

August 27, 2024

Andrew Verbonitz
EHS Remediation Specialist
Caerus Oil and Gas LLC (Operator: 10456)
averbonitz@caerusoilandgas.com

Report of Work Completed – Flowline Release Investigation

ECMC Location Name (ID)	N. Parachute/EF P27 595 (335806)
Operator Location Name	P27-595 (1D-34)
ECMC Spill/Release Point ID	486933
Legal Description	SESE Sec. 27 T5S-R95W
Coordinates (Lat/Long)	39.579245 / -108.033135
County	Garfield County, Colorado

Mr. Verbonitz,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil and Gas LLC (Caerus) to document remedial investigation activities associated with a flowline release at the P27-595 well pad (Location). The Location is 8.8 miles north of Parachute, Colorado, in Garfield County as illustrated in the attached Topographic Map. Additional information on the Location and the associated remediation project is provided in the title block above, the attached Site Diagrams, and laboratory analytical reports. This ROWC provides background on the Location, methods used to complete the investigation, results of the investigation, and recommendations for how to proceed with this information.

Background

On June 5, 2024, Caerus identified a leak in the flowline associated with the N. Parachute EF01D-34 P27595 (P27 1D-34) wellhead (API: 05-045-20324). Through Supervisory Control and Data Acquisition (SCADA) trending, volume throughput, hole size determination, and line pressure, an estimated 4.1 barrels (bbls) of produced water were released. The release was reported via Energy & Carbon Management Commission (ECMC) Form 19 Document 403815567 to open Spill/Release Point ID 486933.

Methodology

On July 2, 2024, Confluence completed initial site investigation activities to characterize potential soil impacts associated with the release. Prior to investigation activities, the flowline was trenched, and the point of release (POR) was exposed. Five soil samples were collected from the excavation: one from the base of the excavation directly beneath the POR at 6 feet below ground surface (bgs) and four from the excavation sidewalls at 5.5 feet bgs. Additionally, one composite soil sample was collected from the approximately 58 cubic yards of stockpiled excavated material.

On July 26, 2024, Confluence returned to the Location to complete background soil sampling and to collect a source water characterization sample. Three background soil samples were collected from comparable, nearby, non-impacted soil to establish native levels of inorganics at the Location. Additionally, a produced water characterization sample was collected from P27 1D-34 wellhead.

All samples were collected in laboratory-provided containers, immediately placed on ice, and shipped under a completed chain-of-custody form to Elevation Diagnostics. Background soil samples were submitted for analysis of all Table 915-1 metals and the source characterization water sample was submitted for analysis of all Table 915-1 metals and pH.

Results

These results summarize observations from onsite remedial investigation efforts and associated laboratory analytical results. For organizational and presentation purposes, the results summary is divided between general observations of lithology and hydrogeology for the entire Location and site investigation activities. Collected spatial data are depicted in the attached Site Diagrams. Laboratory analytical reports are attached and summarized in the Soil Analytical Results Table.

Lithology and Hydrogeology

Lithology at the Location is characterized by poorly-graded gravels with gravel-sand mixtures. Groundwater is expected to flow northwest toward East Fork Parachute Creek and ultimately to the Colorado River, located 9.0 miles south of the Location. Historic soil boring data (Oil Shale BG5) collected 640 feet south of the Location indicates depth to groundwater greater than 40 feet bgs. The soil boring was located at an elevation 30 feet below the Location; therefore, depth to groundwater at the Location is estimated to be greater than 70 feet bgs. The historic soil boring log and location are included as attachments.

Excavation Investigation

PID measurements of excavation samples ranged from 8.4 to 86.2 parts per million (ppm). Analytical results of excavation samples indicate compliance with ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) except for pH and arsenic. Exceedances of pH range from 8.68 to 9.11, and arsenic exceedances range from 19.085 to 24.227 milligrams per kilogram (mg/kg).

Stockpile Results

Field screening results of the stockpile sample registered a PID measurement of 0.0 ppm. Analytical results are within Table 915-1 RSSLs except for pH and arsenic which exceeded allowable limits at 8.82 and 23.068 mg/kg, respectively.

Background Soil Results

Analytical results of background soil samples indicate native levels of arsenic elevated above Table 915-1 RSSLs ranging from 14.577 to 28.980 mg/kg.

Source Characterization Results

Notable analytical results of the source water characterization sample indicate a near-neutral pH value of 6.88. See the attached Laboratory Results Summary Table for additional results.



Analysis and Recommendations

Due to the estimated depth to groundwater of more than 70 feet bgs, a pathway to groundwater does not appear to exist. For this reason, Confluence recommends that Caerus request to compare analytical results of release investigation to Table 915-1 RSSLs.

Although levels of arsenic exceeding Table 915-1 RSSLs remain in the investigation area, background data collected from the Location indicates these results are within native levels at the Location. Background samples were collected less than 400 feet to the northeast and southeast of the Location, and the elevation difference of collected background samples compared to site investigation samples range from the same relative elevation as the Location to approximately 88 feet above the Location, indicating consistently elevated arsenic levels throughout the area. Background soil samples and the investigation area also share an identical soil type: Rock outcrop- Torriorthents complex with very stony colluvium and alluvium derived from calcareous shale parent material. For these reasons, it is reasonable to conclude that elevated levels of arsenic at the Location are consistent with native conditions. Confluence recommends that Caerus request an alternative allowable limit for arsenic of 28.98 mg/kg, in accordance with Table 915-1 Footnote 1.

Although levels of pH exceeding Table 915-1 RSSLs remain in the investigation area, source water characterization data collected from the P27 1D-34 wellhead indicates that produced water from the wellhead is not a significant source of basic pH. Analytical results of source water characterization indicate a near-neutral pH value of 6.88; therefore, it is reasonable to conclude that elevated levels of pH are not attributed to oil and gas operations at the Location. Per ECMC Rule 915.e.(2).C., Confluence recommends that Caerus requests to remove pH and as a constituent of concern for this release.

Assuming the proposed screening levels, alternative allowable limit, and operator knowledge are approved, all constituents of concern are within Table 915-1 RSSLs or the proposed alternative allowable limit, including the stockpiled material from July excavation efforts. Based on this information, Confluence recommends that Caerus request closure of Spill/Release Point ID 486933 with a no further action (NFA) determination and request to utilize the compliant material as excavation backfill.



Confluence is grateful for the opportunity to support you with this project. If you have any questions about the methods, results or recommendations presented here, please do not hesitate to contact us.

Regards,



Sage Maher
Project Manager
(404) 641-8912
sage.maher@confluence-cc.com



John Axelson
Program Manager
(720) 233-2927
john.axelson@confluence-cc.com

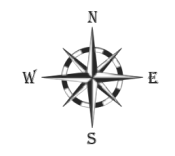
Attachments

- Topographic Location Map
- Site Diagram – Release Investigation
- Site Diagram – Supporting Samples
- Soil Analytical Results Table
- Laboratory Results Summary Tables
- Soil Boring Log
- Photographic Log
- Lab Reports



