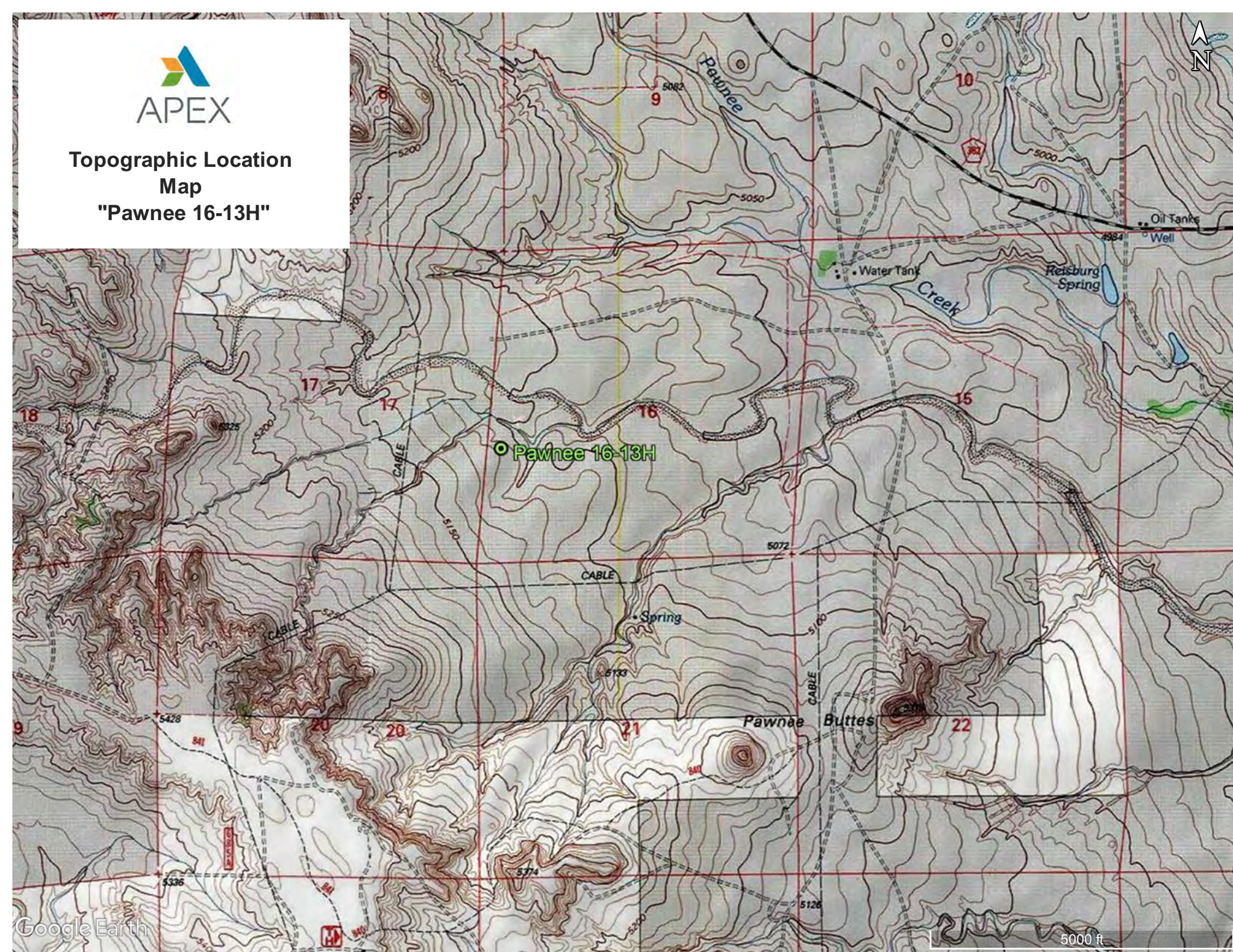
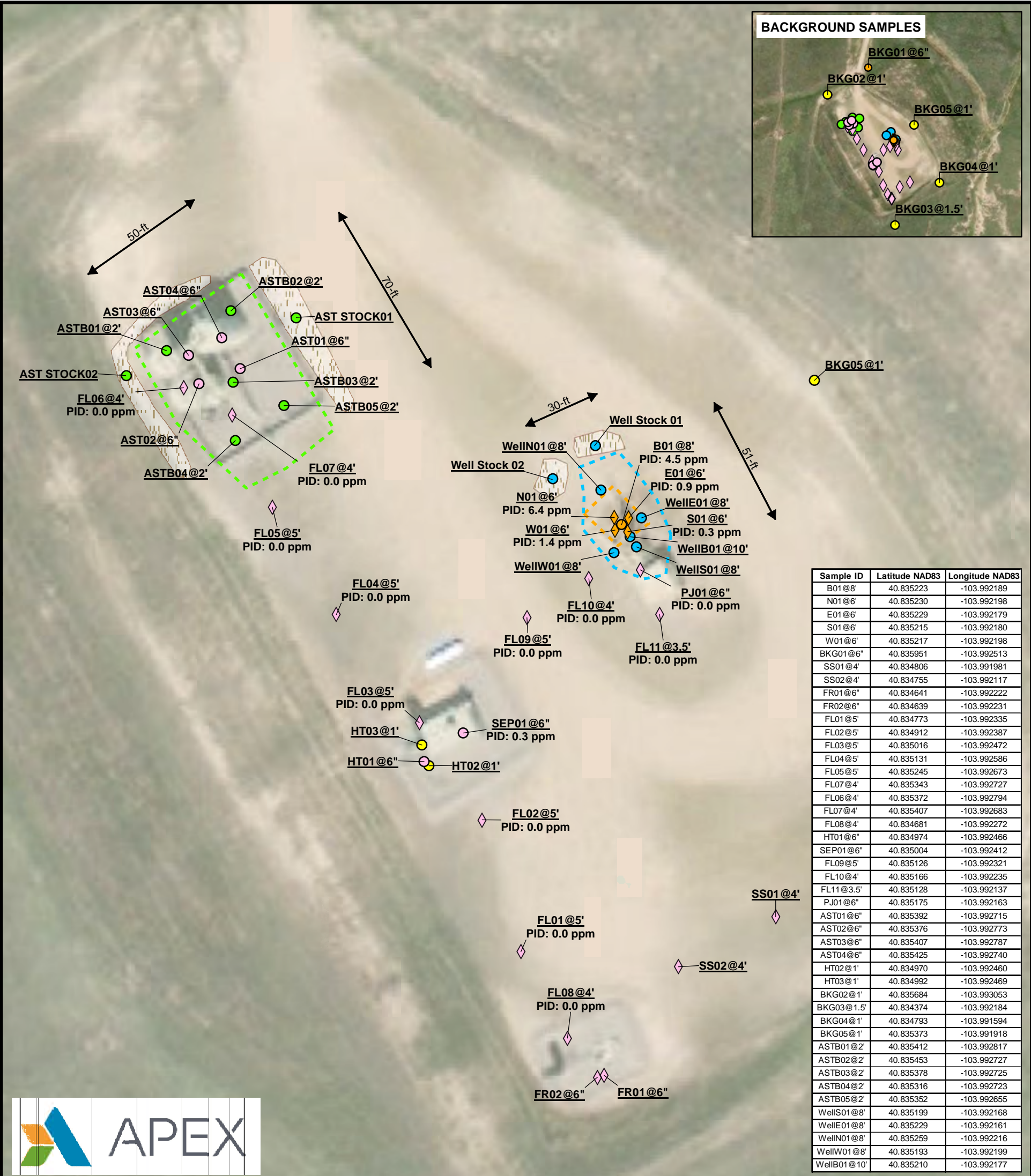




Topographic Location Map "Pawnee 16-13H"

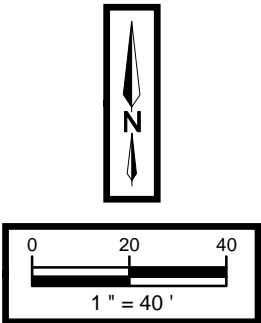
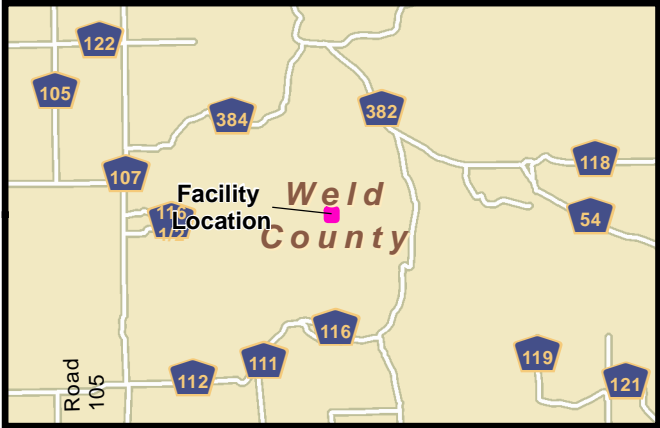




8North, LLC
Pawnee 16-13H
COGCC Location ID: 420186
Site Diagram

Legal Description: NWSW, Sec 16, T10N R59W
County: Weld
Land Use: Cropland
Topography: 0-9% Slopes
Run-Off Risk: Low-Medium
Soil Type: Kim-Mitchell complex, Epping silt loam
Receiving Waters: Unnamed trib

- Soil Sample - With Lab Analysis (3/23/2021)
- Soil Sample - Field Screening Analysis (3/23/2021)
- Soil Sample - With Lab Analysis (4/23/2021)
- Soil Sample - Field Screening Analysis (4/23/2021)
- Soil Sample - With Lab Analysis (5/26/2021)
- Soil Sample - With Lab Analysis (6/9/2021)
- Soil Sample - With Lab Analysis (6/10/2021)
- Excavation Extent (3/23/2021)
- Excavation Extent (6/9/2021)
- Excavation Extent (6/10/2021)
- Stockpile



