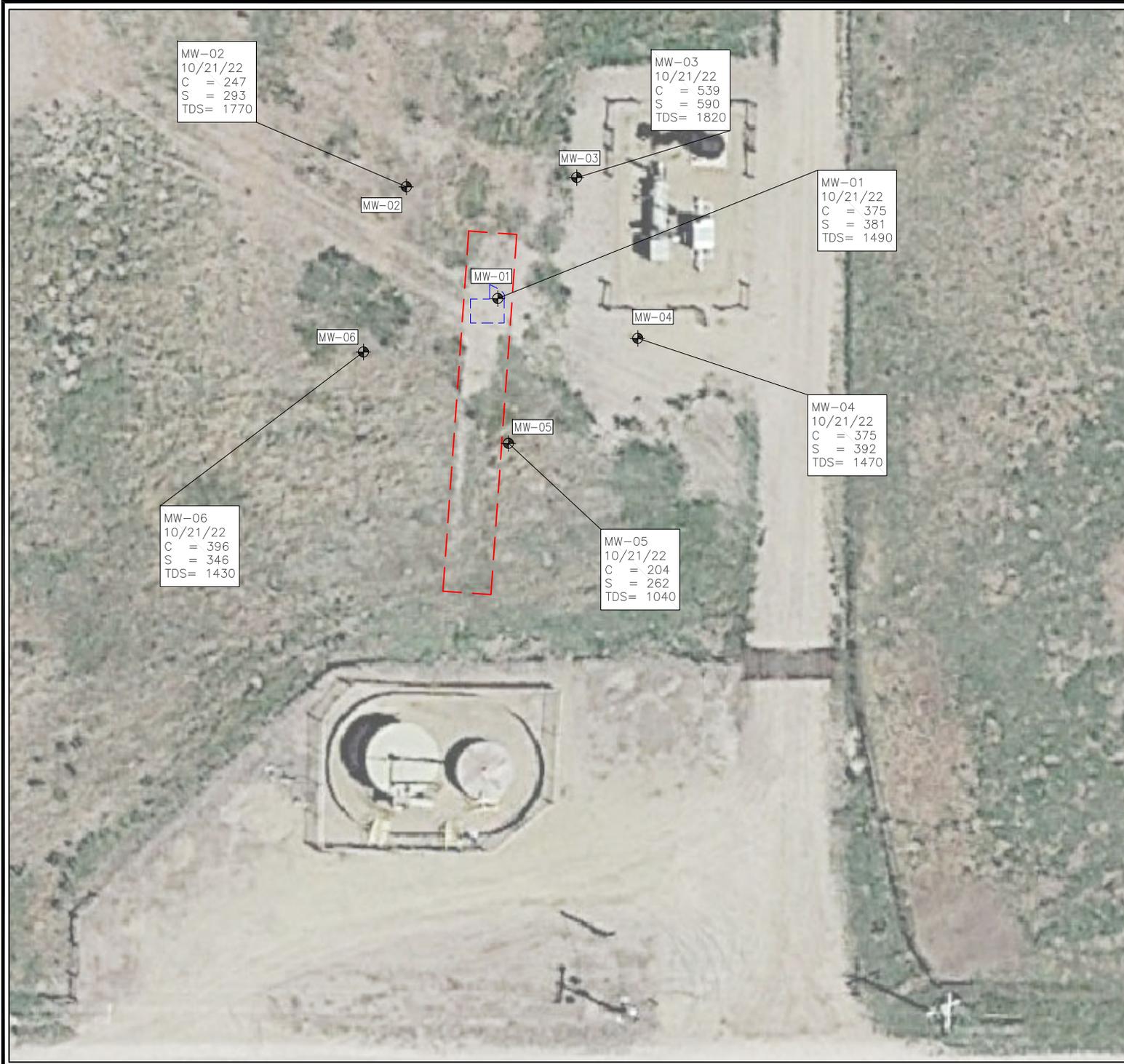
DATE:
11/07/22

DRAWN BY:
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FIG.
NO. 7

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MW-02
10/21/22
C = 247
S = 293
TDS= 1770

MW-03
10/21/22
C = 539
S = 590
TDS= 1820

MW-01
10/21/22
C = 375
S = 381
TDS= 1490

MW-03

MW-02

MW-01

MW-04

MW-06

MW-04
10/21/22
C = 375
S = 392
TDS= 1470

MW-05

MW-06
10/21/22
C = 396
S = 346
TDS= 1430

MW-05
10/21/22
C = 204
S = 262
TDS= 1040

LEGEND

- INITIAL ASSESSMENT EXTENTS
- APPROXIMATE EXCAVATION EXTENTS
- APPROXIMATE MONITORING WELL LOCATIONS

PARAMETERS

SAMPLE LOCATION
DATE
C = CHLORIDE (mg/L)
S = SULFATE (mg/L)
TDS = TOTAL DISSOLVED SOLIDS (mg/L)

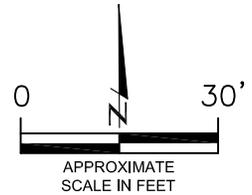
mg/L = MILLIGRAMS PER LITER

NOTES:
INORGANIC GROUNDWATER SAMPLES WERE COLLECTED 10/21/22.

THE INORGANIC GROUNDWATER PARAMETERS IN MW-03 WERE USED IN THE DETERMINATION OF LOCAL BACKGROUND LEVELS AT THE SITE.