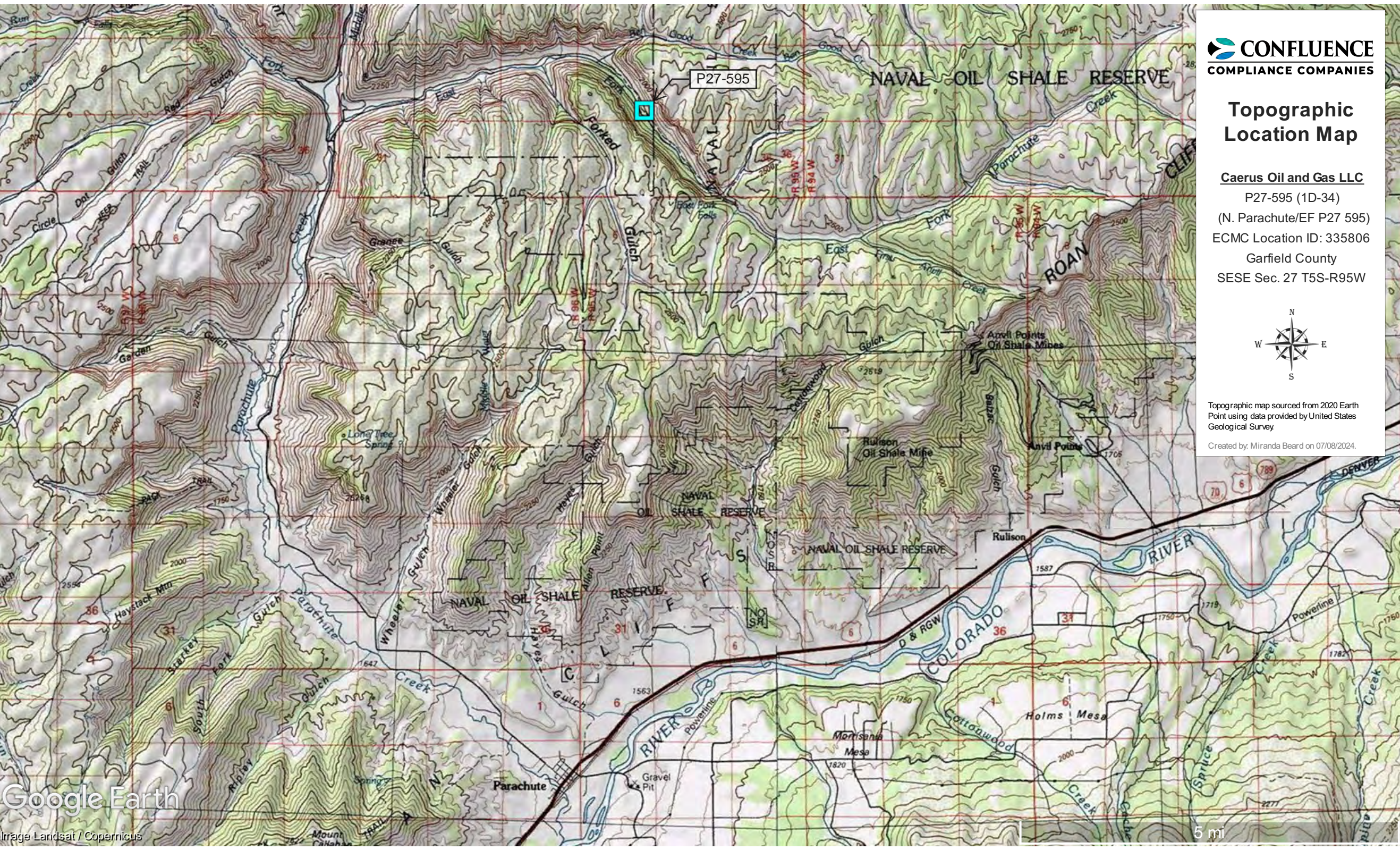
Topographic Location Map

Caerus Oil and Gas LLC
P27-595 (1D-34)
(N. Parachute/EF P27 595)
ECMC Location ID: 335806
Garfield County
SESE Sec. 27 T5S-R95W



Topographic map sourced from 2020 Earth Point using data provided by United States Geological Survey

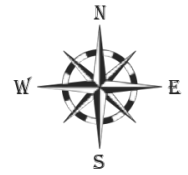
Created by: Miranda Beard on 07/08/2024.






Site Diagram Release Investigation

Caerus Oil and Gas LLC

P27-595 (1D-34)
(N. Parachute/EF P27 595)
ECMC Location ID: 335039
Garfield County
SESE Sec. 27 T5S-R95W

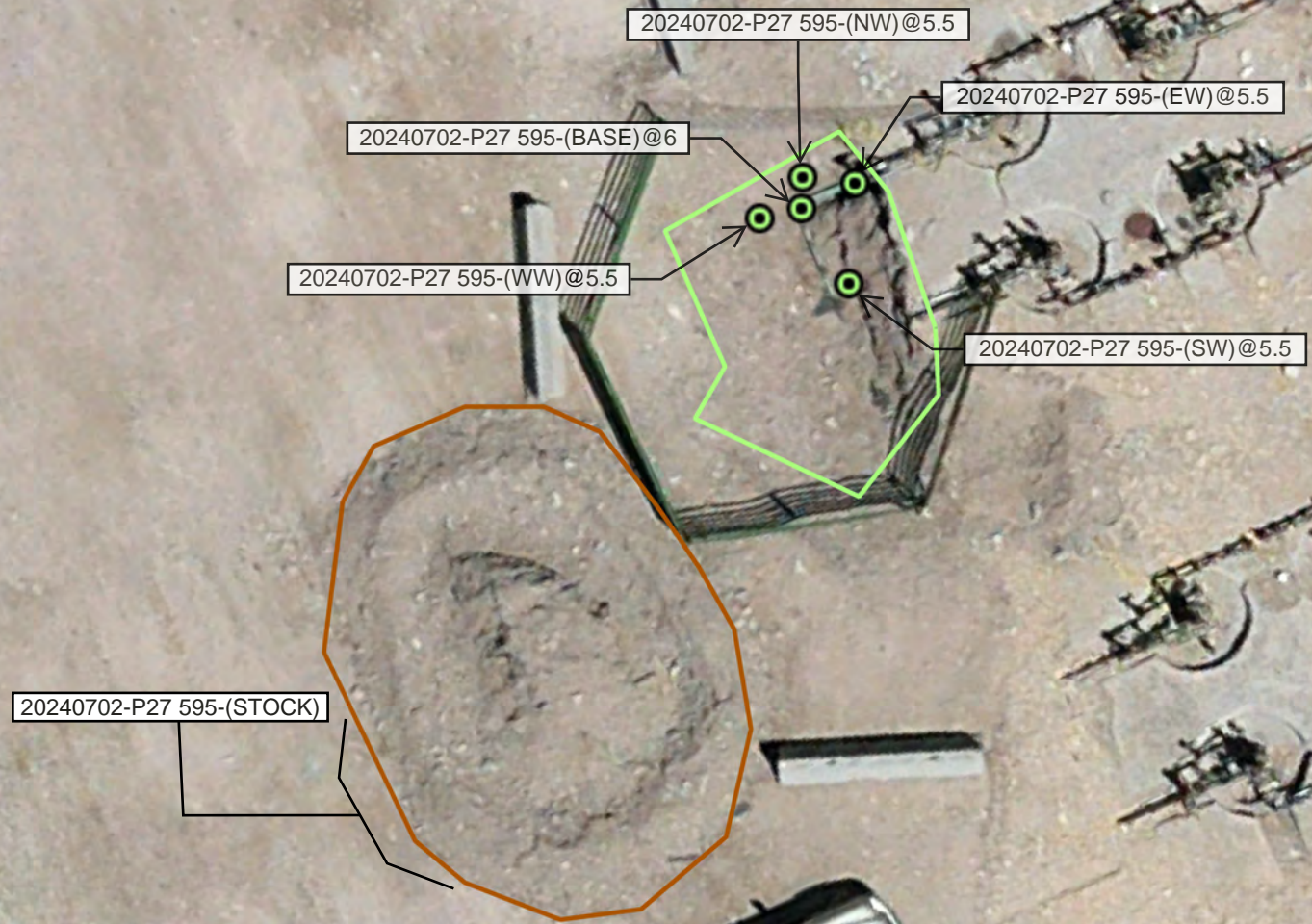


Legend

-  Soil Sample
-  Excavation Extent – 07/07/2024
-  Soil Stockpile

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

Map created by: Miranda Beard on 07/08/2024.



30 ft

Site Diagram Supporting Samples

Caerus Oil and Gas LLC

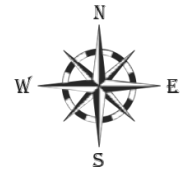
P27-595 (1D-34)

(N. Parachute/EF P27 595)




ECMC Location ID: 335806

Garfield County

SESE Sec. 27 T5S-R95W



Legend

-  Produced Water Sample
-  Excavation Extent – 07/07/2024
-  Background Soil Sample

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

Map created by: Miranda Beard on 08/09/2024.

20240726-NPRBG-(P27 595-N)@0.5

20240726-NPRBG-(P27 595-NE)@0.5

20240726-NPRSOURCE-(P27 595-20324)

20240726-NPRBG-(P27 595-S)@0.5

400 ft



SOIL ANALYTICAL RESULTS TABLE
P27 595 1D

Analyte				GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2,4-TMB	1,3,5-TMB	Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenz(a,h)anthracen	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyre	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Pyrene	
915-1 PROTECTION OF GW							0.0026	0.69	0.78	9.9	0.0081	0.0087	0.55	5.8	0.011	0.3	2.9	0.24	9	0.096	5.9	0.54	0.98	0.006	0.019	0.0038	1.3	
915-1 RESIDENTIAL SOIL				500			1.2	490	5.8	58	30	27	360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	2	180	
Units				mg/kg			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	Sample	Sample	Lab Report																									
20240702-P27 595-(BASE)@6	Excavation	07/02/2024	AA09659	0.36883	< 100	< 100	< 0.00242	0.01807	< 0.005	0.01075	< 0.00245	0.01428	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04258	0.04258	< 0.01	< 0.01
20240702-P27 595-(EW)@5.5	Excavation	07/02/2024	AA09661	< 0.26827	< 100	< 100	0.00517	0.01666	< 0.005	0.03221	0.00377	0.01346	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.14619	0.49956	0.182	< 0.01	< 0.01
20240702-P27 595-(NW)@5.5	Excavation	07/02/2024	AA09660	0.38444	< 100	< 100	< 0.00242	0.02746	< 0.005	0.07925	0.00578	0.02221	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03073	0.09613	0.03746	< 0.01	< 0.01
20240702-P27 595-(STOCK)	Stockpile	07/02/2024	AA09658	< 0.26827	< 100	< 100	0.0029	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01882	< 0.01	< 0.01	< 0.01
20240702-P27 595-(SW)@5.5	Excavation	07/02/2024	AA09663	< 0.26827	< 100	< 100	< 0.00242	0.00926	< 0.005	0.0105	< 0.00245	0.01084	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02836	0.04101	< 0.01	< 0.01
20240702-P27 595-(WW)@5.5	Excavation	07/02/2024	AA09662	< 0.26827	< 100	< 100	< 0.00242	0.01327	< 0.005	0.01428	< 0.00245	0.01336	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02086	< 0.01	< 0.01