SOIL SAMPLE RESULTS									
		Organic Compounds in Soils (mg/kg)							
COGCC Allowable Concentration (Soil) -->		500	1.2/0.0026(M)	490/0.69(M)	5.8/0.78(M)	58/9.9(M)	30/0.0081(R)	27/0.0087(R)	2/0.0038(R)
Sample Date	Sample ID	TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	Benzene	Toluene	Ethylbenzene	Xylenes (sum of o-, m- and p- isomers = total xylenes)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene
3/23/2021	B01@8'	104.9	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	AST01@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	AST02@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	AST03@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	AST04@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	SEP01@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
4/23/2021	HT01@6"	76.0	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
5/26/2021	HT02@1'								
5/26/2021	HT03@1'								
5/26/2021	BKG02@1'								
5/26/2021	BKG03@1.5'								
5/26/2021	BKG04@1'								
5/26/2021	BKG05@1'								
6/9/2021	ASTB01@2'								
6/9/2021	ASTB02@2'								
6/9/2021	ASTB03@2'								
6/9/2021	ASTB04@2'								
6/9/2021	ASTB05@2'								
6/9/2021	AST STOCK01								
6/9/2021	AST STOCK02								
6/10/2021	Well B01@10'								
6/10/2021	Well N01@8'								
6/10/2021	Well S01@8'								
6/10/2021	Well E01@8'								
6/10/2021	Well W01@8'								
6/10/2021	Well Stock 01								
6/10/2021	Well Stock 02								

Wellhead Closure Checklist						
COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form						
Additional attachments (optional):		Pit Closure		Tank Battery Closure		Flowline Closure
Site Name & COGCC Facility Number: Pawnee 16-13H		Date: 6/10/2021				Remediation Project #: 16943
Associated Wells: Pawnee 16-13H		Age of Site: Unknown				Number of Photos Attached: 19
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.83522, -103.99217					Estimated Facility Size (acres):	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)						
Good housekeeping, no evidence of surface staining or impacted soils						
USCS Soil Type: Sm and sandstone bedrock				Estimated Depth to Groundwater: >20ft		
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)						
None noted						
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)						
None noted						
Wellhead(s)						
Well API	123-32493					
Age	Unknown					
Condition of surface around wellhead	No staining					
PID Readings						
Condition of subsurface (staining present)	No staining					
PID Readings	6.4ppm					
Sample taken? Location/Sample ID#	See attached diagram					
Photo Number(s)	See photolog					
Other observations regarding wellheads:						
Bedrock encountered in base and sidewalls of excavation.						
Summary						
Was impacted soil identified?						
<input checked="" type="checkbox"/> No		Yes - less than 10 cubic yards		Yes - more than 10 cubic yards		
Total number of samples field screened: 23				Total number of samples collected: 23		
Highest PID Reading: 6.4ppm				Total number of samples submitted to lab for analysis: 8		
If more than 10 cubic yards of impacted soil were observed:						
Vertical extent:				Estimated spill volume:		
Lateral extent:				Volume of soil removed:		
Is additional investigation required?						
Was groundwater encountered during the investigation?						
<input checked="" type="checkbox"/> No		Yes - not impacted or in contact with impacted soils		Yes - groundwater impacted and/or in contact with impacted soils		
Measured depth to groundwater:				Was remedial groundwater removal conducted? Yes No		
Date Groundwater was encountered:				Commencement date of removal:		
Sheen on groundwater? Yes No				Volume of groundwater removed prior to sampling:		
Free product observed? Yes No				Volume of groundwater removed post sampling:		
Total number of samples collected:				Total Volume of groundwater removed:		
Total number of samples submitted to lab for analysis:						

Tank Battery Closure Checklist

COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Pawnee 16-13H		Date: 6/9/2021						Remediation Project #: 16943
Associated Wells: Pawnee 16-13H		Age of Site: Unknown						Number of Photos Attached: 19
Location: (GPS coordinates of southeaster berm) 40.83522, -103.99217							Estimated Facility Size (acres):	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good housekeeping, no evidence of surface staining or impacted								
USCS Soil Type: Sm and sandstone bedrock					Estimated Depth to Groundwater: >20ft			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None noted								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None noted								
Tanks								
Tank Contents	Oil	Oil	Oil	Produced Water				
Size (barrels)	400	400	400	400				
Age	Unknown	Unknown	Unknown	Unknown				
Construction Material	Steel	Steel	Steel	Steel				
Tank type (AST/DRV, etc.)	AST	AST	AST	AST				
Visual Integrity of Tank	No damage	No damage	No damage	No damage				
Condition of tank footprint	No staining	No staining	No staining	No staining				
PID Readings	0.4ppm	1.2ppm	1.0ppm	0.3ppm				
Soil impacts present at valves or hatches?	No staining	No staining	No staining	No staining				
PID Readings								
Sample taken? Location/ Sample ID#	See attached Site Diagram	See attached Site Diagram	See attached Site Diagram	See attached Site Diagram				
Photo Number(s)	See photolog	See photolog	See photolog	See photolog				
Other observations regarding tanks:								
Separators								
Separator size	Unknown							
Vertical or Horizontal	Horizontal							
Age	Unknown							
Soil impacts observed? If yes	None							
PID Readings	0.3ppm							
Sample taken? Location/ Sample ID#	See attached site diagram							
Photo Number(s)	See photolog							
Other observations regarding separators								
Third Party Equipment								
Type								
Age								

Third Party														
Removal Date														
Sample taken?														
PID Readings														
Photo Number(s)														
Other Facility Equipment														
Equipment type	Heater-treater	Pump-Jack	ECD	Flowline	Suspected Pit									
Equipment Condition	No damage	No damage	No damage	No damage	N/A									
Age	Unknown	Unknown	Unknown	Unknown	Unknown									
Soil impacts observed during	None	None	None	None	None									
PID Readings	0.7ppm	0.0ppm	0.0ppm	0.8ppm	0.0ppm									
Sample taken?	See Site Diagram	See Site Diagram	See Site Diagram	See Site Diagram	See Site Diagram									
Photo Number(s)	See photolog	See photolog	See photolog	See photolog	See photolog									
Other observations regarding other facility or third party equipment:														
Summary														
Was impacted soil identified?														
<input checked="" type="checkbox"/> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards														
Total number of samples field screened: 19					Total number of samples collected: 19									
Highest PID Reading: 1.2ppm					Total number of samples submitted to lab for analysis: 14									
If more than 10 cubic yards of impacted soil were observed:														
Vertical extent:					Estimated spill volume:									
Lateral extent:					Volume of soil removed:									
Is additional investigation required?														
Was groundwater encountered during the investigation?														
<input checked="" type="checkbox"/> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils														
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No									
Date Groundwater was encountered:					Commencement date of removal:									
Sheen on groundwater? Yes No					Volume of groundwater removed prior to sampling:									
Free product observed? Yes No					Volume of groundwater removed post sampling:									
Total number of samples collected:					Total Volume of groundwater removed:									
Total number of samples submitted to lab for analysis:														



Description:

Location Signage



Description:

Initial Site Conditions Following Equipment Removal



Description:

AST Sample AST01@6" Location



Description:

AST Sample AST02@6" Location



Description:

AST Sample AST03@6" Location



Description:

AST Sample AST04@6" Location



Description:

Initial AST Samples Locations and Flowline Removal



Description:

Decommissioned AST



Description:

Heater-Treater HT01@6" Sample Location



Description:

Separator SEP01@6" Sample Location



Description:

ECD Sample FR01@6" Location



Description:

ECD Sample FR02@6" Location



Description:

Flowline removal trench



Description:

Flowline Removal Trench



Description:

Flowline Sample FL06@4' Location



Description:

AST pH Excavation Area and Stockpiles



Description:

Wellhead Sample WellB01@10' Location



Description:

Wellhead Sample WellE01@10' Location



Description:

Wellhead Excavation Area



Laboratory Results Summary Table
Pawnee 16-13H
Soil - Organics

			Organic Compounds in Soils (mg/kg)							
COGCC Allowable Concentration (Soil) -->			500	1.2/0.0026(M)	490/0.69(M)	5.8/0.78(M)	58/9.9(M)	30/0.0081(R)	27/0.0087(R)	2/0.0038(R)
Site Specific Background -->										
Location	Sample Date	Sample ID	TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	Benzene	Toluene	Ethylbenzene	Xylenes (sum of o-, m- and p- isomers = total xylenes)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene
Pawnee 16-13H	3/23/2021	B01@8'	104.9	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	AST01@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	AST02@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	AST03@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	AST04@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	SEP01@6"	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038
Pawnee 16-13H	4/23/2021	HT01@6"	76.0	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038

Legend:

COGCC - Colorado Oil and Gas Conservation Commission

Orange Highlight - COGCC Table 915-1 TPH, BTEX, organic, metal exceedance

Yellow Highlight - COGCC Table 915-1 inorganic exceedance

Grey Highlight - below laboratory detection limit

Light Blue Highlight - exceedance of protection of groundwater soil screening level concentrations risk based (R) or MCL based (M)

MCL - maximum contaminant level

NA - not analyzed

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter



Laboratory Results Summary Table
Pawnee 16-13H
Soil - PAH

Organic Compounds in Soils (mg/kg)																
COGCC Allowable Concentration (Soil) -->			360/0.55(R)	1800/5.8(R)	1.1/0.011(R)	1.1/0.3(R)	11/2.9(R)	0.11/0.24(M)	110/9(R)	0.11/0.096(R)	240/8.9(R)	240/0.54(R)	1.1/0.98(R)	18/0.006(R)	24/0.019(R)	180/1.3(R)
Location	Sample Date	Sample ID	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Pyrene
Pawnee 16-13H	4/23/2021	HT01@6"	<0.00500	<0.00500	0.00713	<0.00500	<0.00500	<0.00500	0.00836	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Legend:

COGCC - Colorado Oil and Gas Conservation Commission

Orange Highlight - COGCC Table 915-1 TPH, BTEX, organic, metal exceedance

Yellow Highlight - COGCC Table 915-1 inorganic exceedance

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MCL - maximum contaminant level

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mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter



Laboratory Results Summary Table

Pawnee 16-13H

Soil - Inorganics

			Soil Suitability for Reclamation				Metals in Soils (mg/kg)									
COGCC Allowable Concentration (Soil) -->			<4	<6	{6-8.3}	2	0.68/0.29(M)	15000/82(M)	71/0.38(M)	0.3/0.00067(R)	3100/46(M)	400/14(M)	1500/26(R)	390/0.26(M)	390/0.8(R)	23000/370(R)
Site Specific Background -->							1.663	192.26	0.258		5.752	6.828	4.802	1.4174	0.02903333	24.246
Location	Sample Date	Sample ID	Electrical Conductivity (EC) (by saturated paste method) (mmhos/cm)	Sodium Adsorption Ratio (SAR) (by saturated paste method) (Calculation)	pH (by saturated paste method) (pH Units)	Boron (hot water soluble soil extract) (mg/L)	Arsenic	Barium	Cadmium	Chromium (VI)	Copper	Lead	Nickel	Selenium	Silver	Zinc
Pawnee 16-13H	3/23/2021	B01@8'	0.970	1.690	8.39	0.154	4.45	276	<0.233	<0.30	14.7	10.8	9.91	1.41	0.0877	47.4
Pawnee 16-13H	4/23/2021	AST01@6"	0.507	4.320	8.68	0.0577	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	4/23/2021	AST02@6"	0.532	4.750	8.63	0.089	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	4/23/2021	AST03@6"	0.490	5.560	8.67	0.0436	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	4/23/2021	AST04@6"	0.492	4.140	8.68	0.0541	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	4/23/2021	SEP01@6"	0.396	1.800	8.26	0.0343	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	4/23/2021	HT01@6"	0.559	6.610	8.61	0.253	1.5	120	<0.274	<0.30	6.49	6.2	6.05	0.661	<0.0274	31.7
Pawnee 16-13H	5/26/2021	HT02@1'	NA	3.980	NA	NA	3.4	194	<0.272	<0.30	13.4	12.1	13.3	2.47	<0.0272	66.1
Pawnee 16-13H	5/26/2021	HT03@1'	NA	0.693	NA	NA	2.3	154	<0.271	<0.30	8.64	8.29	8.63	1.62	<0.0271	43.6
Pawnee 16-13H	6/9/2021	ASTB01@2'	NA	NA	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	ASTB02@2'	NA	NA	9.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	ASTB03@2'	NA	NA	9.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	ASTB04@2'	NA	NA	9.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	ASTB05@2'	NA	NA	9.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	AST STOCK01	NA	NA	9.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/9/2021	AST STOCK02	NA	NA	9.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well B01@10'	NA	NA	8.69	NA	2.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well N01@8'	NA	NA	8.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well S01@8'	NA	NA	8.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well E01@8'	NA	NA	8.87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well W01@8'	NA	NA	9.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well Stock 01	NA	NA	9.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	6/10/2021	Well Stock 02	NA	NA	9.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pawnee 16-13H	3/23/2021	BKG01@6"	1.030	3.910	8.29	0.427	2.3	426	<0.210	<0.30	8.34	6.8	5.31	0.927	0.0305	29.7
Pawnee 16-13H	5/26/2021	BKG02@1'	NA	0.855	7.79	NA	1.87	159	<0.250	<0.30	6.33	7.86	6.04	1.55	<0.0250	36.8
Pawnee 16-13H	5/26/2021	BKG03@1.5'	NA	0.373	8.09	NA	0.997	127	<0.218	<0.30	3.74	5.98	3.05	1.29	0.0224	13.5
Pawnee 16-13H	5/26/2021	BKG04@1'	NA	0.759	7.88	NA	2.51	175	0.258	<0.30	8.36	10.1	7.9	2.2	0.0342	32.4
Pawnee 16-13H	5/26/2021	BKG05@1'	NA	0.780	7.31	NA	0.638	74.3	<0.212	<0.30	1.99	3.4	1.71	1.12	<0.0212	8.83

Legend:

COGCC - Colorado Oil and Gas Conservation Commission

Orange Highlight - COGCC Table 915-1 TPH, BTEX, organic, metal exceedance

Yellow Highlight - COGCC Table 915-1 inorganic exceedance

Grey Highlight - below laboratory detection limit

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MCL - maximum contaminant level

NA - not analyzed

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 29, 2021

Maggie Graham

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Pawnee 16-13H

Work Order #2103324

Enclosed are the results of analyses for samples received by Summit Scientific on 03/23/21 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@8'	2103324-01	Soil	03/23/21 12:55	03/23/21 16:00
BKG01@6"	2103324-02	Soil	03/23/21 13:15	03/23/21 16:00

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.

2103324

Summit Scientific

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: APEX Companies, LLC

Address: 176 Cole Blvd. Suite 250

City/State/Zip: Lakewood, Colorado 80101

Phone: 720-501-5065

Fax:

Sampler Name: Ryan Finley

Project Manager: Maggie Graham 720-501-5065

E-Mail: DenverRemediation@ApexCos.onmicrosoft.com

Project Name: Pawnee 16-13H

Project Number: TBD

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:								Special Instructions
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GBTEX + D4060	TMB 915	Naph	pH	EC	SAR 915	Boron 915	
B0100'	3/23/21	1255	2			X			X			X	X	X	X	X	X		Call Maggie Graham with questions
B4G0106"	↓	1315	1			X			X					X	X	X	X		
Relinquished by: <u>Ryan Finley</u> Date/Time: <u>3/23/21 1600</u>				Received by: <u>MP</u> Date/Time: <u>3-23-21 1600</u>				Turn Around Time (Check)										Notes	
								Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/>										Circle applicable regulatory agency: <u>COGCC/CDPHE</u>	
								24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/>											
Relinquished by:				Received by:				Sample Integrity:										Client Name:	
Date/Time:				Date/Time:				Temperature Upon Receipt: <u>7.1</u>										<u>XOG/8NO</u>	
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											

Sample Receipt Checklist

S2 Work Order 2103324

Client: APEX/XOG Client Project ID PAWNEE 110-13H

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

☒ ☐ ☐ ☐ ☐

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	<u>7.1</u>
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SAME DAY
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, ect	<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.

Murphy
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

3-23-21
Date/Time



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

B01@8'
2103324-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0389	03/23/21	03/23/21	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	4.9	0.50	"	"	"	"	"	"	

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	100	50	mg/kg	1	BEC0390	"	03/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		66.8 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

B01@8'
2103324-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.154	0.0100	mg/L	1	BEC0461	03/26/21	03/27/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	4.45	0.233	mg/kg dry	1	BEC0420	03/24/21	03/26/21	EPA 6020B	
Barium	276	0.466	"	"	"	"	"	"	
Cadmium	ND	0.233	"	"	"	"	"	"	
Copper	14.7	0.466	"	"	"	"	"	"	
Lead	10.8	0.233	"	"	"	"	"	"	
Nickel	9.91	0.466	"	"	"	"	"	"	
Selenium	1.41	0.303	"	"	"	"	"	"	
Silver	0.0877	0.0233	"	"	"	"	"	"	
Zinc	47.4	0.466	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0401	03/24/21	03/24/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	82.2	0.0583	mg/L dry	1	BEC0422	03/24/21	03/27/21	EPA 6020B	
Magnesium	17.1	0.0583	"	"	"	"	"	"	
Sodium	64.6	0.0583	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

B01@8'
2103324-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.69	0.100	units	1	BEC0496	03/29/21	03/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.8		%	1	BEC0416	03/24/21	03/25/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.970	0.0100	mmhos/cm	1	BEC0444	03/25/21	03/25/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/23/21 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.39		pH Units	1	BEC0445	03/25/21	03/25/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

BKG01@6"
2103324-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.427	0.0100	mg/L	1	BEC0461	03/26/21	03/27/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.30	0.210	mg/kg dry	1	BEC0420	03/24/21	03/26/21	EPA 6020B	
Barium	426	0.421	"	"	"	"	"	"	
Cadmium	ND	0.210	"	"	"	"	"	"	
Copper	8.34	0.421	"	"	"	"	"	"	
Lead	6.80	0.210	"	"	"	"	"	"	
Nickel	5.31	0.421	"	"	"	"	"	"	
Selenium	0.927	0.273	"	"	"	"	"	"	
Silver	0.0305	0.0210	"	"	"	"	"	"	
Zinc	29.7	0.421	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0401	03/24/21	03/24/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	44.8	0.0526	mg/L dry	1	BEC0422	03/24/21	03/27/21	EPA 6020B	
Magnesium	13.3	0.0526	"	"	"	"	"	"	
Sodium	116	0.0526	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

BKG01@6"
2103324-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.91	0.100	units	1	BEC0496	03/29/21	03/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.1		%	1	BEC0416	03/24/21	03/25/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.03	0.0100	mmhos/cm	1	BEC0444	03/25/21	03/25/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/23/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.29		pH Units	1	BEC0445	03/25/21	03/25/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEC0389 - EPA 5030 Soil MS

Blank (BEC0389-BLK1)

Prepared & Analyzed: 03/23/21

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0277		"	0.0400		69.2	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.4	21-167			

LCS (BEC0389-BS1)

Prepared & Analyzed: 03/23/21

Benzene	0.160	0.0020	mg/kg	0.150		107	70-130			
Toluene	0.132	0.0050	"	0.150		87.8	70-130			
Ethylbenzene	0.140	0.0050	"	0.150		93.0	70-130			
m,p-Xylene	0.263	0.010	"	0.300		87.8	70-130			
o-Xylene	0.134	0.0050	"	0.150		89.1	70-130			
1,2,4-Trimethylbenzene	0.159	0.0050	"	0.150		106	70-130			
1,3,5-Trimethylbenzene	0.157	0.0050	"	0.150		105	70-130			
Naphthalene	0.179	0.0038	"	0.150		120	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0317		"	0.0400		79.3	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

Matrix Spike (BEC0389-MS1)

Source: 2103324-01

Prepared & Analyzed: 03/23/21

Benzene	0.173	0.0020	mg/kg	0.150	ND	115	70-130			
Toluene	0.145	0.0050	"	0.150	ND	96.7	70-130			
Ethylbenzene	0.150	0.0050	"	0.150	ND	100	70-130			
m,p-Xylene	0.284	0.010	"	0.300	ND	94.6	70-130			
o-Xylene	0.145	0.0050	"	0.150	ND	96.7	70-130			
1,2,4-Trimethylbenzene	0.162	0.0050	"	0.150	ND	108	70-130			
1,3,5-Trimethylbenzene	0.159	0.0050	"	0.150	ND	106	70-130			
Naphthalene	0.190	0.0038	"	0.150	ND	127	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0337		"	0.0400		84.2	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	21-167			