VALUES PRESENTED IN **BOLD** EXCEED THE COGCC TABLE 915-1 REGULATORY LIMITS FOR THAT COMPOUND

BACKGROUND: GOOGLE EARTH AERIAL IMAGERY JUNE 2021



INORGANIC GROUNDWATER PARAMETERS MAP

(10/21/22)
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW¼ SE¼ SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMIEDIATION # 23926

DATE:
11/07/22
DRAWN BY:
TC
FIG.
NO. 8

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Ph: 303-433-0479 • F: 303-325-5449

TABLES

Table 1: Photoionization Detector Reading Summary

Table 2: Soil Analytical Results Summary

Table 3: Polycyclic Aromatic Hydrocarbons Analytical Results Summary

Table 4: Groundwater Elevation Summary

Table 5: Groundwater Analytical Results Summary

Table 6: Inorganic Groundwater Parameters Summary

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW1/4 SE1/4 SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDIAION # 23926

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
CS-SS-01 @ 3' (40.276590834 / -104.644498753)	09/06/22	3	1.2	Y
CS-SS-02 @ 3' (40.276548441 / -104.644479747)	09/06/22	3	0.6	Y
CS-SS-03 @ 3' (40.276489889 / -104.644494336)	09/06/22	3	0.9	Y
CS-SS-04 @ 3' (40.276447728 / -104.644498323)	09/06/22	3	0.7	Y
CS-SS-05 @ 3' (40.276412384 / -104.644504591)	09/06/22	3	0.4	Y
CS-SS-06 @ 3' (40.276380688 / -104.644529958)	09/06/22	3	0.3	Y
CS-SS-07 @ 3' (40.276416738 / -104.644535368)	09/06/22	3	0.3	Y
CS-SS-08 @ 3' (40.276462218 / -104.644529497)	09/06/22	3	0.6	Y
CS-SS-09 @ 3' (40.276506134 / -104.644527382)	09/06/22	3	0.8	Y
CS-SS-10 @ 3' (40.276553842 / -104.644522154)	09/06/22	3	1.0	Y
CS-FS-01 @ 4' (40.479546118 / -104.644508298)	09/06/22	4	0.8	Y
CS-FS-02 @ 4' (40.276492639 / -104.644519006)	09/06/22	4	0.7	Y
CS-FS-03 @ 4' (40.276450050 / -104.644526314)	09/06/22	4	0.8	Y
CS-FS-04 @ 4' (40.276405385 / -104.644529102)	09/06/22	4	0.4	Y
MW-01 @ 2.5-5' (40.276562117 / -104.644501207)	10/13/22	2.5-5	3.8	Y
MW-02 @ 2.5-5' (40.276628485 / -104.644572364)	10/13/22	2.5-5	2.4	Y
MW-03 @ 2.5-5' (40.276630801 / -104.644441206)	10/13/22	2.5-5	2.7	Y
MW-04 @ 2.5-5' (40.276541392 / -104.644401104)	10/13/22	2.5-5	3.7	Y
MW-05 @ 2.5-5' (40.276482328 / -104.644504078)	10/13/22	2.5-5	3.4	Y
MW-06 @ 2.5-5' (40.276530662 / -104.655607801)	10/13/22	2.5-5	4.5	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW1/4 SE1/4 SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDATION # 23926

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-RRO (mg/kg)	1,2,4- Trimethylbenzene (mg/kg)	1,3,5- Trimethylbenzene (mg/kg)
COGCC Table 915-1 Residential Screening Levels				1.2	490	5.8	58	500			30	27
COGCC Table 915-1 Protection of Groundwater Soil Screening Levels				0.0026	0.69	0.78	9.9	--			0.0081	0.0087
CS-SS-01 @ 3' (40.276590834 / -104.644498753)	09/06/22	3	1.2	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-02 @ 3' (40.276548441 / -104.644479747)	09/06/22	3	0.6	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-03 @ 3' (40.276489889 / -104.644494336)	09/06/22	3	0.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-04 @ 3' (40.276447728 / -104.644498323)	09/06/22	3	0.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-05 @ 3' (40.276412384 / -104.644504591)	09/06/22	3	0.4	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-06 @ 3' (40.276380688 / -104.644529958)	09/06/22	3	0.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-07 @ 3' (40.276416738 / -104.644535368)	09/06/22	3	0.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-08 @ 3' (40.276462218 / -104.644529497)	09/06/22	3	0.6	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-09 @ 3' (40.276506134 / -104.644527382)	09/06/22	3	0.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-SS-10 @ 3' (40.276553842 / -104.644522154)	09/06/22	3	1.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-FS-01 @ 4' (40.479546118 / -104.644508298)	09/06/22	4	0.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-FS-02 @ 4' (40.276492639 / -104.644519006)	09/06/22	4	0.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-FS-03 @ 4' (40.276450050 / -104.644526314)	09/06/22	4	0.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
CS-FS-04 @ 4' (40.276405385 / -104.644529102)	09/06/22	4	0.4	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200
MW-01 @ 2.5-5' (40.276562117 / -104.644501207)	10/13/22	2.5-5	3.8	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050
MW-02 @ 2.5-5' (40.276628485 / -104.644572364)	10/13/22	2.5-5	2.4	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050
MW-03 @ 2.5-5' (40.276630801 / -104.644441206)	10/13/22	2.5-5	2.7	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050
MW-04 @ 2.5-5' (40.276541392 / -104.644401104)	10/13/22	2.5-5	3.7	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050