Notes:
 Bold with silver highlight: Exceeds RSSLs
 Bold with blue highlight: Exceeds POGs
 "<" (as in, less than laboratory reporting detection limit)



**SOIL ANALYTICAL RESULTS TABLE
P27 595**

Analyte				EC	SAR	pH	HWS Boron	Arsenic	Barium	Cadmium	Chromium VI	Copper	Lead	Nickel	Selenium	Silver	Zinc
915-1 PROTECTION OF GW				4	6	8.3	2	0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
915-1 RESIDENTIAL SOIL				4	6	8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
Units				mmhos/cm	No Unit	SU	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	Sample Type	Sample Date	Lab Report														
20240702-P27 595-(BASE)@6	Excavation	07/02/2024	AA09659	0.541	3.753	8.68	0.849	23.154	2295.861	0.534	< 0.08	29.024	15.49	31.966	1.645	< 0.25	68.805
20240702-P27 595-(EW)@5.5	Excavation	07/02/2024	AA09661	0.753	0.435	8.59	0.297	24.227	784.146	0.635	< 0.08	24.866	16.864	21.655	1.857	< 0.25	68.2
20240702-P27 595-(NW)@5.5	Excavation	07/02/2024	AA09660	0.463	1.127	8.76	0.357	21.249	2152.341	0.461	< 0.08	27.847	16.454	19.132	1.871	< 0.25	70.76
20240702-P27 595-(STOCK)	Stockpile	07/02/2024	AA09658	0.451	0.764	8.82	0.346	23.068	2227.457	0.553	< 0.08	30.896	18.157	22.659	1.924	< 0.25	82.421
20240702-P27 595-(SW)@5.5	Excavation	07/02/2024	AA09663	0.375	0.537	8.78	0.345	19.085	1360.09	0.397	< 0.08	22.377	14.092	15.293	1.699	< 0.25	55.276
20240702-P27 595-(WW)@5.5	Excavation	07/02/2024	AA09662	0.669	2.487	9.11	0.474	19.547	1574.089	0.363	< 0.08	20.348	13.674	16.054	1.153	< 0.25	56.685
20240726-NPRBG-(P27595-N)@0.5	Background	07/26/2024	AA10686					28.98	386.078	0.517	< 0.08	34.072	22.456	24.263	3.985	< 0.25	82.602
20240726-NPRBG-(P27595-NE)@0.5	Background	07/26/2024	AA10685					14.557	314.362	0.588	< 0.08	29.297	18.303	23.571	3.106	< 0.25	83.288
20240726-NPRBG-(P27595-S)@0.5	Background	07/26/2024	AA10687					23.576	3.05	0.43	< 0.08	27.713	18.407	20.239	3.097	< 0.25	70.177

Notes:

Bold with silver highlight: Exceeds RSSLs

Bold with blue highlight: Exceeds POGs

"<" (as in, less than laboratory reporting detection limit)



WATER ANALYTICAL RESULTS TABLE NPRSOURCE

method_analyte_group chemical_name report_order			Rule 909J PH, LAB 11	Rule 909J BARIUM 19	Rule 909J SELENIUM 26	Water ARSENIC 14	Water CADMIUM 17	Water COPPER 19	Water LEAD 22	Water NICKEL 30	Water SELENIUM 45	Water SILVER 46	Water ZINC 51
sys_sample_code	sys_loc_code	field_sdg											
20240726-NPRSOURCE-(P27595 20324)	P27595 20324	P27 595	6.88	48.603900	< 0.000985	0.001215	0.003118	0.012987	< 0.00025	0.057713	< 0.000985	< 0.0001	2.833010

Notes:

Bold with blue highlight: Exceeds Water Standards
"<" (as in, less than laboratory reporting detection limit)



Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

Site Name: North Parachute Ranch

Soil Boring ID: Oil Shale BG5

Date Started : 2022-06-22
 Detector : MiniRae PID
 Hole Diameter : 6"
 Drilling Method : Solid Stem Auger
 Sampling Method : Split Spoon
 Drilling Company : CO Drilling and Sampling
 Latitude : 39.577731°
 Longitude : -108.032025°
 Project Number : 022-050
 Logged By : R. Johnson & C. Mace

Depth (ft)	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			0-5' Rocky.								
5	GC		5-7' Brown, moist clay w/ angular decomposing shale fragments	moist 80	M	0.5	N	14	5-7	8, 10, 22	
10	GC		10-11' Brown, moist clay into tan dry silt w/ trace gravel	dry 95	M	1.2	N	12	10-11	4, 4, 19	
11-13'	SH		11-13' Shale, platy, grey to tan, moderately decomposed, dry	dry 90	M	9.0	N	13	11-13	19, 24, 33, 30	
15				-	-	-	-	6	none	50	
16-17'	GM		16-17' Sandy silt, tan, gravelly w/ angular shale fragments	sl moist 90	M	20.7	N	10	16-17	12, 21, 30 (3")	
20	SH		20-21' Silty clay into platy gravelly clay into shale. Noted bitumen in shale.	sl moist 90	P	2.8	N	18	20-21	16, 50	
25	GC		25-27' Brown to tan, sandy clay, 50-70% gravel composed of shale fragments. Noted bitumen odor.	sl moist 90	P	3.2	N	20	25-27	8, 7, 50	
30	GC		30-31' Tan silty sandy shale gravel w/ bitumen odor	moist 90	M	7.3	N	9	30-31	15, 50	
31-33'	GC		31-33' Moist grey to tan shale fragments ranging from coarse sand-size to gravel and cobble size w/ bitumen odor	moist 90	M	0.6	N	15	none	8, 7, 8	
35	GC		35-37' Brown silty sandy clay w/trace gravel-sized angular shale fragments.	v moist 90	M	0.5	N	20	35-37	21, 5, 10, 10	
40	GC		40-42' Brown clay into coarse shaley clay w/ orange and red decomposing shale. Noted white, fibrous fungus(?) in lower 3" of sample.	wet 90	M	1.4	N	15	40-42	5, 7, 6	
45	GC		45-47' Brown shaley gravel (7") decomposing w/ orange fragments into sandy clay (9"). Wet.	wet 80	M	-	N	16	45-47	6, 10, 4, 6	
47			TD at 47ft MD								