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

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

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

Batch BEC0389 - EPA 5030 Soil MS

Matrix Spike Dup (BEC0389-MSD1)	Source: 2103324-01			Prepared & Analyzed: 03/23/21						
Benzene	0.166	0.0020	mg/kg	0.150	ND	111	70-130	3.80	30	
Toluene	0.137	0.0050	"	0.150	ND	91.3	70-130	5.70	30	
Ethylbenzene	0.144	0.0050	"	0.150	ND	96.0	70-130	4.20	30	
m,p-Xylene	0.273	0.010	"	0.300	ND	90.9	70-130	4.01	30	
o-Xylene	0.141	0.0050	"	0.150	ND	94.0	70-130	2.87	30	
1,2,4-Trimethylbenzene	0.159	0.0050	"	0.150	ND	106	70-130	1.79	30	
1,3,5-Trimethylbenzene	0.155	0.0050	"	0.150	ND	103	70-130	2.64	30	
Naphthalene	0.195	0.0038	"	0.150	ND	130	70-130	2.27	30	
Surrogate: 1,2-Dichloroethane-d4	0.0341		"	0.0400		85.2	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	21-167			

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0390 - EPA 3550A

Blank (BEC0390-BLK1)

Prepared & Analyzed: 03/23/21

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

LCS (BEC0390-BS1)

Prepared & Analyzed: 03/23/21

C10-C28 (DRO)	388	50	mg/kg	500	77.5	70-130
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Matrix Spike (BEC0390-MS1)

Source: 2103324-01

Prepared & Analyzed: 03/23/21

C10-C28 (DRO)	556	50	mg/kg	500	103	90.6	70-130
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Matrix Spike Dup (BEC0390-MSD1)

Source: 2103324-01

Prepared & Analyzed: 03/23/21

C10-C28 (DRO)	515	50	mg/kg	500	103	82.4	70-130	7.69	20
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Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BEC0461 - EPA 3050B

Blank (BEC0461-BLK1)

Prepared: 03/26/21 Analyzed: 03/27/21

Boron ND 0.0100 mg/L

LCS (BEC0461-BS1)

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 5.39 0.0100 mg/L 5.00 108 80-120

Duplicate (BEC0461-DUP1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 0.0948 0.0100 mg/L 0.101 6.41 20

Matrix Spike (BEC0461-MS1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 5.36 0.0100 mg/L 5.00 0.101 105 75-125

Matrix Spike Dup (BEC0461-MSD1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 4.96 0.0100 mg/L 5.00 0.101 97.1 75-125 7.85 25

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEC0420 - EPA 3050B

Blank (BEC0420-BLK1)

Prepared: 03/24/21 Analyzed: 03/26/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BEC0420-BS1)

Prepared: 03/24/21 Analyzed: 03/26/21

Arsenic	48.2	0.200	mg/kg wet	40.0	120	80-120
Barium	43.7	0.400	"	40.0	109	80-120
Cadmium	2.22	0.200	"	2.00	111	80-120
Copper	41.8	0.400	"	40.0	105	80-120
Lead	19.9	0.200	"	20.0	99.5	80-120
Nickel	41.2	0.400	"	40.0	103	80-120
Selenium	4.14	0.260	"	4.00	103	80-120
Silver	2.11	0.0200	"	2.00	105	80-120
Zinc	44.3	0.400	"	40.0	111	80-120

Duplicate (BEC0420-DUP1)

Source: 2103121-10

Prepared: 03/24/21 Analyzed: 03/26/21

Arsenic	3.19	0.217	mg/kg dry	2.58	21.0	30
Barium	247	0.433	"	200	20.9	30
Cadmium	0.254	0.217	"	0.212	18.0	30
Copper	8.17	0.433	"	6.99	15.6	30
Lead	7.93	0.217	"	6.92	13.6	30
Nickel	6.49	0.433	"	5.49	16.6	30
Selenium	0.963	0.282	"	0.803	18.1	30
Silver	0.0354	0.0217	"	0.0278	23.9	30
Zinc	28.9	0.433	"	24.4	16.9	30

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BEC0420 - EPA 3050B

Matrix Spike (BEC0420-MS1)

Source: 2103121-10

Prepared: 03/24/21 Analyzed: 03/26/21

Arsenic	49.0	0.217	mg/kg dry	43.3	2.58	107	75-125
Barium	236	0.433	"	43.3	200	82.8	75-125
Cadmium	2.26	0.217	"	2.17	0.212	94.4	75-125
Copper	57.8	0.433	"	43.3	6.99	117	75-125
Lead	33.3	0.217	"	21.7	6.92	122	75-125
Nickel	58.8	0.433	"	43.3	5.49	123	75-125
Selenium	6.17	0.282	"	4.33	0.803	124	75-125
Silver	2.71	0.0217	"	2.17	0.0278	124	75-125
Zinc	71.4	0.433	"	43.3	24.4	108	75-125

Matrix Spike Dup (BEC0420-MSD1)

Source: 2103121-10

Prepared: 03/24/21 Analyzed: 03/26/21

Arsenic	45.8	0.217	mg/kg dry	43.3	2.58	99.7	75-125	6.72	25
Barium	238	0.433	"	43.3	200	87.0	75-125	0.772	25
Cadmium	2.57	0.217	"	2.17	0.212	109	75-125	13.0	25
Copper	54.2	0.433	"	43.3	6.99	109	75-125	6.27	25
Lead	28.2	0.217	"	21.7	6.92	98.4	75-125	16.4	25
Nickel	51.2	0.433	"	43.3	5.49	106	75-125	13.8	25
Selenium	5.26	0.282	"	4.33	0.803	103	75-125	15.9	25
Silver	2.20	0.0217	"	2.17	0.0278	100	75-125	20.7	25
Zinc	78.4	0.433	"	43.3	24.4	124	75-125	9.26	25

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.



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BEC0401 - 3060A Mod

Blank (BEC0401-BLK1)

Prepared & Analyzed: 03/24/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEC0401-BS1)

Prepared & Analyzed: 03/24/21

Chromium, Hexavalent 22.6 0.30 mg/kg wet 25.0 90.4 80-120

Duplicate (BEC0401-DUP1)

Source: 2103259-02

Prepared & Analyzed: 03/24/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEC0401-MS1)

Source: 2103259-02

Prepared & Analyzed: 03/24/21

Chromium, Hexavalent 27.5 0.30 mg/kg dry 29.9 ND 91.8 75-125

Matrix Spike Dup (BEC0401-MSD1)

Source: 2103259-02

Prepared & Analyzed: 03/24/21

Chromium, Hexavalent 27.5 0.30 mg/kg dry 29.9 ND 91.8 75-125 0.00 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.



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0422 - General Preparation

Blank (BEC0422-BLK1)

Prepared: 03/24/21 Analyzed: 03/27/21

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BEC0422-BS1)

Prepared: 03/24/21 Analyzed: 03/27/21

Calcium	4.39	0.0500	mg/L wet	5.00	87.7	70-130
Magnesium	5.98	0.0500	"	5.00	120	70-130
Sodium	6.25	0.0500	"	5.00	125	70-130

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BEC0416 - General Preparation

Duplicate (BEC0416-DUP1)		Source: 2103299-01		Prepared: 03/24/21 Analyzed: 03/25/21	
% Solids	81.8		%	84.4	3.13 20

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
03/29/21 13:30

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0444 - General Preparation

Blank (BEC0444-BLK1)

Prepared & Analyzed: 03/25/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEC0444-BS1)

Prepared & Analyzed: 03/25/21

Specific Conductance (EC) 0.159 0.0100 mmhos/cm 0.150 106 90-110

Duplicate (BEC0444-DUP1)

Source: 2103147-06

Prepared & Analyzed: 03/25/21

Specific Conductance (EC) 2.28 0.0100 mmhos/cm 2.28 0.132 20

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

03/29/21 13:30

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0445 - General Preparation

LCS (BEC0445-BS1)

Prepared & Analyzed: 03/25/21

pH	9.29	pH Units	9.21	101	95-105
----	------	----------	------	-----	--------

Duplicate (BEC0445-DUP1)

Source: 2103147-06

Prepared & Analyzed: 03/25/21

pH	8.23	pH Units	8.22	0.122	20
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Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
03/29/21 13:30

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

April 30, 2021

Maggie Graham

8 North

370 17th Street, Suite 5300

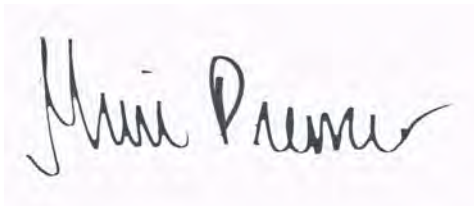
Denver, CO 80202

RE: Pawnee 16-13H

Work Order #2104356

Enclosed are the results of analyses for samples received by Summit Scientific on 04/23/21 15:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "M" and a long, sweeping underline.

Muri Premer For Jack Breer

Courier



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@6"	2104356-01	Soil	04/23/21 12:10	04/23/21 15:40
AST02@6"	2104356-02	Soil	04/23/21 12:15	04/23/21 15:40
AST03@6"	2104356-03	Soil	04/23/21 12:20	04/23/21 15:40
AST04@6"	2104356-04	Soil	04/23/21 12:25	04/23/21 15:40
HT01@6"	2104356-05	Soil	04/23/21 11:15	04/23/21 15:40
SEP01@6"	2104356-06	Soil	04/23/21 11:30	04/23/21 15:40

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.

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

2104356

Page 1 of 1

Client: Apex Companies - 8 North

Project Manager: Maggie Graham

Address: 1746 Cole Blvd. Ste. 250

E-Mail: DenverRemediation@ApexCos.onmicrosoft.com

City/State/Zip: Lakewood, CO 80401

Phone: 720-501-5065; 907-538-7699

Project Name: 8 North MP Pawnee 16-13H

Sampler Name: Chris Latter

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions	
													Modified Table 915									
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	Full 915 Suite (1-4oz, + 2 qt ziplocs)	G/BTEX (915)	DRO/ORO (915)	Napthalene, + 1,2,4 and 1,3,5 Trimethylbenzene (915)	EC, SAR, pH, Boron 915 (2 qt bags)	Metals (915)	All PAHs (915)	HOLD		
1	AST01 @ 6"	4/23/21	12:10	3						X				X	X	X	X					
2	AST02 @ 6"		12:15	3						X				X	X	X	X					
3	AST03 @ 6"		12:20	3						X				X	X	X	X					
4	AST04 @ 6"		12:25	3						X				X	X	X	X					
5	HT01 @ 6"		11:15	3						X			X									
6	SEP01 @ 6"	4/23/21	11:30	3						X				X	X	X	X					
7																						
8																						
9																						
10																						

Relinquished by: Chris Latter Date/Time: 4/23/21 15:40
Received by: [Signature] Date/Time: 4-23-21 15:40

Relinquished by: Date/Time:
Received by: Date/Time:

Relinquished by: Date/Time:
Received by: Date/Time:

Turn Around Time (Check) Same Day
72 hours 24 hours
Standard 48 hours
Sample Integrity: Upon Receipt: 5.0 Samples Intact: Yes Temperature: Yes No

Notes:
Call Maggie with Questions
Client: 8 North

Sample Receipt Checklist

S2 Work Order 2104356

Client: 8 North/ Apex Client Project ID Pawnee 16-13H

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

☒ ☐ ☐ ☐ ☐

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	5.0
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On Ice
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SAME DAY
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, ect	<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.