TABLE 2
 SOIL ANALYTICAL RESULTS SUMMARY
 LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW1/4 SE1/4 SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-RRO (mg/kg)	1,2,4- Trimethylbenzene (mg/kg)	1,3,5- Trimethylbenzene (mg/kg)
COGCC Table 915-1 Residential Screening Levels				1.2	490	5.8	58	500			30	27
COGCC Table 915-1 Protection of Groundwater Soil Screening Levels				0.0026	0.69	0.78	9.9	--			0.0081	0.0087
MW-05 @ 2.5-5' (40.276482328 / -104.644504078)	10/13/22	2.5-5	3.4	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050
MW-06 @ 2.5-5' (40.276530662 / -104.655607801)	10/13/22	2.5-5	4.5	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50	<0.0050	<0.0050
COGCC = Colorado Oil and Gas Conservation Commission mg/kg = milligrams per kilogram TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics ppm-v = parts per million by volume TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics PID = Photoionization Detector TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics Notes: Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit. Values presented in BOLD exceed applicable COGCC Table 915-1 Regulatory Limits Values presented in BOLD + asterisk (*) exceed COGCC Table 915-1 Protection of Groundwater Soil Screening Levels												

TABLE 3
PAHS ANALYTICAL RESULTS SUMMARY
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW1/4 SE1/4 SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDATION # 23926

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	1-Methyl- naphthalene (mg/kg)	2-Methyl- naphthalene (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)-anthracene (mg/kg)	Benzo(a)- pyrene (mg/kg)	Benzo(b)- fluoranthene (mg/kg)	Benzo(k)- fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h)- anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Ideno(1,2,3- cd)-pyrene (mg/kg)	Naphthalene (mg/kg)	Pyrene (mg/kg)
COGCC Table 915-1 Residential Screening Levels				18	24	360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	2	180
COGCC Table 915-1 Protection of Groundwater Soil Screening Levels				0.006	0.019	0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	0.0038	1.3
CS-SS-01 @ 3' (40.27659834 / -104.644498753)	09/06/22	3	1.2	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	0.00081	0.000606	<0.00067	<0.00067	<0.00067	0.000522	<0.00067	<0.00067	<0.00067	0.000712
CS-SS-02 @ 3' (40.276548441 / -104.644479747)	09/06/22	3	0.6	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
CS-SS-03 @ 3' (40.276489889 / -104.644494336)	09/06/22	3	0.9	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	0.00123	0.000651	0.00091	0.000975	<0.00067	0.000764	<0.00067	<0.00067	<0.00067	0.000881
CS-SS-04 @ 3' (40.276447728 / -104.644498323)	09/06/22	3	0.7	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
CS-SS-05 @ 3' (40.276412384 / -104.644504591)	09/06/22	3	0.4	<0.00067	<0.00067	<0.00067	<0.00067	0.00118	0.00193	0.0012	0.00143	0.00228	<0.00067	0.00202	<0.00067	0.00112	<0.00067	0.00366
CS-SS-06 @ 3' (40.276380688 / -104.644529958)	09/06/22	3	0.3	<0.00067	<0.00067	<0.00067	<0.00067	0.000938	0.00177	0.000887	0.00139	0.00187	<0.00067	0.00167	<0.00067	0.000742	<0.00067	0.0024
CS-SS-07 @ 3' (40.276416738 / -104.644535368)	09/06/22	3	0.3	<0.00067	<0.00067	<0.00067	<0.00067	0.000539	0.00133	0.000847	0.000983	0.00124	<0.00067	0.00105	<0.00067	<0.00067	<0.00067	0.00136
CS-SS-08 @ 3' (40.276462218 / -104.644529497)	09/06/22	3	0.6	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
CS-SS-09 @ 3' (40.276506134 / -104.644527382)	09/06/22	3	0.8	<0.00067	<0.00067	<0.00067	<0.00067	0.000501	0.00171	0.000993	0.0011	0.00134	<0.00067	0.00111	<0.00067	0.000892	<0.00067	0.00134
CS-SS-10 @ 3' (40.276553842 / -104.644522154)	09/06/22	3	1.0	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335
CS-FS-01 @ 4' (40.479546118 / -104.644508298)	09/06/22	4	0.8	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
CS-FS-02 @ 4' (40.276492639 / -104.644519006)	09/06/22	4	0.7	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	0.00238	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335
CS-FS-03 @ 4' (40.276450050 / -104.644526314)	09/06/22	4	0.8	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
CS-FS-04 @ 4' (40.276405385 / -104.644529102)	09/06/22	4	0.4	<0.00067	<0.00067	<0.00067	<0.00067	0.000828	0.00234	0.00118	0.00155	0.00207	<0.00067	0.0017	<0.00067	0.0014	<0.00067	0.0022
MW-01 @ 2.5-5' (40.276562117 / -104.644501207)	10/13/22	2.5-5	3.8	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-02 @ 2.5-5' (40.276628485 / -104.644572364)	10/13/22	2.5-5	2.4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-03 @ 2.5-5' (40.276530801 / -104.64441206)	10/13/22	2.5-5	2.7	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-04 @ 2.5-5' (40.276541392 / -104.644401104)	10/13/22	2.5-5	3.7	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-05 @ 2.5-5' (40.276482328 / -104.644504078)	10/13/22	2.5-5	3.4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-06 @ 2.5-5' (40.276530662 / -104.655607801)	10/13/22	2.5-5	4.5	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

COGCC = Colorado Oil and Gas Conservation Commission

mg/kg = milligrams per kilogram

ppm-v = parts per million by volume

PID = Photoionization Detector

Notes:

Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit.