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



Site Overview: Orientation West



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



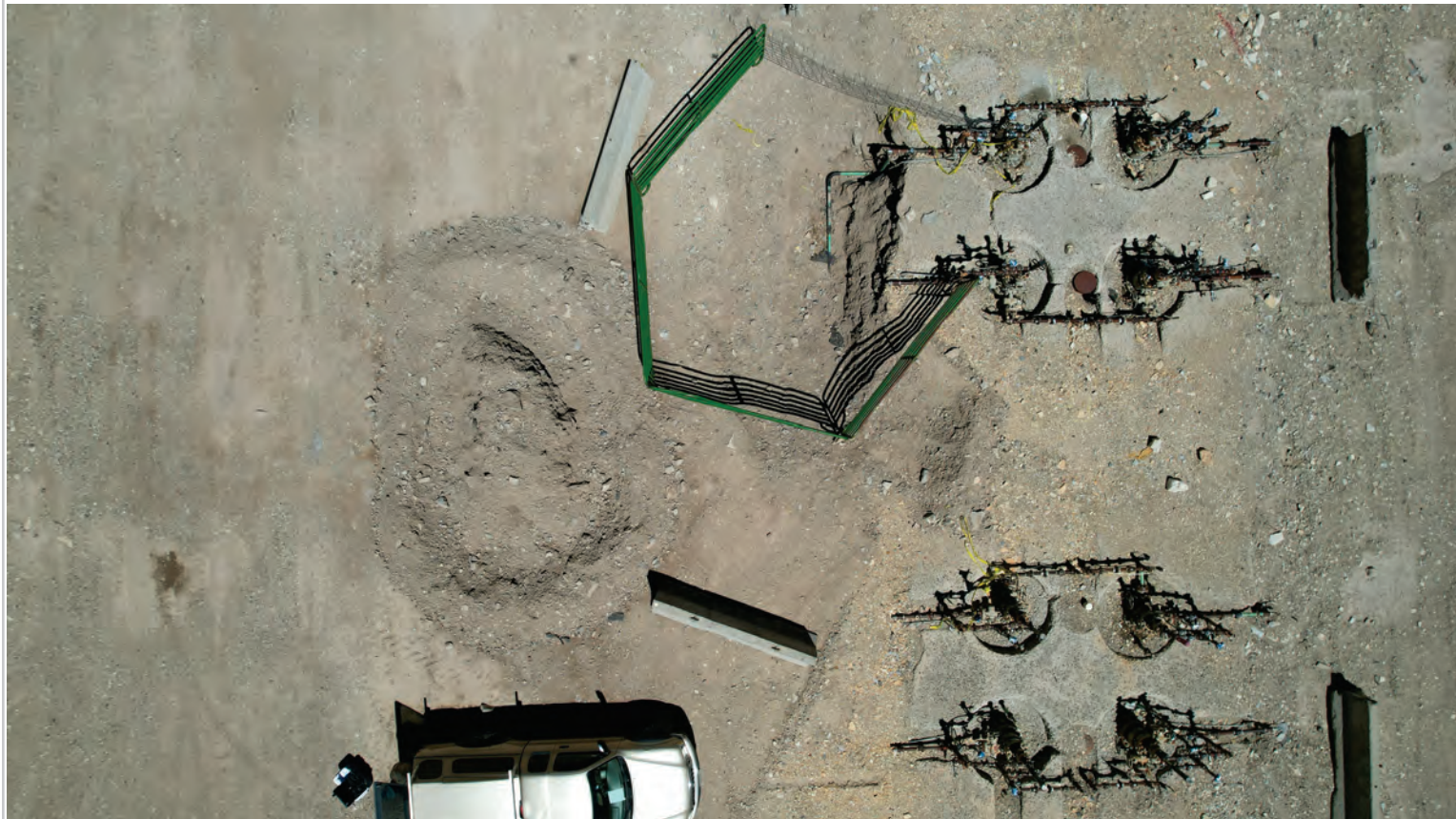
Site Overview: Orientation Southeast



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



ExcavationOverview: Orientation North



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



Excavation Overview: View North



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



(BASE)@6 Sample Location



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



(NW)@5.5 Sample Location



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



(EW)@5.5 Sample Location



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



(WW)@5.5 Sample Location



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



(SW)@5.5 Sample Location



Photographic Log

Remediation Investigation

P27 595 1D-34 Flowline (ECMC Location ID: 334384)



Excavation Stockpile: View Northeast



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

July 18, 2024

143 Diamond Ave
Parachute, CO 81635
970-285-2600

Project Manager : Andrew Verbonitz
Project Name : P27 595 1-D Flowline Release
Project Number : N/A

Attached are the analytical results for P27 595 1-D Flowline Release N/A received by Elevation Diagnostics, Division of Environmental Testing on July 03, 2024. This is associated with Elevation's number AA09658 .

The results were analyzed under the guidelines of various methods. These methods are identified in the report as follows: "SW" is referring to the EPA's SW-846 Compendium; "EPA" is referring to 40 CFR part 136; "HACH" is referring to a method which was validated by HACH®; "SM" is referring to a revision of the Standard Methods For the Examination of Water and Wastewater; and "ASTM" is referring to the standard test method set forth by ASTM International.

The analytical results in this report apply specifically to the samples listed in the attached Chain of Custody. This report may only be duplicated in full.

Any deviations to sample integrity, method specifications, or Elevation Diagnostics's standard operating procedures are documented in the report below.

Please contact us for any questions or comments concerning the content of this report.

Thank you,

Elevation Diagnostics, Division of Environmental Testing

Kristen Reichel
Laboratory Director
CSO,CCO

Chain of Custody Form

Elevation Diagnostics

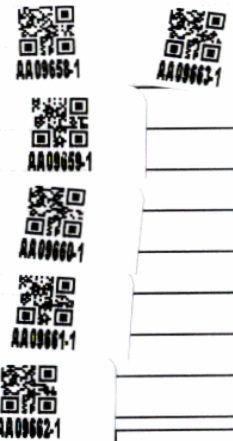
2115 North Scranton Street Suite 3040A Aurora, CO 80045
800.440.5184

Client: Caerus Oil and Gas
Address: 143 Diamond Ave
City/State/ZIP: Parachute, CO 81635
Phone: (970)-285-2925
Project Contact: Andrew Verbonitz

Project Name/Number: P27 595 1-D Flowline Release
Project Location: P27 595
Collector Name: Olivia Floyd

Sample ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Interim report requested			
					HCl	HNO ₃	None	Other	Water	Soil	Other	Table 915-1 VOCs	TPH (Org, Bro, PFO)	Table 915-1 Metals	Table 915-1 PAHs	pH, EC, SAR	Boron (Hot Water Sol.)	Cr 6/Cr (Hexavalent Chromium)	Yes	No	
1	20240702 - P27 595 - (Stock)	7/2/2024	1	4			X			X			X	X	X	X	X	X	X		
2	20240702 - P27 595 - (BASE) @ 6	7/2/2024		4			X			X			X	X	X	X	X	X	X		
3	20240702 - P27 595 - (NW) @ 5.5	7/2/2024		4			X			X			X	X	X	X	X	X	X		
4	20240702 - P27 595 - (EW) @ 5.5	7/2/2024		4			X			X			X	X	X	X	X	X	X		
5	20240702 - P27 595 - (WW) @ 5.5	7/2/2024		4			X			X			X	X	X	X	X	X	X		
6	20240702 - P27 595 - (SW) @ 5.5	7/2/2024		4			X			X			X	X	X	X	X	X	X		
7																					
8																					
9																					
10																					

Notes
Please Analyze SAR using Saturated Paste Method



Scan to Deliver Samples



EFOR-008.005

Relinquished By: Olivia Floyd Date/Time: 7/2/24 1330
Relinquished By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____

Lab Use Only
Observed Temperature Upon Receipt: 9.2°C
Corrected Temperature Upon Receipt: 10.5°C
Thermometer #: EDXEQ248
Correction Factor: +1.3°C
Samples Intact: Yes No
pH Checked: Yes No
pH Adjusted: Yes No
PFAS rec'd on ice: Yes No N/A
Name/Lot Number of Adjustment: _____
Lot/EQM Number: 2024-67-03-003

1 took collection times off of sample jars
7.3.2024



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name	Analysis Start	Recovery					
AA09658-1	20240702-P27 595-(Stock)	Collected : 07/02/2024 09:40					
SAR - Calcium		07/09/2024	15:15 10.00	2.501	mEq/L	0.000	EPA 6020B
SAR - Magnesium		07/09/2024	15:15 10.00	1.021	mEq/L	0.000	EPA 6020B
SAR - Sodium		07/09/2024	15:15 10.00	1.014	mEq/L	0.000	EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024	15:15 10.00	0.764		0.000	EPA 6020B
Soil Conductivity		07/08/2024	16:13	0.451	mmhos/cm		USDA 60
AA09658-2	20240702-P27 595-(Stock)	Collected : 07/02/2024 09:40					
Chromium VI, Soil		07/10/2024	18:03	<0.0800	mg/kg	0.080	EPA 7199
Hot Water Soluble Boron		07/10/2024	14:13	0.346	mg/kg	0.050	Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024	13:01	20.8	°C		
pH, Soils		07/05/2024	13:01	8.82	S.U.	0.01	EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024	14:51 10.00	23.068	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		07/05/2024	14:51 10.00	2227.457	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024	14:51 10.00	0.553	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		07/05/2024	14:51 10.00	30.896	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		07/05/2024	14:51 10.00	18.157	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		07/05/2024	14:51 10.00	22.659	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		07/05/2024	14:51 10.00	1.924	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		07/05/2024	14:51 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		07/05/2024	14:51 10.00	82.421	mg/kg	0.055	EPA 6020B
AA09658-3	20240702-P27 595-(Stock)	Collected : 07/02/2024 09:40					
DRO & ORO, Soil - DRO		07/11/2024	07:46	Not Detected	mg/kg	100.00	EPA 8015D
DRO & ORO, Soil - ORO		07/11/2024	07:46	Not Detected	mg/kg	100.00	EPA 8015D
Gasoline Range Organics, Soil		07/16/2024	14:33	Not Detected	mg/kg	0.26827	EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024	11:17	0.01882	mg/kg	0.010	EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(a)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Chrysene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluorene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024	11:33	Not Detected	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024	11:33	Not Detected	mg/kg	0.005	EPA 8260
VOC, Soils - Benzene		07/16/2024	11:33	0.00290	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024	11:33	Not Detected	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024	11:33	<0.00427	mg/kg	0.00427	EPA 8260