MP

Custodian Printed Name or Initials

Muri Premer

Signature of Custodian

4/23/21

Date/Time



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST01@6"
2104356-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.7 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST01@6"
2104356-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0577	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.7	0.0660	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	4.73	0.0660	"	"	"	"	"	"	
Sodium	77.6	0.0660	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.32	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.7		%	1	BED0474	04/28/21	04/28/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.507	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST01@6"
2104356-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.68			pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST02@6"
2104356-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 12:15**

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST02@6"
2104356-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0890	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.0	0.0639	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	3.86	0.0639	"	"	"	"	"	"	
Sodium	79.7	0.0639	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.75	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.3		%	1	BED0474	04/28/21	04/28/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.532	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST02@6"
2104356-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.63			pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST03@6"
2104356-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		91.4 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST03@6"
2104356-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0436	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	11.9	0.0668	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	3.52	0.0668	"	"	"	"	"	"	
Sodium	85.0	0.0668	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.56	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.9		%	1	BED0474	04/28/21	04/28/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.490	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST03@6"
2104356-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.67			pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

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8 North
370 17th Street, Suite 5300
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST04@6"
2104356-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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8 North
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST04@6"
2104356-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0541	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.5	0.0630	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	4.89	0.0630	"	"	"	"	"	"	
Sodium	71.4	0.0630	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.14	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.4		%	1	BED0474	04/28/21	04/28/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.492	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

AST04@6"
2104356-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.68			pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

HT01@6"
2104356-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	76	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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8 North
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

HT01@6"
2104356-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BED0441	04/26/21	04/29/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.00713	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.00836	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: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		60.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.253	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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8 North
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Project Number: [none]
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04/30/21 15:14

HT01@6"
2104356-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.50	0.274	mg/kg dry	1	BED0417	04/26/21	04/27/21	EPA 6020B
Barium	120	0.548	"	"	"	"	"	"
Cadmium	ND	0.274	"	"	"	"	"	"
Copper	6.49	0.548	"	"	"	"	"	"
Lead	6.20	0.274	"	"	"	"	"	"
Nickel	6.05	0.548	"	"	"	"	"	"
Selenium	0.661	0.356	"	"	"	"	"	"
Silver	ND	0.0274	"	"	"	"	"	"
Zinc	31.7	0.548	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	25	0.30	mg/kg dry	1	BED0433	04/26/21	04/26/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	11.1	0.0685	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	4.44	0.0685	"	"	"	"	"	"	
Sodium	103	0.0685	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.61	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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8 North
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

HT01@6"
2104356-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	73.0	%	1	BED0474	04/28/21	04/28/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.559	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.61		pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

SEP01@6"
2104356-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BED0412	04/23/21	04/23/21	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: **04/23/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BED0413	04/23/21	04/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		84.3 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

SEP01@6"
2104356-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0343	0.0100	mg/L	1	BED0420	04/26/21	04/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.4	0.0637	mg/L dry	1	BED0477	04/28/21	04/29/21	EPA 6020B	
Magnesium	5.77	0.0637	"	"	"	"	"	"	
Sodium	35.7	0.0637	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.80	0.00100	units	1	BED0519	04/30/21	04/30/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.5		%	1	BED0474	04/28/21	04/28/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.396	0.0100	mmhos/cm	1	BED0499	04/29/21	04/29/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Summit Scientific

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8 North
370 17th Street, Suite 5300
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

SEP01@6"
2104356-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/23/21 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.26			pH Units	1	BED0501	04/29/21	04/29/21	EPA 9045D	

Summit Scientific

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Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BED0412 - EPA 5030 Soil MS

Blank (BED0412-BLK1)

Prepared: 04/23/21 Analyzed: 04/24/21

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0352		"	0.0400		87.9	23-173			
Surrogate: Toluene-d8	0.0317		"	0.0400		79.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0345		"	0.0400		86.2	21-167			

LCS (BED0412-BS1)

Prepared: 04/23/21 Analyzed: 04/24/21

Benzene	0.0844	0.0020	mg/kg	0.100		84.4	70-130			
Toluene	0.0968	0.0050	"	0.100		96.8	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.227	0.010	"	0.200		114	70-130			
o-Xylene	0.118	0.0050	"	0.100		118	70-130			
1,2,4-Trimethylbenzene	0.0901	0.0050	"	0.100		90.1	70-130			
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.100		124	70-130			
Naphthalene	0.106	0.0038	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0332		"	0.0400		83.0	23-173			
Surrogate: Toluene-d8	0.0338		"	0.0400		84.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0352		"	0.0400		88.0	21-167			

Matrix Spike (BED0412-MS1)

Source: 2104356-01

Prepared: 04/23/21 Analyzed: 04/24/21

Benzene	0.0888	0.0020	mg/kg	0.100	ND	88.8	70-130			
Toluene	0.101	0.0050	"	0.100	ND	101	70-130			
Ethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130			
m,p-Xylene	0.227	0.010	"	0.200	ND	113	70-130			
o-Xylene	0.120	0.0050	"	0.100	ND	120	70-130			
1,2,4-Trimethylbenzene	0.0904	0.0050	"	0.100	ND	90.4	70-130			
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130			
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.1	23-173			
Surrogate: Toluene-d8	0.0348		"	0.0400		87.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0350		"	0.0400		87.4	21-167			

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8 North
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Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

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

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

Batch BED0412 - EPA 5030 Soil MS

Matrix Spike Dup (BED0412-MSD1)	Source: 2104356-01			Prepared: 04/23/21 Analyzed: 04/24/21						
Benzene	0.0834	0.0020	mg/kg	0.100	ND	83.4	70-130	6.27	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	0.297	30	
Ethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130	0.249	30	
m,p-Xylene	0.226	0.010	"	0.200	ND	113	70-130	0.477	30	
o-Xylene	0.119	0.0050	"	0.100	ND	119	70-130	0.806	30	
1,2,4-Trimethylbenzene	0.0895	0.0050	"	0.100	ND	89.5	70-130	1.03	30	
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	0.825	30	
Naphthalene	0.117	0.0038	"	0.100	ND	117	70-130	1.12	30	
Surrogate: 1,2-Dichloroethane-d4	0.0326		"	0.0400		81.4	23-173			
Surrogate: Toluene-d8	0.0352		"	0.0400		88.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0344		"	0.0400		85.9	21-167			

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370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BED0413 - EPA 3550A

Blank (BED0413-BLK1)

Prepared & Analyzed: 04/23/21

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

LCS (BED0413-BS1)

Prepared & Analyzed: 04/23/21

C10-C28 (DRO)	454	50	mg/kg	500	90.8	70-130
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Matrix Spike (BED0413-MS1)

Source: 2104356-01

Prepared & Analyzed: 04/23/21

C10-C28 (DRO)	536	50	mg/kg	500	15.9	104	70-130
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Matrix Spike Dup (BED0413-MSD1)

Source: 2104356-01

Prepared & Analyzed: 04/23/21

C10-C28 (DRO)	519	50	mg/kg	500	15.9	101	70-130	3.25	20
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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BED0441 - EPA 5030 Soil MS

Blank (BED0441-BLK1)

Prepared: 04/26/21 Analyzed: 04/27/21

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	0.0215		"	0.0333		64.6	40-150			
Surrogate: Fluoranthene-d10	0.0277		"	0.0333		83.0	40-150			

LCS (BED0441-BS1)

Prepared: 04/26/21 Analyzed: 04/27/21

Acenaphthene	0.0343	0.00500	mg/kg	0.0333	103	31-137	
Anthracene	0.0332	0.00500	"	0.0333	99.6	30-120	
Benzo (a) anthracene	0.0341	0.00500	"	0.0333	102	30-120	
Benzo (a) pyrene	0.0333	0.00500	"	0.0333	100	30-120	
Benzo (b) fluoranthene	0.0326	0.00500	"	0.0333	97.8	30-120	
Benzo (k) fluoranthene	0.0330	0.00500	"	0.0333	98.9	30-120	
Chrysene	0.0330	0.00500	"	0.0333	99.1	30-120	
Dibenz (a,h) anthracene	0.0318	0.00500	"	0.0333	95.3	30-120	
Fluoranthene	0.0280	0.00500	"	0.0333	84.0	30-120	
Fluorene	0.0308	0.00500	"	0.0333	92.3	30-120	
Indeno (1,2,3-cd) pyrene	0.0321	0.00500	"	0.0333	96.2	30-120	
Pyrene	0.0326	0.00500	"	0.0333	97.9	35-142	
1-Methylnaphthalene	0.0339	0.00500	"	0.0333	102	35-142	
2-Methylnaphthalene	0.0317	0.00500	"	0.0333	95.2	35-142	
Surrogate: 2-Methylnaphthalene-d10	0.0251		"	0.0333	75.4	40-150	
Surrogate: Fluoranthene-d10	0.0365		"	0.0333	109	40-150	

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8 North
370 17th Street, Suite 5300
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Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BED0441 - EPA 5030 Soil MS

Matrix Spike (BED0441-MS1)

Source: 2104137-01

Prepared: 04/26/21 Analyzed: 04/27/21

Acenaphthene	0.0331	0.00500	mg/kg	0.0333	ND	99.3	31-137		
Anthracene	0.0332	0.00500	"	0.0333	ND	99.6	30-120		
Benzo (a) anthracene	0.0341	0.00500	"	0.0333	ND	102	30-120		
Benzo (a) pyrene	0.0333	0.00500	"	0.0333	ND	100	30-120		
Benzo (b) fluoranthene	0.0326	0.00500	"	0.0333	ND	97.8	30-120		
Benzo (k) fluoranthene	0.0330	0.00500	"	0.0333	ND	98.9	30-120		
Chrysene	0.0330	0.00500	"	0.0333	ND	99.1	30-120		
Dibenz (a,h) anthracene	0.0318	0.00500	"	0.0333	ND	95.3	30-120		
Fluoranthene	0.0280	0.00500	"	0.0333	ND	84.0	30-120		
Fluorene	0.0308	0.00500	"	0.0333	ND	92.3	30-120		
Indeno (1,2,3-cd) pyrene	0.0321	0.00500	"	0.0333	ND	96.2	30-120		
Pyrene	0.0326	0.00500	"	0.0333	ND	97.9	35-142		
1-Methylnaphthalene	0.0336	0.00500	"	0.0333	ND	101	15-130		
2-Methylnaphthalene	0.0308	0.00500	"	0.0333	ND	92.5	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0237		"	0.0333		71.2	40-150		
Surrogate: Fluoranthene-d10	0.0309		"	0.0333		92.8	40-150		