Values presented in **BOLD** exceed applicable COGCC Table 915-1 Regulatory Limits

Values presented in **BOLD**+ asterisk (*) exceed COGCC Table 915-1 Protection of Groundwater Soil Screening Levels

TABLE 4
GROUNDWATER ELEVATION SUMMARY
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW1/4 SE1/4 SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDIATION # 23926

Sample Location (Latitude/Longitude)	Date	Relative Top of Casing Elevation (feet)	Depth to Groundwater from TOC (feet)	Relative Groundwater Elevation (feet)
MW-01 (40.276562117 / -104.644501207)	10/20/22	99.97	1.86	98.11
MW-02 (40.276628485 / -104.644572364)	10/20/22	99.93	2.10	97.83
MW-03 (40.276630801 / -104.644441206)	10/20/22	100	1.79	98.21
MW-04 (40.276541392 / -104.644401104)	10/20/22	99.94	2.11	97.83
MW-05 (40.276482328 / -104.644504078)	10/20/22	99.88	2.32	97.56
MW-06 (40.276530662 / -104.655607801)	10/20/22	99.96	1.99	97.97
NOTES: TOC - top of casing				



TABLE 5
GROUNDWATER ANALYTICAL RESULTS SUMMARY
LIBSACK 4-8-27
VENT LINE RELEASE
40.276553 / -104.644507
SW1/4 SE1/4 SEC.27 T4N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 310312
REMEDATION # 23926

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- Trimethylbenzene (µg/L)	1,3,5 - Trimethylbenzene (µg/L)
COGCC Table 915-1 Regulatory Limits (µg/L)		5	560	700	1400	140	67	67
GW-01 (40.276553 / -104.644507)	07/06/22	49.1	116	<1.00	309	<2.00	7.70	25.7
MW-01 (40.276562117 / -104.644501207)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
MW-02 (40.276628485 / -104.644572364)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
MW-03 (40.276630801 / -104.644441206)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
MW-04 (40.276541392 / -104.644401104)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
MW-05 (40.276482328 / -104.644504078)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
MW-06 (40.276530662 / -104.655607801)	10/20/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
COGCC = Colorado Oil and Gas Conservation Commission µg/L - micrograms per liter Note: Values presented with a less than symbol (<) indicate concentrations were not observed at or above the laboratory reporting limit. Values presented in bold typeface exceed their respective COGCC - Regulatory Limits (Table 915-1).								



**TABLE 6
 INORGANIC GROUNDWATER PARAMETERS SUMMARY
 LIBSACK 4-8-27
 VENT LINE RELEASE
 40.276553 / -104.644507
 SW1/4 SE1/4 SEC.27 T4N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 310312
 REMEDIATION # 23926**

Sample Location (Latitude/Longitude)	Date	Chloride (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
COGCC Table 915-1 Regulatory Limits (mg/L)		<1.25xLocal Background (674)	<1.25xLocal Background (738)	<1.25xLocal Background (2275)
MW-01 (40.276562117 / -104.644501207)	10/21/22	375	381	1490
MW-02 (40.276628485 / -104.644572364)	10/21/22	247	293	1770
MW-03 (40.276630801 / -104.644441206)	10/21/22	539	590	1820
MW-04 (40.276541392 / -104.644401104)	10/21/22	375	392	1470
MW-05 (40.276482328 / -104.644504078)	10/21/22	204	262	1040
MW-06 (40.276530662 / -104.655607801)	10/21/22	396	346	1430

Notes:

COGCC - Colorado Oil and Gas Conservation Commission mg/L = milligrams per liter

Note: The Inorganic Groundwater Parameters in monitoring wells MW-03 were used in the determination of "local background" levels at the site. Local "regulatory limit" (1.25*local background) presented (in parentheses).

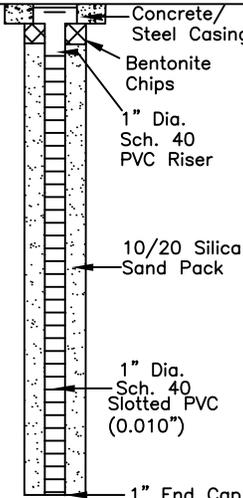
Values presented in **bold** typeface exceed their respective COGCC - Regulatory Limits (Table 915-1).



ATTACHMENT A

Soil Boring Logs / Well Completion Diagrams

Boring Log/Well Completion Diagram: MW-01

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-4') BACKFILL / sandy CLAY - brown, dry to moist, soft, N/O, N/S	CL	HA	1	100	2.9	N/A	0	 <p>Concrete/Steel Casing Bentonite Chips 1" Dia. Sch. 40 PVC Riser 10/20 Silica Sand Pack 1" Dia. Sch. 40 Slotted PVC (0.010") 1" End Cap</p>	
4	(4-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~20% clay, N/O, N/S @ ~4' - wet					3.8				
5		SC	DP	1	95	3.3	N/A	5		
10						3.2				
10			DP	2	100	3.1	N/A	10		
12	BoB @ 12'									
15										
20										
25										
30										

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1135/1156			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1141			

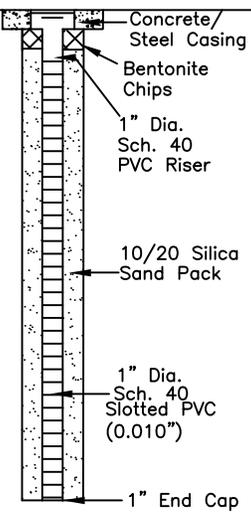
Boring Log/Well Completion Diagram: MW-02

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~20% clay, N/O, N/S Wet @ 4'	SC	HA	1	100	1.9	N/A			
2.4										
2.1			N/A							
2.1										
10		DP	2	100	1.9	N/A				
	BoB @ 12'									

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	<p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1247/1307			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1252			