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

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FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name		Analysis Start					Recovery
VOC, Soils - o-xylene		07/16/2024	11:33	<0.00227	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024	11:33	Not Detected	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024	11:33	<0.00654	mg/kg	0.00654	EPA 8260
AA09659-1	20240702-P27 595-(Base)@6	Collected : 07/02/2024 10:05					
SAR - Calcium		07/09/2024	15:15 10.00	4.832	mEq/L	0.000	EPA 6020B
SAR - Magnesium		07/09/2024	15:15 10.00	1.972	mEq/L	0.000	EPA 6020B
SAR - Sodium		07/09/2024	15:15 10.00	6.922	mEq/L	0.000	EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024	15:15 10.00	3.753		0.000	EPA 6020B
Soil Conductivity		07/08/2024	16:13	0.541	mmhos/cm		USDA 60
AA09659-2	20240702-P27 595-(Base)@6	Collected : 07/02/2024 10:05					
Chromium VI, Soil		07/10/2024	18:03	<0.0800	mg/kg	0.080	EPA 7199
Hot Water Soluble Boron		07/10/2024	14:13	0.849	mg/kg	0.050	Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024	13:01	20.9	°C		
pH, Soils		07/05/2024	13:01	8.68	S.U.	0.01	EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024	14:51 10.00	23.154	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		07/05/2024	14:51 10.00	2295.861	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024	14:51 10.00	0.534	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		07/05/2024	14:51 10.00	29.024	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		07/05/2024	14:51 10.00	15.490	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		07/05/2024	14:51 10.00	31.966	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		07/05/2024	14:51 10.00	1.645	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		07/05/2024	14:51 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		07/05/2024	14:51 10.00	68.805	mg/kg	0.055	EPA 6020B
AA09659-3	20240702-P27 595-(Base)@6	Collected : 07/02/2024 10:05					
DRO & ORO, Soil - DRO		07/11/2024	08:59	<100	mg/kg	100.00	EPA 8015D
DRO & ORO, Soil - ORO		07/11/2024	08:59	Not Detected	mg/kg	100.00	EPA 8015D
Gasoline Range Organics, Soil		07/16/2024	14:33	0.36883	mg/kg	0.26827	EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024	11:17	0.04258	mg/kg	0.010	EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(a)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Chrysene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluorene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024	11:33	Not Detected	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024	11:33	0.01428	mg/kg	0.005	EPA 8260



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name		Analysis Start					Recovery
VOC, Soils - Benzene		07/16/2024	11:33	Not Detected	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024	11:33	<0.005	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024	11:33	0.00789	mg/kg	0.00427	EPA 8260
VOC, Soils - o-xylene		07/16/2024	11:33	0.00286	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024	11:33	0.01807	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024	11:33	0.01075	mg/kg	0.00654	EPA 8260
AA09660-1	20240702-P27 595-(NW)@5.5	Collected : 07/02/2024 10:10					
SAR - Calcium		07/09/2024	15:15	10.00	3.290	mEq/L	0.000 EPA 6020B
SAR - Magnesium		07/09/2024	15:15	10.00	1.513	mEq/L	0.000 EPA 6020B
SAR - Sodium		07/09/2024	15:15	10.00	1.747	mEq/L	0.000 EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024	15:15	10.00	1.127		0.000 EPA 6020B
Soil Conductivity		07/08/2024	16:13		0.463	mmhos/cm	USDA 60
AA09660-2	20240702-P27 595-(NW)@5.5	Collected : 07/02/2024 10:10					
Chromium VI, Soil		07/10/2024	18:03		<0.0800	mg/kg	0.080 EPA 7199
Hot Water Soluble Boron		07/10/2024	14:13		0.357	mg/kg	0.050 Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024	13:01		21	°C	
pH, Soils		07/05/2024	13:01		8.76	S.U.	0.01 EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024	14:51	10.00	21.249	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Barium		07/05/2024	14:51	10.00	2152.341	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024	14:51	10.00	0.461	mg/kg	0.001 EPA 6020B
Total Metals, Soils - Copper		07/05/2024	14:51	10.00	27.847	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Lead		07/05/2024	14:51	10.00	16.454	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Nickel		07/05/2024	14:51	10.00	19.132	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Selenium		07/05/2024	14:51	10.00	1.871	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Silver		07/05/2024	14:51	10.00	<0.250 - RL1	mg/kg	0.250 EPA 6020B
Total Metals, Soils - Zinc		07/05/2024	14:51	10.00	70.760	mg/kg	0.055 EPA 6020B
AA09660-3	20240702-P27 595-(NW)@5.5	Collected : 07/02/2024 10:10					
DRO & ORO, Soil - DRO		07/11/2024	10:12		Not Detected	mg/kg	100.00 EPA 8015D
DRO & ORO, Soil - ORO		07/11/2024	10:12		Not Detected	mg/kg	100.00 EPA 8015D
Gasoline Range Organics, Soil		07/16/2024	14:33		0.38444	mg/kg	0.26827 EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024	11:17		0.03073	mg/kg	0.010 EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024	11:17		0.09613	mg/kg	0.010 EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Anthracene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Benzo(a)pyrene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Chrysene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Fluorene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17		0.03746	mg/kg	0.010 EPA 8270



Division of Environmental Testing

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FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name	Analysis Start	Recovery					
SVOC, Soils - Pyrene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024 11:33		0.00578	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024 11:33		0.02221	mg/kg	0.005	EPA 8260
VOC, Soils - Benzene		07/16/2024 11:33		Not Detected	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024 11:33		<0.005	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024 11:33		0.05806	mg/kg	0.00427	EPA 8260
VOC, Soils - o-xylene		07/16/2024 11:33		0.02119	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024 11:33		0.02746	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024 11:33		0.07925	mg/kg	0.00654	EPA 8260
AA09661-1	20240702-P27 595-(EW)@5.5	Collected : 07/02/2024 10:20					
SAR - Calcium		07/09/2024 15:15	10.00	3.888	mEq/L	0.000	EPA 6020B
SAR - Magnesium		07/09/2024 15:15	10.00	1.383	mEq/L	0.000	EPA 6020B
SAR - Sodium		07/09/2024 15:15	10.00	0.706	mEq/L	0.000	EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024 15:15	10.00	0.435		0.000	EPA 6020B
Soil Conductivity		07/08/2024 16:13		0.753	mmhos/cm		USDA 60
AA09661-2	20240702-P27 595-(EW)@5.5	Collected : 07/02/2024 10:20					
Chromium VI, Soil		07/10/2024 18:03		<0.0800	mg/kg	0.080	EPA 7199
Hot Water Soluble Boron		07/10/2024 14:13		0.297	mg/kg	0.050	Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024 13:01		20.9	°C		
pH, Soils		07/05/2024 13:01		8.59	S.U.	0.01	EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024 14:51	10.00	24.227	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		07/05/2024 14:51	10.00	784.146	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024 14:51	10.00	0.635	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		07/05/2024 14:51	10.00	24.866	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		07/05/2024 14:51	10.00	16.864	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		07/05/2024 14:51	10.00	21.655	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		07/05/2024 14:51	10.00	1.857	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		07/05/2024 14:51	10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		07/05/2024 14:51	10.00	68.200	mg/kg	0.055	EPA 6020B
AA09661-3	20240702-P27 595-(EW)@5.5	Collected : 07/02/2024 10:20					
DRO & ORO, Soil - DRO		07/11/2024 11:25		<100	mg/kg	100.00	EPA 8015D
DRO & ORO, Soil - ORO		07/11/2024 11:25		Not Detected	mg/kg	100.00	EPA 8015D
Gasoline Range Organics, Soil		07/16/2024 14:33		<0.26827	mg/kg	0.26827	EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024 11:17		0.14619	mg/kg	0.010	EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024 11:17		0.49956	mg/kg	0.010	EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Anthracene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(a)pyrene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Chrysene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024 11:17		Not Detected	mg/kg	0.010	EPA 8270