Matrix Spike Dup (BED0441-MSD1)

Source: 2104137-01

Prepared: 04/26/21 Analyzed: 04/27/21

Acenaphthene	0.0300	0.00500	mg/kg	0.0333	ND	90.1	31-137	9.71	30
Anthracene	0.0294	0.00500	"	0.0333	ND	88.3	30-120	12.1	30
Benzo (a) anthracene	0.0304	0.00500	"	0.0333	ND	91.2	30-120	11.5	30
Benzo (a) pyrene	0.0288	0.00500	"	0.0333	ND	86.5	30-120	14.5	30
Benzo (b) fluoranthene	0.0295	0.00500	"	0.0333	ND	88.5	30-120	9.99	30
Benzo (k) fluoranthene	0.0300	0.00500	"	0.0333	ND	89.9	30-120	9.51	30
Chrysene	0.0299	0.00500	"	0.0333	ND	89.8	30-120	9.84	30
Dibenz (a,h) anthracene	0.0270	0.00500	"	0.0333	ND	80.9	30-120	16.3	30
Fluoranthene	0.0250	0.00500	"	0.0333	ND	75.0	30-120	11.3	30
Fluorene	0.0304	0.00500	"	0.0333	ND	91.1	30-120	1.40	30
Indeno (1,2,3-cd) pyrene	0.0272	0.00500	"	0.0333	ND	81.7	30-120	16.2	30
Pyrene	0.0293	0.00500	"	0.0333	ND	87.8	35-142	11.0	30
1-Methylnaphthalene	0.0310	0.00500	"	0.0333	ND	93.1	15-130	8.02	50
2-Methylnaphthalene	0.0285	0.00500	"	0.0333	ND	85.5	15-130	7.84	50
Surrogate: 2-Methylnaphthalene-d10	0.0210		"	0.0333		63.0	40-150		
Surrogate: Fluoranthene-d10	0.0270		"	0.0333		81.1	40-150		

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BED0420 - EPA 3050B

Blank (BED0420-BLK1)

Prepared: 04/26/21 Analyzed: 04/27/21

Boron ND 0.0100 mg/L

LCS (BED0420-BS1)

Prepared: 04/26/21 Analyzed: 04/27/21

Boron 5.67 0.0100 mg/L 5.00 113 80-120

Duplicate (BED0420-DUP1)

Source: 2104008-01

Prepared: 04/26/21 Analyzed: 04/27/21

Boron 0.454 0.0100 mg/L 0.462 1.70 20

Matrix Spike (BED0420-MS1)

Source: 2104008-01

Prepared: 04/26/21 Analyzed: 04/27/21

Boron 5.43 0.0100 mg/L 5.00 0.462 99.3 75-125

Matrix Spike Dup (BED0420-MSD1)

Source: 2104008-01

Prepared: 04/26/21 Analyzed: 04/27/21

Boron 5.74 0.0100 mg/L 5.00 0.462 106 75-125 5.65 25

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BED0417 - EPA 3050B

Blank (BED0417-BLK1)

Prepared & Analyzed: 04/26/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BED0417-BS1)

Prepared & Analyzed: 04/26/21

Arsenic	37.3	0.200	mg/kg wet	40.0	93.2	80-120
Barium	35.7	0.400	"	40.0	89.2	80-120
Cadmium	1.92	0.200	"	2.00	95.9	80-120
Copper	36.9	0.400	"	40.0	92.3	80-120
Lead	16.4	0.200	"	20.0	82.1	80-120
Nickel	34.9	0.400	"	40.0	87.3	80-120
Selenium	3.48	0.260	"	4.00	87.0	80-120
Silver	2.09	0.0200	"	2.00	104	80-120
Zinc	39.1	0.400	"	40.0	97.6	80-120

Duplicate (BED0417-DUP1)

Source: 2104063-01

Prepared & Analyzed: 04/26/21

Arsenic	7.81	0.251	mg/kg dry	7.76	0.562	30
Barium	51.0	0.502	"	47.9	6.16	30
Cadmium	0.0761	0.251	"	0.0576	27.7	30
Copper	13.4	0.502	"	12.1	9.62	30
Lead	11.6	0.251	"	11.5	1.45	30
Nickel	16.3	0.502	"	14.0	15.0	30
Selenium	1.37	0.326	"	1.15	17.8	30
Silver	0.0365	0.0251	"	0.0328	10.7	30
Zinc	70.1	0.502	"	71.9	2.57	30

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BED0417 - EPA 3050B

Matrix Spike (BED0417-MS1)		Source: 2104063-01			Prepared & Analyzed: 04/26/21					
Arsenic	52.7	0.251	mg/kg dry	50.2	7.76	89.6	75-125			
Barium	107	0.502	"	50.2	47.9	118	75-125			
Cadmium	2.39	0.251	"	2.51	0.0576	92.9	75-125			
Copper	56.1	0.502	"	50.2	12.1	87.7	75-125			
Lead	32.0	0.251	"	25.1	11.5	82.0	75-125			
Nickel	57.7	0.502	"	50.2	14.0	87.0	75-125			
Selenium	5.47	0.326	"	5.02	1.15	86.3	75-125			
Silver	2.59	0.0251	"	2.51	0.0328	102	75-125			
Zinc	118	0.502	"	50.2	71.9	91.1	75-125			

Matrix Spike Dup (BED0417-MSD1)		Source: 2104063-01			Prepared & Analyzed: 04/26/21					
Arsenic	52.3	0.251	mg/kg dry	50.2	7.76	88.8	75-125	0.772	25	
Barium	92.5	0.502	"	50.2	47.9	88.7	75-125	14.9	25	
Cadmium	2.32	0.251	"	2.51	0.0576	90.3	75-125	2.75	25	
Copper	55.8	0.502	"	50.2	12.1	87.0	75-125	0.611	25	
Lead	32.1	0.251	"	25.1	11.5	82.1	75-125	0.0591	25	
Nickel	57.5	0.502	"	50.2	14.0	86.6	75-125	0.350	25	
Selenium	5.22	0.326	"	5.02	1.15	81.3	75-125	4.71	25	
Silver	2.50	0.0251	"	2.51	0.0328	98.5	75-125	3.49	25	
Zinc	117	0.502	"	50.2	71.9	90.1	75-125	0.455	25	

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BED0433 - 3060A Mod

Blank (BED0433-BLK1)

Prepared & Analyzed: 04/26/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BED0433-BS1)

Prepared & Analyzed: 04/26/21

Chromium, Hexavalent 24.0 0.30 mg/kg wet 25.0 96.0 80-120

Duplicate (BED0433-DUP1)

Source: 2104204-01

Prepared & Analyzed: 04/26/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BED0433-MS1)

Source: 2104204-01

Prepared & Analyzed: 04/26/21

Chromium, Hexavalent 31.5 0.30 mg/kg dry 30.8 ND 102 75-125

Matrix Spike Dup (BED0433-MSD1)

Source: 2104204-01

Prepared & Analyzed: 04/26/21

Chromium, Hexavalent 31.5 0.30 mg/kg dry 30.8 ND 102 75-125 0.00 20

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

04/30/21 15:14

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BED0477 - General Preparation

Blank (BED0477-BLK1)

Prepared: 04/28/21 Analyzed: 04/29/21

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BED0477-BS1)

Prepared: 04/28/21 Analyzed: 04/29/21

Calcium	5.43	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.23	0.0500	"	5.00	105	70-130
Sodium	4.88	0.0500	"	5.00	97.5	70-130

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BED0474 - General Preparation

Duplicate (BED0474-DUP1)		Source: 2104327-02		Prepared & Analyzed: 04/28/21						
% Solids	87.7		%		87.3			0.441	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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BED0499 - General Preparation

Blank (BED0499-BLK1)

Prepared & Analyzed: 04/29/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BED0499-BS1)

Prepared & Analyzed: 04/29/21

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 90-110

Duplicate (BED0499-DUP1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Specific Conductance (EC) 0.394 0.0100 mmhos/cm 0.392 0.432 20

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
04/30/21 15:14

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BED0501 - General Preparation

LCS (BED0501-BS1)

Prepared & Analyzed: 04/29/21

pH	9.31	pH Units	9.21	101	95-105
----	------	----------	------	-----	--------

Duplicate (BED0501-DUP1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

pH	8.53	pH Units	8.50	0.352	20
----	------	----------	------	-------	----

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
04/30/21 15:14

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

June 04, 2021

Maggie Graham
8 North
370 17th Street, Suite 5300
Denver, CO 80202

RE: Pawnee 16-13H
Work Order #2105425

Enclosed are the results of analyses for samples received by Summit Scientific on 05/26/21 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HT02@1'	2105425-01	Soil	05/26/21 10:15	05/26/21 16:45
HT03@1'	2105425-02	Soil	05/26/21 10:25	05/26/21 16:45
BKG02@1'	2105425-03	Soil	05/26/21 10:45	05/26/21 16:45
BKG03@1.5'	2105425-04	Soil	05/26/21 10:50	05/26/21 16:45
BKG04@1'	2105425-05	Soil	05/26/21 11:00	05/26/21 16:45
BKG05@1'	2105425-06	Soil	05/26/21 11:15	05/26/21 16:45

Summit Scientific

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Summit Scientific

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 Fax

205425

Page 1 of 1

Client: APEX Companies, LLC

Address: 176 Cole Blvd. Suite 250

City/State/Zip: Lakewood, Colorado 80101

Phone: 720-501-5065

Fax:

Sampler Name:

Chris Lattner

Project Manager: Maggie Graham 720-501-5065

E-Mail: DenverRemediation@ApexCos.onmicrosoft.com

Project Name:

Pawnee 16-13H

Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:										Special Instructions						
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	915metals	SAR	pH													
HT02 @ 1'	5/26/21	10:15	1			X			X			X	X										Call Maggie Graham with questions				
HT03 @ 1'		10:25	1			X			X			X	X														
BK602 @ 1'		10:45	1			X			X			X	X	X													
BK603 @ 1.5'		10:50	1			X			X			X	X	X													
BK604 @ 1'	✓	11:00	1			X			X			X	X	X													
BK605 @ 1'	5/26/21	11:15	1			X			X			X	X	X													
Relinquished by: Chris Lattner				Date/Time: 5/26/21 13:45				Received by: John [Signature]				Date/Time: 5/26/21 1645				Turn Around Time (Check)										Notes	
Relinquished by:				Date/Time:				Received by:				Date/Time:				Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/>										Circle applicable regulatory agency:	
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				24 Hours <input type="checkbox"/> Standard <input type="checkbox"/>										COGCC/ CDPHE	
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				48 Hours <input type="checkbox"/>										Client Name: 8 North	
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Sample Integrity: Temperature Upon Receipt: 7											
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											

Sample Receipt Checklist

S2 Work Order

2105425

Client: Apex

Client Project ID:

Pawnee 16-134

Shipped Via: ☒ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Temp (°C)

7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice</u>
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>same day</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, ect	<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 or Initials

JB

Signature of Custodian

[Signature]

Date/Time

5/26/21



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

HT02@1'
2105425-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.40	0.272	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	194	0.543	"	"	"	"	"	"	
Cadmium	ND	0.272	"	"	"	"	"	"	
Copper	13.4	0.543	"	"	"	"	"	"	
Lead	12.1	0.272	"	"	"	"	"	"	
Nickel	13.3	0.543	"	"	"	"	"	"	
Selenium	2.47	0.353	"	"	"	"	"	"	
Silver	ND	0.0272	"	"	"	"	"	"	
Zinc	66.1	0.543	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	7.73	0.0679	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	2.45	0.0679	"	"	"	"	"	"	
Sodium	49.6	0.0679	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	3.98	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

HT02@1'
2105425-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	73.7			%	1	BEE0532	05/28/21	05/28/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

HT03@1'
2105425-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.30	0.271	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	154	0.543	"	"	"	"	"	"	
Cadmium	ND	0.271	"	"	"	"	"	"	
Copper	8.64	0.543	"	"	"	"	"	"	
Lead	8.29	0.271	"	"	"	"	"	"	
Nickel	8.63	0.543	"	"	"	"	"	"	
Selenium	1.62	0.353	"	"	"	"	"	"	
Silver	ND	0.0271	"	"	"	"	"	"	
Zinc	43.6	0.543	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	3.43	0.0679	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	0.953	0.0679	"	"	"	"	"	"	
Sodium	5.63	0.0679	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.693	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

HT03@1'
2105425-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	73.7			%	1	BEE0532	05/28/21	05/28/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG02@1'
2105425-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.87	0.250	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	159	0.501	"	"	"	"	"	"	
Cadmium	ND	0.250	"	"	"	"	"	"	
Copper	6.33	0.501	"	"	"	"	"	"	
Lead	7.86	0.250	"	"	"	"	"	"	
Nickel	6.04	0.501	"	"	"	"	"	"	
Selenium	1.55	0.325	"	"	"	"	"	"	
Silver	ND	0.0250	"	"	"	"	"	"	
Zinc	36.8	0.501	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.0	0.0626	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	3.90	0.0626	"	"	"	"	"	"	
Sodium	14.7	0.0626	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.855	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG02@1'
2105425-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.9		%	1	BEE0532	05/28/21	05/28/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/26/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BEF0039	06/02/21	06/02/21	EPA 9045D	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG03@1.5'
2105425-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.997	0.218	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	127	0.436	"	"	"	"	"	"	
Cadmium	ND	0.218	"	"	"	"	"	"	
Copper	3.74	0.436	"	"	"	"	"	"	
Lead	5.98	0.218	"	"	"	"	"	"	
Nickel	3.05	0.436	"	"	"	"	"	"	
Selenium	1.29	0.283	"	"	"	"	"	"	
Silver	0.0224	0.0218	"	"	"	"	"	"	
Zinc	13.5	0.436	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	22.6	0.0545	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	2.76	0.0545	"	"	"	"	"	"	
Sodium	7.05	0.0545	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.373	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG03@1.5'
2105425-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BEE0532	05/28/21	05/28/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/26/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BEF0039	06/02/21	06/02/21	EPA 9045D	

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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG04@1'
2105425-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.51	0.237	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	175	0.475	"	"	"	"	"	"	
Cadmium	0.258	0.237	"	"	"	"	"	"	
Copper	8.36	0.475	"	"	"	"	"	"	
Lead	10.1	0.237	"	"	"	"	"	"	
Nickel	7.90	0.475	"	"	"	"	"	"	
Selenium	2.20	0.309	"	"	"	"	"	"	
Silver	0.0342	0.0237	"	"	"	"	"	"	
Zinc	32.4	0.475	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	3.81	0.0594	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	1.15	0.0594	"	"	"	"	"	"	
Sodium	6.58	0.0594	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.759	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG04@1'
2105425-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.2		%	1	BEE0532	05/28/21	05/28/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/26/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BEF0039	06/02/21	06/02/21	EPA 9045D	

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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG05@1'
2105425-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.638	0.212	mg/kg dry	1	BEF0004	06/01/21	06/02/21	EPA 6020B	
Barium	74.3	0.423	"	"	"	"	"	"	
Cadmium	ND	0.212	"	"	"	"	"	"	
Copper	1.99	0.423	"	"	"	"	"	"	
Lead	3.40	0.212	"	"	"	"	"	"	
Nickel	1.71	0.423	"	"	"	"	"	"	
Selenium	1.12	0.275	"	"	"	"	"	"	
Silver	ND	0.0212	"	"	"	"	"	"	
Zinc	8.83	0.423	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0084	06/03/21	06/03/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	1.29	0.0529	mg/L dry	1	BEE0550	05/28/21	06/03/21	EPA 6020B	
Magnesium	0.310	0.0529	"	"	"	"	"	"	
Sodium	3.80	0.0529	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.780	0.00100	units	1	BEF0117	06/04/21	06/04/21	Calculation	

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

BKG05@1'
2105425-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.6		%	1	BEE0532	05/28/21	05/28/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.31		pH Units	1	BEF0039	06/02/21	06/02/21	EPA 9045D	

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.



8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BEF0004 - EPA 3050B

Blank (BEF0004-BLK1)

Prepared & Analyzed: 06/01/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BEF0004-BS1)

Prepared & Analyzed: 06/01/21

Arsenic	42.4	0.200	mg/kg wet	40.0	106	80-120
Barium	38.5	0.400	"	40.0	96.2	80-120
Cadmium	2.12	0.200	"	2.00	106	80-120
Copper	40.7	0.400	"	40.0	102	80-120
Lead	20.6	0.200	"	20.0	103	80-120
Nickel	40.2	0.400	"	40.0	100	80-120
Selenium	4.17	0.260	"	4.00	104	80-120
Silver	2.05	0.0200	"	2.00	102	80-120
Zinc	43.5	0.400	"	40.0	109	80-120

Duplicate (BEF0004-DUP1)

Source: 2105414-02

Prepared & Analyzed: 06/01/21

Arsenic	3.08	0.237	mg/kg dry	2.87	6.95	20
Barium	99.6	0.474	"	85.0	15.8	20
Cadmium	0.147	0.237	"	0.141	4.61	20
Copper	10.1	0.474	"	9.70	3.79	20
Lead	8.12	0.237	"	7.71	5.22	20
Nickel	9.34	0.474	"	8.49	9.58	20
Selenium	0.895	0.308	"	0.826	7.97	20
Silver	0.0392	0.0237	"	0.0350	11.4	20
Zinc	31.8	0.474	"	30.6	3.77	20

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEF0004 - EPA 3050B

Matrix Spike (BEF0004-MS1)

Source: 2105414-02

Prepared & Analyzed: 06/01/21

Arsenic	47.5	0.237	mg/kg dry	47.4	2.87	94.1	75-125
Barium	126	0.474	"	47.4	85.0	86.7	75-125
Cadmium	2.49	0.237	"	2.37	0.141	99.3	75-125
Copper	53.3	0.474	"	47.4	9.70	92.0	75-125
Lead	29.1	0.237	"	23.7	7.71	90.1	75-125
Nickel	53.7	0.474	"	47.4	8.49	95.3	75-125
Selenium	4.81	0.308	"	4.74	0.826	84.1	75-125
Silver	2.30	0.0237	"	2.37	0.0350	95.8	75-125
Zinc	78.9	0.474	"	47.4	30.6	102	75-125

Matrix Spike Dup (BEF0004-MSD1)

Source: 2105414-02

Prepared: 06/01/21 Analyzed: 06/02/21

Arsenic	48.2	0.237	mg/kg dry	47.4	2.87	95.6	75-125	1.50	25
Barium	134	0.474	"	47.4	85.0	102	75-125	5.73	25
Cadmium	2.51	0.237	"	2.37	0.141	99.8	75-125	0.470	25
Copper	55.0	0.474	"	47.4	9.70	95.7	75-125	3.19	25
Lead	29.3	0.237	"	23.7	7.71	91.0	75-125	0.757	25
Nickel	54.4	0.474	"	47.4	8.49	96.9	75-125	1.38	25
Selenium	5.02	0.308	"	4.74	0.826	88.5	75-125	4.24	25
Silver	2.34	0.0237	"	2.37	0.0350	97.1	75-125	1.35	25
Zinc	82.3	0.474	"	47.4	30.6	109	75-125	4.29	25

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BEF0084 - 3060A Mod

Blank (BEF0084-BLK1)

Prepared & Analyzed: 06/03/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEF0084-BS1)

Prepared & Analyzed: 06/03/21

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 97.0 80-120

Duplicate (BEF0084-DUP1)

Source: 2105418-01

Prepared & Analyzed: 06/03/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEF0084-MS1)

Source: 2105418-01

Prepared & Analyzed: 06/03/21

Chromium, Hexavalent 25.9 0.30 mg/kg dry 29.1 ND 89.0 75-125

Matrix Spike Dup (BEF0084-MSD1)