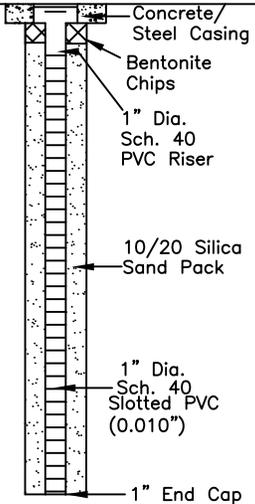
Boring Log/Well Completion Diagram: MW-03

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~25% clay, N/O, N/S Wet @ 4'	HA	1	100	2.2	N/A	0-5	 <p>Concrete/Steel Casing Bentonite Chips 1" Dia. Sch. 40 PVC Riser 10/20 Silica Sand Pack 1" Dia. Sch. 40 Slotted PVC (0.010") 1" End Cap</p>		
5					2.7					
5		SC	DP	1	95	2.5	N/A			5-10
10		2.6								
10	BoB @ 12'	DP	2	100	2.2	N/A	10-12			
15										
15										
20										
25										
30										

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1317/1338			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1321			

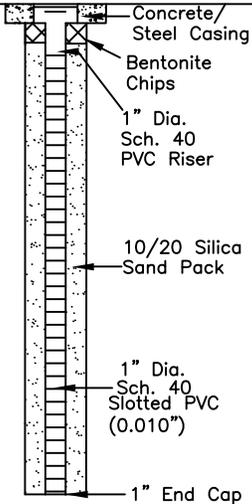
Boring Log/Well Completion Diagram: MW-04

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~30% clay, N/O, N/S Wet @ 4'	SC	HA	1	100	2.3	N/A	 <p>Concrete/Steel Casing Bentonite Chips 1" Dia. Sch. 40 PVC Riser 10/20 Silica Sand Pack 1" Dia. Sch. 40 Slotted PVC (0.010") 1" End Cap</p>		
3.7										
5			DP	1	85	3.3	N/A			
2.9										
10	BoB @ 12'					2.5	N/A			
10						DP			2	100
15										
20										
25										
30										

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1044/1104			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1050			

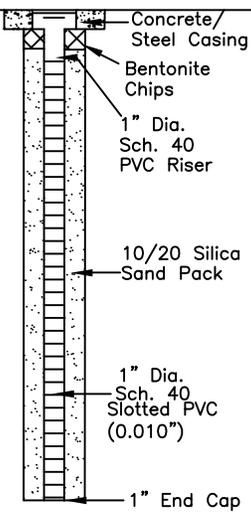
Boring Log/Well Completion Diagram: MW-05

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~30% clay, N/O, N/S Wet @ 4'	SC	HA	1	100	1.8	N/A	 <p>Concrete/Steel Casing Bentonite Chips 1" Dia. Sch. 40 PVC Riser 10/20 Silica Sand Pack 1" Dia. Sch. 40 Slotted PVC (0.010") 1" End Cap</p>		
3.4										
5		DP	1	100	2.5	N/A				
2.8										
10		DP	2	100	2.2	N/A				
12	BoB @ 12'									
15										
20										
25										
30										

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1019/1039			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1024			

Boring Log/Well Completion Diagram: MW-06

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-12') clayey SAND - brown, moist to wet, loose, poorly-graded with ~40% clay, N/O, N/S Wet @ 4'	SC	HA	1	100	3.1	N/A	 <p>Concrete/Steel Casing Bentonite Chips 1" Dia. Sch. 40 PVC Riser 10/20 Silica Sand Pack 1" Dia. Sch. 40 Slotted PVC (0.010") 1" End Cap</p>		
5						4.5				
10			DP	1	100	4.1	N/A			
10						3.9				
12	BoB @ 12'									
15										
20										
25										
30										

DP - Direct Push
 HC - Hydrocarbon
 BoB - Bottom of Boring
 N/O - no odor
 N/S - no staining
 TOC - top of casing
 bgs - below ground surface

START/COMPLETION DATE: 10-13-22		SAND PACK INTERVAL (FEET): 1-12	
PROJECT: LIBSACK 4-8-27		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: TC		WELL SCREEN INTERVAL (FEET): 1-12	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 12	WELL DEPTH (FEET): 12	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave., Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniREA 3000			
TIME STARTED/COMPLETED: 1202/1223			
SAMPLE COLLECTION DEPTH (FT.)/TIME: 2.5-5/1211			

ATTACHMENT B

Laboratory Analytical Reports

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 20, 2022

Martin Eckart III
Civitas Resources
650 Southgate Drive
Windsor, CO 80550

RE: Libsack 4-8-27

Work Order #2210206

Enclosed are the results of analyses for samples received by Summit Scientific on 10/13/22 16:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01@2.5-5'	2210206-01	Soil	10/13/22 11:41	10/13/22 16:20
MW-02@2.5-5'	2210206-02	Soil	10/13/22 12:52	10/13/22 16:20
MW-03@2.5-5'	2210206-03	Soil	10/13/22 13:21	10/13/22 16:20
MW-04@2.5-5'	2210206-04	Soil	10/13/22 10:50	10/13/22 16:20
MW-05@2.5-5'	2210206-05	Soil	10/13/22 10:24	10/13/22 16:20
MW-06@2.5-5'	2210206-06	Soil	10/13/22 12:11	10/13/22 16:20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

S₂

2210206

Sample Receipt Checklist

S2 Work Order# _____

Client: Eagle Environmental Consulting Client Project ID: Vibsaak 4-8-27Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air Soil/Solid Water Other Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0-ice
If custody seals are present, are they intact? ⁽¹⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.SMO