Division of Environmental Testing

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FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name		Analysis Start					Recovery
SVOC, Soils - Fluorene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17	0.18200	mg/kg	0.010	EPA 8270
SVOC, Soils - Pyrene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024	11:33	0.00377	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024	11:33	0.01346	mg/kg	0.005	EPA 8260
VOC, Soils - Benzene		07/16/2024	11:33	0.00517	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024	11:33	<0.005	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024	11:33	0.02084	mg/kg	0.00427	EPA 8260
VOC, Soils - o-xylene		07/16/2024	11:33	0.01137	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024	11:33	0.01666	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024	11:33	0.03221	mg/kg	0.00654	EPA 8260
AA09662-1	20240702-P27 595-(WW)@5.5	Collected : 07/02/2024 10:25					
SAR - Calcium		07/09/2024	15:15 10.00	1.507	mEq/L	0.000	EPA 6020B
SAR - Magnesium		07/09/2024	15:15 10.00	0.778	mEq/L	0.000	EPA 6020B
SAR - Sodium		07/09/2024	15:15 10.00	2.660	mEq/L	0.000	EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024	15:15 10.00	2.487		0.000	EPA 6020B
Soil Conductivity		07/09/2024	16:53	0.669	mmhos/cm		USDA 60
AA09662-2	20240702-P27 595-(WW)@5.5	Collected : 07/02/2024 10:25					
Chromium VI, Soil		07/10/2024	18:03	<0.0800	mg/kg	0.080	EPA 7199
Hot Water Soluble Boron		07/10/2024	14:13	0.474	mg/kg	0.050	Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024	13:01	20.8	°C		
pH, Soils		07/05/2024	13:01	9.11	S.U.	0.01	EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024	14:51 10.00	19.547	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		07/05/2024	14:51 10.00	1574.089	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024	14:51 10.00	0.363	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		07/05/2024	14:51 10.00	20.348	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		07/05/2024	14:51 10.00	13.674	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		07/05/2024	14:51 10.00	16.054	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		07/05/2024	14:51 10.00	1.153	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		07/05/2024	14:51 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		07/05/2024	14:51 10.00	56.685	mg/kg	0.055	EPA 6020B
AA09662-3	20240702-P27 595-(WW)@5.5	Collected : 07/02/2024 10:25					
DRO & ORO, Soil - DRO		07/10/2024	13:29	Not Detected	mg/kg	100.00	EPA 8015D
DRO & ORO, Soil - ORO		07/10/2024	13:29	Not Detected	mg/kg	100.00	EPA 8015D
Gasoline Range Organics, Soil		07/16/2024	14:33	<0.26827	mg/kg	0.26827	EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024	11:17	<0.010	mg/kg	0.010	EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(a)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name		Analysis Start					Recovery
SVOC, Soils - Chrysenes		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluorene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17	0.02086	mg/kg	0.010	EPA 8270
SVOC, Soils - Pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024	11:33	<0.00245	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024	11:33	0.01336	mg/kg	0.005	EPA 8260
VOC, Soils - Benzene		07/16/2024	11:33	Not Detected	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024	11:33	<0.005	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024	11:33	0.00847	mg/kg	0.00427	EPA 8260
VOC, Soils - o-xylene		07/16/2024	11:33	0.00581	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024	11:33	0.01327	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024	11:33	0.01428	mg/kg	0.00654	EPA 8260
AA09663-1	20240702-P27 595-(SW)@5.5	Collected : 07/02/2024 10:35					
SAR - Calcium		07/09/2024	15:15	10.00	1.953	mEq/L	0.000 EPA 6020B
SAR - Magnesium		07/09/2024	15:15	10.00	1.072	mEq/L	0.000 EPA 6020B
SAR - Sodium		07/09/2024	15:15	10.00	0.660	mEq/L	0.000 EPA 6020B
SAR - Sodium Adsorption Ratio		07/09/2024	15:15	10.00	0.537		0.000 EPA 6020B
Soil Conductivity		07/08/2024	16:13		0.375	mmhos/cm	USDA 60
AA09663-2	20240702-P27 595-(SW)@5.5	Collected : 07/02/2024 10:35					
Chromium VI, Soil		07/10/2024	18:03		<0.0800	mg/kg	0.080 EPA 7199
Hot Water Soluble Boron		07/10/2024	14:13		0.345	mg/kg	0.050 Boron Hot Water Extraction
pH, Soils Temperature		07/05/2024	13:01		21.1	°C	
pH, Soils		07/05/2024	13:01		8.78	S.U.	0.01 EPA 9045D
Total Metals, Soils - Arsenic		07/05/2024	14:51	10.00	19.085	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Barium		07/05/2024	14:51	10.00	1360.090	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Cadmium		07/05/2024	14:51	10.00	0.397	mg/kg	0.001 EPA 6020B
Total Metals, Soils - Copper		07/05/2024	14:51	10.00	22.377	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Lead		07/05/2024	14:51	10.00	14.092	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Nickel		07/05/2024	14:51	10.00	15.293	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Selenium		07/05/2024	14:51	10.00	1.699	mg/kg	0.025 EPA 6020B
Total Metals, Soils - Silver		07/05/2024	14:51	10.00	<0.250 - RL1	mg/kg	0.250 EPA 6020B
Total Metals, Soils - Zinc		07/05/2024	14:51	10.00	55.276	mg/kg	0.055 EPA 6020B
AA09663-3	20240702-P27 595-(SW)@5.5	Collected : 07/02/2024 10:35					
DRO & ORO, Soil - DRO		07/11/2024	12:38		Not Detected	mg/kg	100.00 EPA 8015D
DRO & ORO, Soil - ORO		07/11/2024	12:38		Not Detected	mg/kg	100.00 EPA 8015D
Gasoline Range Organics, Soil		07/16/2024	14:33		<0.26827	mg/kg	0.26827 EPA 8260
SVOC, Soils - 1-methylnaphthalene		07/11/2024	11:17		<0.010	mg/kg	0.010 EPA 8270
SVOC, Soils - 2-methylnaphthalene		07/11/2024	11:17		0.02836	mg/kg	0.010 EPA 8270
SVOC, Soils - Acenaphthene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Anthracene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270
SVOC, Soils - Benz(a)anthracene		07/11/2024	11:17		Not Detected	mg/kg	0.010 EPA 8270



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name		Analysis Start					Recovery
SVOC, Soils - Benzo(a)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(b)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Benzo(k)fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Chrysene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Dibenzo(a,h)anthracene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluoranthene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Fluorene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Indeno(1,2,3-cd)pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
SVOC, Soils - Naphthalene		07/11/2024	11:17	0.04101	mg/kg	0.010	EPA 8270
SVOC, Soils - Pyrene		07/11/2024	11:17	Not Detected	mg/kg	0.010	EPA 8270
VOC, Soils - 1,2,4-trimethylbenzene		07/16/2024	11:33	<0.00245	mg/kg	0.00245	EPA 8260
VOC, Soils - 1,3,5-trimethylbenzene		07/16/2024	11:33	0.01084	mg/kg	0.005	EPA 8260
VOC, Soils - Benzene		07/16/2024	11:33	Not Detected	mg/kg	0.00242	EPA 8260
VOC, Soils - Ethylbenzene		07/16/2024	11:33	<0.005	mg/kg	0.005	EPA 8260
VOC, Soils - m&p- xylene		07/16/2024	11:33	0.00467	mg/kg	0.00427	EPA 8260
VOC, Soils - o-xylene		07/16/2024	11:33	0.00583	mg/kg	0.00227	EPA 8260
VOC, Soils - Toluene		07/16/2024	11:33	0.00926	mg/kg	0.00263	EPA 8260
VOC, Soils - Xylenes, total		07/16/2024	11:33	0.01050	mg/kg	0.00654	EPA 8260



Division of Environmental Testing

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Aurora, CO 80045

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Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

QC Report

BORON-3797										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09658	0.352	0.050	mg/kg		0.346			1.7192	-15 - 15	
MB AA09797	0.015		mg/kg							
LCS AA09798	0.997		mg/kg	1		99.7	80 - 120			
LCS AA09799	8.131		mg/kg	9		90.3	80 - 120			
CHROM_VI_SOIL-3741										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09648	0.2213	0.080	mg/kg		0.1848			17.976		
MB AA09686	<0.0800		mg/kg							
LCS AA09688	0.0412		mg/kg	0.0400		103				
LCS AA09689	0.0414		mg/kg	0.0400		104				
ECISOIL_MMHOS-3780										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09658	0.415		mmhos/cm		0.451			8.3141		
LCS AA09778	9.8		mmhos/cm	10		98.0				
LCS AA09779	9.89		mmhos/cm	10.0		98.9				
ECISOIL_MMHOS-3803										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09712	0.653		mmhos/cm		0.618			5.5075		
LCS AA09808	9.76		mmhos/cm	10		97.6				
LCS AA09809	10.47		mmhos/cm	10		105				
GRO_SOIL-3908										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09916	1.05977	0.26827	mg/kg		<0.26827			9.3922		
Matrix Spike AA09916	1.16421		mg/kg	2.150	<0.26827	54.1				
MB AA10117	<0.26827		mg/kg							
LCS AA10118	1.80269		mg/kg	2.150		83.8				
LCS AA10119	2.51384		mg/kg	2.150		117				
PH_S-3753										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit	
DUP AA09658	8.82	0.01	S.U.		8.82			<%MDL%	-5 - 5	
LCS AA09738	6.87	0.01	S.U.	6.86		100	95 - 105			
LCS AA09739	6.82	0.01	S.U.	6.86		99.4	95 - 105			



Division of Environmental Testing

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800-440-5184

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Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
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DRO_ORO_SOIL-3739

AA09662

DUP

DRO	123.95				Not Detected			8.24	
ORO	151.67				Not Detected			3.92	

Matrix Spike

DRO	134.60		mg/kg	350	Not Detected	38.5			
ORO	157.74		mg/kg	350	Not Detected	45.1			

AA09683

MB

DRO	Not Detected		mg/kg						
ORO	Not Detected		mg/kg						

AA09684

LCS

DRO	274.71		mg/kg			78.5			
ORO	351.60		mg/kg			100			

AA09685

DRO	410.47		mg/kg			117			
ORO	344.77		mg/kg			98.5			

METALS_S-3737

AA09673

MB

Arsenic	0.001		mg/kg						
Barium	0.001		mg/kg						
Cadmium	0.000		mg/kg						
Copper	-0.026		mg/kg						
Lead	0.002		mg/kg						
Nickel	0.001		mg/kg						
Selenium	0.001		mg/kg						
Silver	0.000		mg/kg						
Zinc	0.055		mg/kg						