Source: 2105418-01

Prepared & Analyzed: 06/03/21

Chromium, Hexavalent 25.9 0.30 mg/kg dry 29.1 ND 89.0 75-125 0.00 20

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BEE0550 - General Preparation

Blank (BEE0550-BLK1)

Prepared: 05/28/21 Analyzed: 06/03/21

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BEE0550-BS1)

Prepared: 05/28/21 Analyzed: 06/03/21

Calcium	4.81	0.0500	mg/L wet	5.00	96.3	70-130
Magnesium	5.45	0.0500	"	5.00	109	70-130
Sodium	5.13	0.0500	"	5.00	103	70-130

Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

06/04/21 10:18

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BEE0532 - General Preparation

Duplicate (BEE0532-DUP1)

Source: 2105414-02

Prepared & Analyzed: 05/28/21

% Solids	83.9	%	84.4	0.586	20
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Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

06/04/21 10:18

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEF0039 - General Preparation

LCS (BEF0039-BS1)

Prepared & Analyzed: 06/02/21

pH	9.19	pH Units	9.21	99.8	95-105
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Duplicate (BEF0039-DUP1)

Source: 2105256-01

Prepared & Analyzed: 06/02/21

pH	8.36	pH Units	8.36	0.00	20
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Summit Scientific

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8 North
370 17th Street, Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/04/21 10:18

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

August 16, 2021

Maggie Graham

Extraction Oil&Gas

370 17th Street Suite 5300

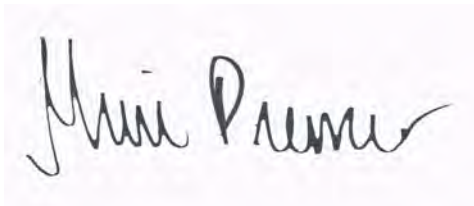
Denver, CO 80202

RE: Pawnee 16-13H

Work Order #2106196

Enclosed are the results of analyses for samples received by Summit Scientific on 06/09/21 17:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is shown on a light pink background.

Muri Premer For Paul Shrewsbury
President



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ASTB01@2'	2106196-01	Soil	06/09/21 14:12	06/09/21 17:05
ASTB02@2'	2106196-02	Soil	06/09/21 14:15	06/09/21 17:05
ASTB03@2'	2106196-03	Soil	06/09/21 14:19	06/09/21 17:05
ASTB04@2'	2106196-04	Soil	06/09/21 14:22	06/09/21 17:05
ASTB05@2'	2106196-05	Soil	06/09/21 14:27	06/09/21 17:05
AST STOCK01	2106196-06	Soil	06/09/21 14:30	06/09/21 17:05
ASTSTOCK02	2106196-07	Soil	06/09/21 14:33	06/09/21 17:05

Summit Scientific

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Summit Scientific

S₂

2106196

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Apex Companies

Project Manager: Maggie Graham

Address: 1746 Cole Blvd Ste 250

E-Mail: DenverRemediation@apexco.onmicrosoft.com

City/State/Zip: Lakewood, CO, 80401

Phone: 720-501-5065, 907-538-7699

Project Name: Pawnee 13-16H

Sampler Name: Alex Ahmadian

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	pH								
1	AST01 @ 2'	6/9/21	14:12	2						X			X								
2	AST B02 @ 2'		14:15	2						X			X								
3	AST B03 @ 2'		14:19	2						X			X								
4	AST B04 @ 2'		14:22	2						X			X								
5	AST B05 @ 2'		14:27	2						X			X								
6	AST STOCK 01		14:30	2						X			X								
7	AST STOCK 01	✓	14:33	2						X			X								
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/9/21</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/9/21 1705</u>	Turn Around Time (Check)	Notes: Client Name: <u>X06</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <u>X</u> 72 hours <u>—</u>	
				24 hours <u>—</u> Standard <u>—</u>	
				48 hours <u>—</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: <u>12</u>	
				Temperature Upon Receipt: <u>12</u>	
				Samples Intact: <u>(Yes)</u> No	

2106196

Sample Receipt Checklist

S2 Work Order _____

Client: Apex Client Project ID: Pawnee 13-164Shipped Via: ☒ H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)Temp (°C) 12

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice.</u>
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day.</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, ect	<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.JB
Custodian Printed Name or Initials[Signature]
Signature of Custodian6/9/21
Date/Time



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTB01@2'
2106196-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.30			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTB02@2'
2106196-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.12			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTB03@2'
2106196-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.17			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTB04@2'
2106196-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.04			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTB05@2'
2106196-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.08			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

AST STOCK01
2106196-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.06			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
08/16/21 15:18

ASTSTOCK02
2106196-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/09/21 14:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.24			pH Units	1	BEF0248	06/10/21	06/14/21	EPA 9045D	

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.



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

08/16/21 15:18

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEF0248 - General Preparation

LCS (BEF0248-BS1)

Prepared: 06/10/21 Analyzed: 06/14/21

pH	9.25	pH Units	9.21	100	95-105
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Duplicate (BEF0248-DUP1)

Source: 2106181-07

Prepared: 06/10/21 Analyzed: 06/14/21

pH	7.81	pH Units	8.02	2.65	20
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Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
08/16/21 15:18

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

June 18, 2021

Maggie Graham

Extraction Oil&Gas

370 17th Street Suite 5300

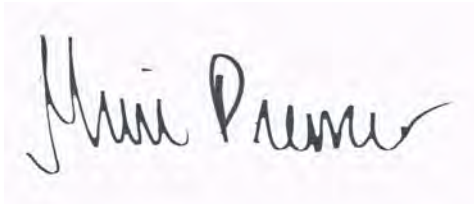
Denver, CO 80202

RE: Pawnee 16-13H

Work Order #2106241

Enclosed are the results of analyses for samples received by Summit Scientific on 06/10/21 17:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is shown on a light pink background.

Muri Premer For Paul Shrewsbury
President



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well B01@10'	2106241-01	Soil	06/10/21 13:02	06/10/21 17:05
Well N01@8'	2106241-02	Soil	06/10/21 13:00	06/10/21 17:05
Well S01@8'	2106241-03	Soil	06/10/21 13:09	06/10/21 17:05
Well E01@8'	2106241-04	Soil	06/10/21 13:05	06/10/21 17:05
Well W01@8'	2106241-05	Soil	06/10/21 13:11	06/10/21 17:05
Well Stock 01	2106241-06	Soil	06/10/21 13:15	06/10/21 17:05
Well Stock 02	2106241-07	Soil	06/10/21 13:17	06/10/21 17:05

Summit Scientific

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Summit Scientific

S₂

2106241

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Apex Companies Project Manager: Maggie Graham
Address: 1746 Cole Blvd Ste 250 E-Mail: Denver Remediation@apexcos.onmicrosoft.com
City/State/Zip: Lakewood, CO, 80401
Phone: 720-501-5065, 907-538-7699 Project Name: Pawnee 16-13H
Sampler Name: Alex Ahmadian Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	pH	Arsenic							
1	Well B01 @ 10'	6/10/21	13:02	2			X			X				X	X						
2	Well No1 @ 8'		13:00	2			X			X				X							
3	Well S01 @ 8'		13:09	2			X			X				X							
4	Well E01 @ 8'		13:05	2			X			X				X							
5	Well W01 @ 8'		13:11	2			X			X				X							
6	Well STOCK 01		13:15	1			X			X				X							
7	Well STOCK 02	↓	13:17	1			X			X				X							
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/10/21</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/10/21 1705</u>	Turn Around Time (Check)	Notes: <u>Client Name:</u> <u>8ND/X06</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <u>X</u> 72 hours <u>—</u>	
				24 hours <u>—</u> Standard <u>—</u>	
				48 hours <u>—</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: <u>17</u>	
				Samples Intact: <u>(Yes)</u> No	

2106241

Sample Receipt Checklist

S2 Work Order _____

Client: Apex Client Project ID: Pawnee 16-13HShipped Via: ☒ H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)

17

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice.</u>
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day.</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, ect	<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.JB

Custodian Printed Name or Initials

[Signature]

Signature of Custodian

6/10/21

Date/Time



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well B01@10'
2106241-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/10/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.94	0.200	mg/kg dry	1	BEF0299	06/14/21	06/16/21	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/10/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.3		%	1	BEF0261	06/11/21	06/11/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.69		pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well N01@8'
2106241-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.01			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well S01@8'
2106241-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.89			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well E01@8'
2106241-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.87			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well W01@8'
2106241-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.15			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well Stock 01
2106241-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.09			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Well Stock 02
2106241-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/10/21 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.08			pH Units	1	BEF0316	06/15/21	06/18/21	EPA 9045D	

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BEF0299 - EPA 3050B

Blank (BEF0299-BLK1)

Prepared: 06/14/21 Analyzed: 06/16/21

Arsenic ND 0.200 mg/kg wet

LCS (BEF0299-BS1)

Prepared: 06/14/21 Analyzed: 06/16/21

Arsenic 40.7 0.200 mg/kg wet 40.0 102 80-120

Duplicate (BEF0299-DUP1)

Source: 2106207-01

Prepared: 06/14/21 Analyzed: 06/16/21

Arsenic 5.77 0.200 mg/kg dry 5.46 5.59 20

Matrix Spike (BEF0299-MS1)

Source: 2106207-01

Prepared: 06/14/21 Analyzed: 06/16/21

Arsenic 47.5 0.200 mg/kg dry 43.8 5.46 96.1 75-125

Matrix Spike Dup (BEF0299-MSD1)

Source: 2106207-01

Prepared: 06/14/21 Analyzed: 06/16/21

Arsenic 48.0 0.200 mg/kg dry 43.8 5.46 97.2 75-125 1.05 25

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:
06/18/21 17:19

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BEF0261 - General Preparation

Duplicate (BEF0261-DUP1)

Source: 2106207-01

Prepared & Analyzed: 06/11/21

% Solids	91.0	%	91.3	0.336	20
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Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H

Project Number: [none]

Project Manager: Maggie Graham

Reported:

06/18/21 17:19

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

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

Batch BEF0316 - General Preparation

LCS (BEF0316-BS1)

Prepared: 06/15/21 Analyzed: 06/18/21

pH	9.24	pH Units	9.21	100	95-105
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Duplicate (BEF0316-DUP1)

Source: 2106241-01

Prepared: 06/15/21 Analyzed: 06/18/21

pH	8.71	pH Units	8.69	0.230	20
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Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Pawnee 16-13H
Project Number: [none]
Project Manager: Maggie Graham

Reported:
06/18/21 17:19

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