Custodian Printed Name

10/13/22

Date/Time



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-01@2.5-5'
2210206-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		95.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-01@2.5-5'
2210206-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10		64.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.5 %	40-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-02@2.5-5'
2210206-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		99.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		96.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-02@2.5-5'
2210206-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		81.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.7 %	40-150		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-03@2.5-5'
2210206-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-03@2.5-5'
2210206-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		76.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.0 %	40-150		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-04@2.5-5'
2210206-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		95.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-04@2.5-5'
2210206-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10		69.4 %		40-150	"	"	"	"	
Surrogate: Fluoranthene-d10		58.6 %		40-150	"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-05@2.5-5'
2210206-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-05@2.5-5'
2210206-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10		68.5 %		40-150	"	"	"	"	
Surrogate: Fluoranthene-d10		59.5 %		40-150	"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-06@2.5-5'
2210206-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0372	10/14/22	10/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0373	10/14/22	10/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

MW-06@2.5-5'
2210206-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0388	10/17/22	10/18/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		69.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		54.3 %	40-150		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

Batch BFJ0372 - EPA 5030 Soil MS

Blank (BFJ0372-BLK1)

Prepared: 10/14/22 Analyzed: 10/15/22

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0417		"	0.0400		104	50-150				
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.7	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0410		"	0.0400		103	50-150				

LCS (BFJ0372-BS1)

Prepared: 10/14/22 Analyzed: 10/15/22

Benzene	0.148	0.0020	mg/kg	0.150		98.7	70-130				
Toluene	0.146	0.0050	"	0.150		97.5	70-130				
Ethylbenzene	0.143	0.0050	"	0.150		95.3	70-130				
m,p-Xylene	0.282	0.010	"	0.300		93.9	70-130				
o-Xylene	0.142	0.0050	"	0.150		94.7	70-130				
1,2,4-Trimethylbenzene	0.146	0.0050	"	0.150		97.3	70-130				
1,3,5-Trimethylbenzene	0.143	0.0050	"	0.150		95.3	70-130				
Naphthalene	0.155	0.0038	"	0.150		103	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0403		"	0.0400		101	50-150				
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.6	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		96.9	50-150				

Matrix Spike (BFJ0372-MS1)

Source: 2210156-01

Prepared: 10/14/22 Analyzed: 10/15/22

Benzene	0.126	0.0020	mg/kg	0.150	ND	83.8	70-130				
Toluene	0.122	0.0050	"	0.150	ND	81.0	70-130				
Ethylbenzene	0.117	0.0050	"	0.150	ND	78.1	70-130				
m,p-Xylene	0.217	0.010	"	0.300	ND	72.3	70-130				
o-Xylene	0.116	0.0050	"	0.150	ND	77.4	70-130				
1,2,4-Trimethylbenzene	0.134	0.0050	"	0.150	ND	89.2	70-130				
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.150	ND	75.0	70-130				
Naphthalene	0.131	0.0038	"	0.150	ND	87.6	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0386		"	0.0400		96.4	50-150				
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		99.0	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0400		"	0.0400		100	50-150				

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

Batch BFJ0372 - EPA 5030 Soil MS

Matrix Spike Dup (BFJ0372-MSD1)	Source: 2210156-01			Prepared: 10/14/22 Analyzed: 10/15/22						
Benzene	0.124	0.0020	mg/kg	0.150	ND	82.7	70-130	1.32	30	
Toluene	0.121	0.0050	"	0.150	ND	80.6	70-130	0.520	30	
Ethylbenzene	0.117	0.0050	"	0.150	ND	77.8	70-130	0.462	30	
m,p-Xylene	0.221	0.010	"	0.300	ND	73.6	70-130	1.82	30	
o-Xylene	0.114	0.0050	"	0.150	ND	76.0	70-130	1.80	30	
1,2,4-Trimethylbenzene	0.134	0.0050	"	0.150	ND	89.6	70-130	0.470	30	
1,3,5-Trimethylbenzene	0.110	0.0050	"	0.150	ND	73.3	70-130	2.21	30	
Naphthalene	0.107	0.0038	"	0.150	ND	71.7	70-130	20.0	30	
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		98.0	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFJ0373 - EPA 3550A

Blank (BFJ0373-BLK1)

Prepared: 10/14/22 Analyzed: 10/15/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							

LCS (BFJ0373-BS1)

Prepared: 10/14/22 Analyzed: 10/15/22

C10-C28 (DRO)	622	50	mg/kg	500		124	70-130			
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Matrix Spike (BFJ0373-MS1)

Source: 2210156-01

Prepared: 10/14/22 Analyzed: 10/15/22

C10-C28 (DRO)	647	50	mg/kg	500	ND	129	70-130			
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Matrix Spike Dup (BFJ0373-MSD1)

Source: 2210156-01

Prepared: 10/14/22 Analyzed: 10/15/22

C10-C28 (DRO)	629	50	mg/kg	500	ND	126	70-130	2.94	20	
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Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFJ0388 - EPA 5030 Soil MS

Blank (BFJ0388-BLK1)

Prepared: 10/17/22 Analyzed: 10/18/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0309		"	0.0333		92.7	40-150			
Surrogate: Fluoranthene-d10	0.0275		"	0.0333		82.5	40-150			

LCS (BFJ0388-BS1)