AA09675

LCS

Arsenic	0.088		mg/kg			97.8		80 - 120	
Barium	0.091		mg/kg			101		80 - 120	
Cadmium	0.094		mg/kg			104		80 - 120	
Copper	0.088		mg/kg			97.8		80 - 120	
Lead	0.094		mg/kg			104		80 - 120	
Nickel	0.090		mg/kg			100		80 - 120	
Selenium	0.090		mg/kg			100		80 - 120	
Silver	0.104		mg/kg			116		80 - 120	
Zinc	0.091		mg/kg			101		80 - 120	

AA09676

Arsenic	0.093		mg/kg			103		80 - 120	
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Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
Barium	0.094		mg/kg			104	80 - 120		
Cadmium	0.094		mg/kg			104	80 - 120		
Copper	0.090		mg/kg			100	80 - 120		
Lead	0.093		mg/kg			103	80 - 120		
Nickel	0.092		mg/kg			102	80 - 120		
Selenium	0.091		mg/kg			101	80 - 120		
Silver	0.101		mg/kg			112	80 - 120		
Zinc	0.094		mg/kg			104	80 - 120		

SAR-3791

AA09791

MB

Calcium	0.007		mEq/L						
Magnesium	0.006		mEq/L						
Sodium	0.030		mEq/L						

AA09792

LCS

Calcium	8.880		ppm			88.8			
Magnesium	8.728		ppm			87.3			
Sodium	8.541		ppm			85.4			

AA09793

Calcium	444.669		ppm			88.9			
Magnesium	441.118		ppm			88.2			
Sodium	428.013		ppm			85.6			

SVOC_SOIL-3836

AA09875

MB

1-methylnaphthalene	Not Detected		mg/kg						
2-methylnaphthalene	Not Detected		mg/kg						
Acenaphthene	Not Detected		mg/kg						
Anthracene	Not Detected		mg/kg						
Benz(a)anthracene	Not Detected		mg/kg						
Benzo(a)pyrene	Not Detected		mg/kg						
Benzo(b)fluoranthene	Not Detected		mg/kg						
Benzo(k)fluoranthene	Not Detected		mg/kg						
Chrysene	Not Detected		mg/kg						
Dibenzo(a,h)anthracene	Not Detected		mg/kg						
Fluoranthene	Not Detected		mg/kg						
Fluorene	Not Detected		mg/kg						
Indeno(1,2,3-cd)pyrene	Not Detected		mg/kg						
Naphthalene	Not Detected		mg/kg						
Pyrene	Not Detected		mg/kg						

AA09876

LCS

1-methylnaphthalene	0.24310		mg/kg			81.0			
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FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
2-methylnaphthalene	0.25443		mg/kg			84.8			
Acenaphthene	0.24977		mg/kg			83.3			
Anthracene	0.29315		mg/kg			97.7			
Benz(a)anthracene	0.38939		mg/kg			130			
Benzo(a)pyrene	0.35258		mg/kg			118			
Benzo(b)fluoranthene	0.36664		mg/kg			122			
Benzo(k)fluoranthene	0.38511		mg/kg			128			
Chrysene	0.37675		mg/kg			126			
Dibenzo(a,h)anthracene	0.36091		mg/kg			120			
Fluoranthene	0.37947		mg/kg			126			
Fluorene	0.24045		mg/kg			80.2			
Indeno(1,2,3-cd)pyrene	0.36174		mg/kg			121			
Naphthalene	0.27453		mg/kg			91.5			
Pyrene	0.38144		mg/kg			127			

VOC_S-3904

AA10109

MB

1,2,4-trimethylbenzene	Not Detected		mg/kg						
1,3,5-trimethylbenzene	Not Detected		mg/kg						
Benzene	Not Detected		mg/kg						
Ethylbenzene	Not Detected		mg/kg						
m&p- xylene	Not Detected		mg/kg						
Naphthalene	Not Detected		mg/kg						
o-xylene	<0.00227		mg/kg						
Toluene	Not Detected		mg/kg						
Xylenes, total	<0.00654		mg/kg						

AA10110

LCS

1,2,4-trimethylbenzene	0.04928		mg/kg			98.6			
1,3,5-trimethylbenzene	0.05195		mg/kg			104			
Benzene	0.05442		mg/kg			109			
Ethylbenzene	0.03718		mg/kg			74.4			
m&p- xylene	0.11327		mg/kg			113			
Naphthalene									
Naphthalene	0.03918		mg/kg						
o-xylene	0.05134		mg/kg			103			
Toluene	0.05907		mg/kg			118			
Xylenes, total	0.16461		mg/kg			110			

AA10111

1,2,4-trimethylbenzene	0.06422		mg/kg			128			
1,3,5-trimethylbenzene	0.05557		mg/kg			111			
Benzene	0.04140		mg/kg			82.8			
Ethylbenzene	0.05712		mg/kg			114			
m&p- xylene	0.07013		mg/kg			70.1			



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 7/18/2024

Report Time : 12:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1-D Flowline Release **Project Number:** N/A

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
Naphthalene									
o-xylene	0.03725		mg/kg			74.5			
Toluene	0.04794		mg/kg			95.9			
Xylenes, total	0.12825		mg/kg			85.5			

Qualifier

Explanation

- H1 Sample received outside of regulatory holding time.
- H2 Sample analyzed outside of regulatory holding time due to a laboratory error.
- P1 Sample received outside temperature requirements, 0-6°C.
- P2 Sample received unpreserved.
- P3 Broken or leaking sample container.
- P4 Sample improperly collected
- P5 Sample incorrectly preserved
- B1 Blank failed high, indicating possible high bias in sample results.
- B2 Blank failed low, indicating possible low bias in sample results.
- MS Matrix Spike / Matrix Spike Duplicate recovery and/or RPD limit exceeded, indicating potential matrix interference.
- D1 Duplicate RPD limit exceeded due to low sample concentration.
- D2 Duplicate RPD limit exceeded due to matrix interference.
- S Surrogate recovery failed, indicating potential matrix interference.
- RL1 Reporting limits raised due to matrix interference.
- RL2 Reporting limits raised due to limited sample.
- U Sample result less than method detection limit.
- J Sample result less than reporting limit but higher than method detection limit.
- E Electronic loss or corruption of data.
- I Subcontracted sample



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

August 05, 2024

143 Diamond Ave
Parachute, CO 81635
970-285-2600

Project Manager : Andrew Verbonitz
Project Name : P27 595 1D Flowline 2024 Release
Project Number : P27595

Attached are the analytical results for P27 595 1D Flowline 2024 Release P27595 received by Elevation Diagnostics, Division of Environmental Testing on July 30, 2024. This is associated with Elevation's number AA10685 .

The results were analyzed under the guidelines of various methods. These methods are identified in the report as follows: "SW" is referring to the EPA's SW-846 Compendium; "EPA" is referring to 40 CFR part 136; "HACH" is referring to a method which was validated by HACH®; "SM" is referring to a revision of the Standard Methods For the Examination of Water and Wastewater; and "ASTM" is referring to the standard test method set forth by ASTM International.

The analytical results in this report apply specifically to the samples listed in the attached Chain of Custody. This report may only be duplicated in full.

Any deviations to sample integrity, method specifications, or Elevation Diagnostics's standard operating procedures are documented in the report below.

Please contact us for any questions or comments concerning the content of this report.

Thank you,

Elevation Diagnostics, Division of Environmental Testing

Kristen Reichel
Laboratory Director
CSO,CCO

Chain of Custody Form

Elevation Diagnostics

Client: Calerus Oil and Gas
 Address: 143 Diamond Ave
 City/State/ZIP: Parachute, CO 81635
 Phone: (970)-285-2925
 Project Contact: Andrew Verbonitz

2115 North Scranton Street Suite 3040A Aurora, CO 80045
 800.440.5184

Project Name/Number: P27 595 ID Fixture 0624
 Project Location: P27 595
 Collector Name: Olivia Floyd

Sample ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative					Matrix	Analysis Requested	Interim report requested		
					HCl	HNO ₃	None	Other	Water			Soil	Other	Yes
1	20240726-NPRBG-(P27 595-ID)0.5	7/26/24	110	1		X				Water			<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	20240726-NPRBG-(P27 595-ID)0.5	7/26/24	115	1		X				Soil			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	20240726-NPRBG-(P27 595-ID)0.5	7/26/24	120	1		X				Other			<input type="checkbox"/>	<input checked="" type="checkbox"/>
4													<input type="checkbox"/>	<input type="checkbox"/>
5													<input type="checkbox"/>	<input type="checkbox"/>
6													<input type="checkbox"/>	<input type="checkbox"/>
7													<input type="checkbox"/>	<input type="checkbox"/>
8													<input type="checkbox"/>	<input type="checkbox"/>
9													<input type="checkbox"/>	<input type="checkbox"/>
10													<input type="checkbox"/>	<input type="checkbox"/>

Initials: AA10686
 CNU/ID: 20240726-NPRBG-(P27595-ID)0.5
 Container: AA10686

Date/Time: 7/26/24 11:00 AM

Initials: AA10687
 CNU/ID: 20240726-NPRBG-(P27595-S)0.5
 Container: AA10687

Date/Time: 7/26/24 11:00 AM

Initials: AA10685
 CNU/ID: 20240726-NPRBG-(P27595-NE)0.5
 Container: AA10685

Date/Time: 7/26/24 11:00 AM

Relinquished By: Olivia Floyd Relinquished By: AF
 Date/Time: 7/26/2024 12:30 Date/Time: 7-26-24 12:30

Lab Observed Temperature Upon Receipt: 11.0 C Samples Intact: No 2924-07-030-001
 Use Corrected Temperature Upon Receipt: 12.3 C pH Checked: Yes Lot/EQM Number: NA
 Only Thermometer #: E0X EQ 248 pH Adjusted: Yes
 Correction Factor: +1.3 C PFAS rec'd on ice: Yes No NA
 Name/Lot Number of Adjustment: NA



scan to Deliver Samples

EFOR-008.005



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 8/5/2024

Report Time : 14:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1D Flowline 2024 Rel

Project Number: P27595

Sample ID	Customer ID	Collected	Dilution	Result	Units	RL	Method Ref.
Analyte Name	Analysis Start						Recovery
AA10685-2	20240726-NPRBG-(P27595-NE)@0.5	Collected : 07/26/2024 11:10					
Chromium VI, Soil		08/01/2024	08:56	<0.0800	mg/kg	0.080	EPA 7199
Total Metals, Soils - Arsenic		08/05/2024	10:01 10.00	14.557	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		08/05/2024	10:01 10.00	314.362	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		08/05/2024	10:01 10.00	0.588	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		08/05/2024	10:01 10.00	29.297	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		08/05/2024	10:01 10.00	18.303	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		08/05/2024	10:01 10.00	23.571	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		08/05/2024	10:01 10.00	3.106	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		08/05/2024	10:01 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		08/05/2024	10:01 10.00	83.288	mg/kg	0.025	EPA 6020B
AA10686-2	20240726-NPRBG-(P27595-N)@0.5	Collected : 07/26/2024 11:15					
Chromium VI, Soil		08/01/2024	08:56	<0.0800	mg/kg	0.080	EPA 7199
Total Metals, Soils - Arsenic		08/02/2024	09:42 10.00	28.980	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		08/02/2024	09:42 10.00	386.078	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		08/02/2024	09:42 10.00	0.517	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		08/02/2024	09:42 10.00	34.072	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		08/02/2024	09:42 10.00	22.456	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		08/02/2024	09:42 10.00	24.263	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		08/02/2024	09:42 10.00	3.985	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		08/02/2024	09:42 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		08/02/2024	09:42 10.00	82.602	mg/kg	0.025	EPA 6020B
AA10687-2	20240726-NPRBG-(P27595-S)@0.5	Collected : 07/26/2024 11:20					
Chromium VI, Soil		08/01/2024	08:56	<0.0800	mg/kg	0.080	EPA 7199
Total Metals, Soils - Arsenic		08/02/2024	09:42 10.00	23.576	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Barium		08/02/2024	09:42 10.00	3.050	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Cadmium		08/02/2024	09:42 10.00	0.430	mg/kg	0.001	EPA 6020B
Total Metals, Soils - Copper		08/02/2024	09:42 10.00	27.713	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Lead		08/02/2024	09:42 10.00	18.407	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Nickel		08/02/2024	09:42 10.00	20.239	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Selenium		08/02/2024	09:42 10.00	3.097	mg/kg	0.025	EPA 6020B
Total Metals, Soils - Silver		08/02/2024	09:42 10.00	<0.250 - RL1	mg/kg	0.250	EPA 6020B
Total Metals, Soils - Zinc		08/02/2024	09:42 10.00	70.177	mg/kg	0.025	EPA 6020B

QC Report

CHROM_VI_SOIL-4170		Reporting Limit	Units	Spike Level	Source Result	% Rec	% REC Limits	RPD	RPD Limit
DUP	Analyte	Result							
	AA10501	<0.0800	mg/kg		<0.0800				
	AA10704	0.0199	mg/kg						
	AA10706	0.0387	mg/kg	0.0400		96.8			
	AA10707	0.0389	mg/kg	0.0400		97.2			



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 8/5/2024

Report Time : 14:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1D Flowline 2024 Rel **Project Number:** P27595

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
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METALS_S-4184

AA10685

DUP

Arsenic	16.065	0.025	mg/kg		14.557			9.85	0 - 15
Barium	351.687	0.025	mg/kg		314.362			11.2	0 - 15
Cadmium	0.646	0.001	mg/kg		0.588			9.40	0 - 15
Copper	25.600	0.025	mg/kg		29.297			13.5	0 - 15
Lead	18.805	0.025	mg/kg		18.303			2.71	0 - 15
Nickel	22.434	0.025	mg/kg		23.571			4.94	0 - 15
Selenium	3.129	0.025	mg/kg		3.106			0.738	0 - 15
Silver	<0.250	0.250	mg/kg		<0.250				
Zinc	80.727	0.025	mg/kg		83.288			3.12	0 - 15

Matrix Spike

Arsenic	31.709		mg/kg	20	14.557	85.8			
Barium	335.713		mg/kg	20	314.362	107			
Cadmium	20.534		mg/kg	20	0.588	99.7			
Copper	50.887		mg/kg	20	29.297	108			
Lead	36.099		mg/kg	20	18.303	89.0			
Nickel	42.375		mg/kg	20	23.571	94.0			
Selenium	21.597		mg/kg	20	3.106	92.5			
Silver	17.445		mg/kg	20	<0.250	87.2			
Zinc	102.713		mg/kg	20	83.288	97.1			

AA10729

MB

Arsenic	0.000		mg/kg						
Barium	0.000		mg/kg						
Cadmium	0.000		mg/kg						
Copper	0.003		mg/kg						
Lead	0.000		mg/kg						
Nickel	0.000		mg/kg						
Selenium	0.000		mg/kg						
Silver	0.000		mg/kg						
Zinc	0.008		mg/kg						

AA10731

LCS

Arsenic	0.088		mg/kg			97.8	80 - 120		
Barium	0.090		mg/kg			100	80 - 120		
Cadmium	0.091		mg/kg			101	80 - 120		
Copper	0.095		mg/kg			106	80 - 120		
Lead	0.092		mg/kg			102	80 - 120		
Nickel	0.095		mg/kg			106	80 - 120		
Selenium	0.091		mg/kg			101	80 - 120		
Silver	0.098		mg/kg			109	80 - 120		
Zinc	0.096		mg/kg			107	80 - 120		



Division of Environmental Testing

2115 N Scranton St Suite 3040A

Aurora, CO 80045

800-440-5184

Report Date : 8/5/2024

Report Time : 14:23

FINAL RESULTS REPORT

Project Manager: Andrew Verbonitz

Project Name: P27 595 1D Flowline 2024 Rel **Project Number:** P27595

QC Report

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%Rec	% REC Limits	RPD	RPD Limit
AA10732									
Arsenic	0.091		mg/kg			101	80 - 120		
Barium	0.090		mg/kg			100	80 - 120		
Cadmium	0.091		mg/kg			101	80 - 120		
Copper	0.098		mg/kg			109	80 - 120		
Lead	0.091		mg/kg			101	80 - 120		
Nickel	0.098		mg/kg			109	80 - 120		
Selenium	0.091		mg/kg			101	80 - 120		
Silver	0.099		mg/kg			110	80 - 120		
Zinc	0.098		mg/kg			109	80 - 120		

Qualifier

Explanation

- H1 Sample received outside of regulatory holding time.
- H2 Sample analyzed outside of regulatory holding time due to a laboratory error.
- P1 Sample received outside temperature requirements, 0-6°C.
- P2 Sample received unpreserved.
- P3 Broken or leaking sample container.
- P4 Sample improperly collected
- P5 Sample incorrectly preserved
- B1 Blank failed high, indicating possible high bias in sample results.
- B2 Blank failed low, indicating possible low bias in sample results.
- MS Matrix Spike / Matrix Spike Duplicate recovery and/or RPD limit exceeded, indicating potential matrix interference.
- D1 Duplicate RPD limit exceeded due to low sample concentration.
- D2 Duplicate RPD limit exceeded due to matrix interference.
- S Surrogate recovery failed, indicating potential matrix interference.
- RL1 Reporting limits raised due to matrix interference.
- RL2 Reporting limits raised due to limited sample.
- U Sample result less than method detection limit.
- J Sample result less than reporting limit but higher than method detection limit.
- E Electronic loss or corruption of data.
- I Subcontracted sample