Prepared: 10/17/22 Analyzed: 10/18/22

Acenaphthene	0.0306	0.00500	mg/kg	0.0333		91.8	31-137			
Anthracene	0.0345	0.00500	"	0.0333		104	30-120			
Benzo (a) anthracene	0.0302	0.00500	"	0.0333		90.5	30-120			
Benzo (a) pyrene	0.0280	0.00500	"	0.0333		84.1	30-120			
Benzo (b) fluoranthene	0.0304	0.00500	"	0.0333		91.1	30-120			
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333		103	30-120			
Chrysene	0.0306	0.00500	"	0.0333		91.9	30-120			
Dibenz (a,h) anthracene	0.0273	0.00500	"	0.0333		82.0	30-120			
Fluoranthene	0.0356	0.00500	"	0.0333		107	30-120			
Fluorene	0.0354	0.00500	"	0.0333		106	30-120			
Indeno (1,2,3-cd) pyrene	0.0278	0.00500	"	0.0333		83.3	30-120			
Pyrene	0.0293	0.00500	"	0.0333		87.9	35-142			
1-Methylnaphthalene	0.0354	0.00500	"	0.0333		106	35-142			
2-Methylnaphthalene	0.0361	0.00500	"	0.0333		108	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0351		"	0.0333		105	40-150			
Surrogate: Fluoranthene-d10	0.0358		"	0.0333		107	40-150			

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFJ0388 - EPA 5030 Soil MS

Matrix Spike (BFJ0388-MS1)		Source: 2210206-01			Prepared: 10/17/22		Analyzed: 10/18/22	
Acenaphthene	0.0162	0.00500	mg/kg	0.0333	ND	48.5	31-137	
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120	
Benzo (a) anthracene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.8	30-120	
Benzo (b) fluoranthene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	
Chrysene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	
Dibenz (a,h) anthracene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	
Fluorene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	
Pyrene	0.0199	0.00500	"	0.0333	ND	59.8	35-142	
1-Methylnaphthalene	0.0183	0.00500	"	0.0333	ND	54.8	15-130	
2-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.3	15-130	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0188</i>		"	<i>0.0333</i>		<i>56.3</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0212</i>		"	<i>0.0333</i>		<i>63.7</i>	<i>40-150</i>	

Matrix Spike Dup (BFJ0388-MSD1)		Source: 2210206-01			Prepared: 10/17/22		Analyzed: 10/18/22	
Acenaphthene	0.0187	0.00500	mg/kg	0.0333	ND	56.1	31-137	14.4 30
Anthracene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	2.53 30
Benzo (a) anthracene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	3.52 30
Benzo (a) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	4.13 30
Benzo (b) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	6.11 30
Benzo (k) fluoranthene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	2.51 30
Chrysene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	2.52 30
Dibenz (a,h) anthracene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	18.2 30
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	0.444 30
Fluorene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	0.395 30
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	8.64 30
Pyrene	0.0193	0.00500	"	0.0333	ND	57.9	35-142	3.11 30
1-Methylnaphthalene	0.0199	0.00500	"	0.0333	ND	59.7	15-130	8.58 50
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	63.0	15-130	6.08 50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		"	<i>0.0333</i>		<i>60.6</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0213</i>		"	<i>0.0333</i>		<i>63.9</i>	<i>40-150</i>	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/20/22 11:12

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

October 27, 2022

Martin Eckart III
Civitas Resources
650 Southgate Drive
Windsor, CO 80550
RE: Libsack 4-8-27

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/22 13:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	2210377-01	Water	10/20/22 09:15	10/21/22 13:35
MW-02	2210377-02	Water	10/20/22 08:35	10/21/22 13:35
MW-03	2210377-03	Water	10/20/22 08:45	10/21/22 13:35
MW-04	2210377-04	Water	10/20/22 08:55	10/21/22 13:35
MW-05	2210377-05	Water	10/20/22 09:25	10/21/22 13:35
MW-06	2210377-06	Water	10/20/22 09:05	10/21/22 13:35

Summit Scientific

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S₂

2210377

Sample Receipt Checklist

S2 Work Order# _____

Client: EGSL Client Project ID: Cori Libsack 4-8-22

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 3.4 Thermometer # 02

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HCC
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]
Custodian Printed Name

10-21-22 1335
Date/Time



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-01
2210377-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/25/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	

Date Sampled: **10/20/22 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		79.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		78.3 %		21-167		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-02
2210377-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/25/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	"
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	"
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	"
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	"

Date Sampled: **10/20/22 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		89.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		71.3 %		21-167		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-03
2210377-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/25/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	

Date Sampled: **10/20/22 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		82.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.9 %		21-167		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-04
2210377-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 08:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/26/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	"
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	"
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	"
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	"

Date Sampled: **10/20/22 08:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		87.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		72.0 %		21-167		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-05
2210377-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 09:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/26/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	

Date Sampled: **10/20/22 09:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		83.5 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		70.9 %		21-167		"	"	"	"	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

MW-06
2210377-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	1.0	0.043	ug/l	1	BFJ0690	10/25/22	10/26/22	EPA 8260B	
Toluene	ND	1.0	0.061	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	0.14	"	"	"	"	"	"	
Naphthalene	ND	1.0	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	0.068	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	0.069	"	"	"	"	"	"	

Date Sampled: **10/20/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		92.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.0 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFJ0690 - EPA 5030 Water MS

Blank (BFJ0690-BLK1)

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Naphthalene	ND	1.0	"								
1,2,4-Trimethylbenzene	ND	1.0	"								
1,3,5-Trimethylbenzene	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.7		23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.6		20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106		21-167			

LCS (BFJ0690-BS1)

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	44.6	1.0	ug/l	50.0		89.2		51-132			
Toluene	56.8	1.0	"	50.0		114		51-138			
Ethylbenzene	52.9	1.0	"	50.0		106		58-146			
m,p-Xylene	106	2.0	"	100		106		57-144			
o-Xylene	50.9	1.0	"	50.0		102		53-146			
Naphthalene	51.2	1.0	"	50.0		102		70-130			
1,2,4-Trimethylbenzene	52.4	1.0	"	50.0		105		70-130			
1,3,5-Trimethylbenzene	52.8	1.0	"	50.0		106		70-130			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111		23-173			
Surrogate: Toluene-d8	18.8		"	13.3		141		20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100		21-167			

Matrix Spike (BFJ0690-MS1)

Source: 2210354-01

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	44.7	1.0	ug/l	50.0	ND	89.5		34-141			
Toluene	53.0	1.0	"	50.0	ND	106		27-151			
Ethylbenzene	54.5	1.0	"	50.0	ND	109		29-160			
m,p-Xylene	110	2.0	"	100	ND	110		20-166			
o-Xylene	52.1	1.0	"	50.0	ND	104		33-159			
Naphthalene	48.3	1.0	"	50.0	ND	96.6		70-130			
1,2,4-Trimethylbenzene	56.8	1.0	"	50.0	ND	114		70-130			
1,3,5-Trimethylbenzene	56.8	1.0	"	50.0	ND	114		70-130			
Surrogate: 1,2-Dichloroethane-d4	11.4		"	13.3		85.5		23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.4		20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.1		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFJ0690 - EPA 5030 Water MS

Matrix Spike Dup (BFJ0690-MSD1)

Source: 2210354-01

Prepared: 10/25/22 Analyzed: 10/26/22

Benzene	43.5	1.0	ug/l	50.0	ND	87.1	34-141	2.72	30	
Toluene	57.4	1.0	"	50.0	ND	115	27-151	8.08	30	
Ethylbenzene	57.3	1.0	"	50.0	ND	115	29-160	5.08	30	
m,p-Xylene	115	2.0	"	100	ND	115	20-166	4.55	30	
o-Xylene	53.7	1.0	"	50.0	ND	107	33-159	3.02	30	
Naphthalene	51.9	1.0	"	50.0	ND	104	70-130	7.28	30	
1,2,4-Trimethylbenzene	57.0	1.0	"	50.0	ND	114	70-130	0.316	30	
1,3,5-Trimethylbenzene	57.2	1.0	"	50.0	ND	114	70-130	0.684	30	
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100	23-173			
Surrogate: Toluene-d8	14.2		"	13.3		106	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/27/22 12:35

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 26, 2022

Martin Eckart III
Civitas Resources
650 Southgate Drive
Windsor, CO 80550

RE: Libsack 4-8-27

Work Order #2210378

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/22 13:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	2210378-01	Water	10/21/22 11:25	10/21/22 13:35
MW-02	2210378-02	Water	10/21/22 11:35	10/21/22 13:35
MW-03	2210378-03	Water	10/21/22 10:55	10/21/22 13:35
MW-04	2210378-04	Water	10/21/22 10:45	10/21/22 13:35
MW-05	2210378-05	Water	10/21/22 11:05	10/21/22 13:35
MW-06	2210378-06	Water	10/21/22 11:15	10/21/22 13:35

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

S₂

2210378

Sample Receipt Checklist

S2 Work Order# _____

Client: Egls Client Project ID: Civi Libsack 4-8-27

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

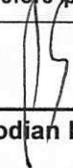
Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

10-31-22 1335
Date/Time



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

MW-01
2210378-01 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	375	12.0	mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	381	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	1490	10.0	mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

MW-02
2210378-02 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	247	12.0		mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	293	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1770	10.0		mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

MW-03
2210378-03 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	539	12.0	mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	590	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1820	10.0	mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

MW-04
2210378-04 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	375	12.0	mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	392	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1470	10.0	mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
 650 Southgate Drive
 Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
 Project Manager: Martin Eckart III

Reported:
 10/26/22 13:53

MW-05
2210378-05 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	204	12.0		mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	262	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1040	10.0		mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

MW-06
2210378-06 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **10/21/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	396	12.0		mg/L	200	BFJ0634	10/23/22	10/25/22	EPA 300.0	
Sulfate	346	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/21/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1430	10.0		mg/L	1	BFJ0624	10/23/22	10/24/22	SM2540C	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFJ0634 - General Preparation

Blank (BFJ0634-BLK1)

Prepared: 10/23/22 Analyzed: 10/25/22

Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							

LCS (BFJ0634-BS1)

Prepared: 10/23/22 Analyzed: 10/25/22

Chloride	3.14	0.0600	mg/L	3.00	105	90-110				
Sulfate	14.8	0.300	"	15.0	98.6	90-110				

Duplicate (BFJ0634-DUP1)

Source: 2210332-01

Prepared: 10/23/22 Analyzed: 10/25/22

Chloride	9.60	12.0	mg/L		10.4		8.00	20		
Sulfate	1380	60.0	"		1210		12.9	20		

Matrix Spike (BFJ0634-MS1)

Source: 2210332-01

Prepared: 10/23/22 Analyzed: 10/25/22

Chloride	627	12.0	mg/L	600	10.4	103	80-120			
Sulfate	4460	60.0	"	3000	1210	108	80-120			

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFJ0624 - General Preparation

Blank (BFJ0624-BLK1)

Prepared: 10/23/22 Analyzed: 10/24/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFJ0624-DUP1)

Source: 2210369-01

Prepared: 10/23/22 Analyzed: 10/24/22

Total Dissolved Solids 725 10.0 mg/L 712 1.85 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Libsack 4-8-27

Project Number: [none]
Project Manager: Martin Eckart III

Reported:
10/26/22 13:53

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference