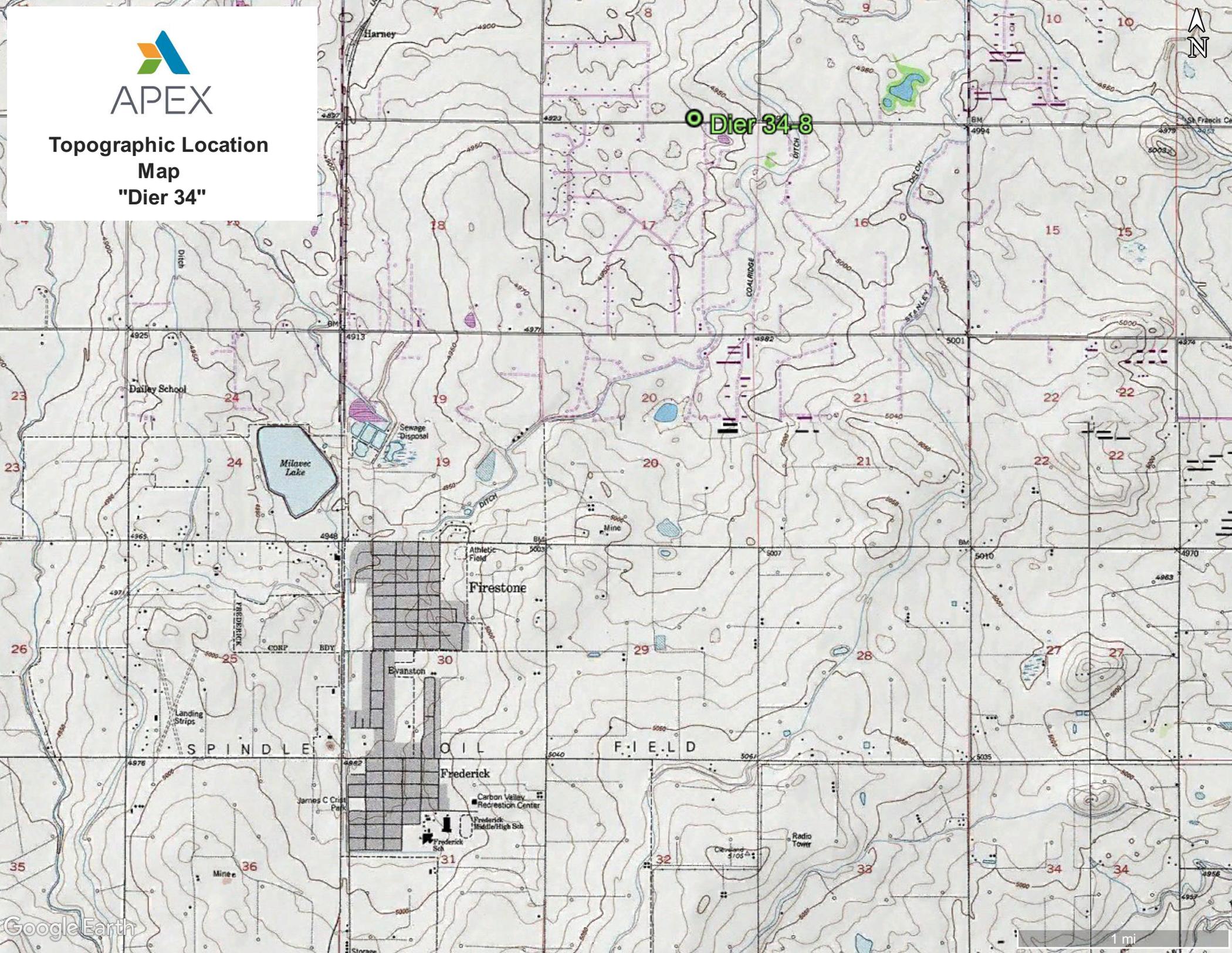
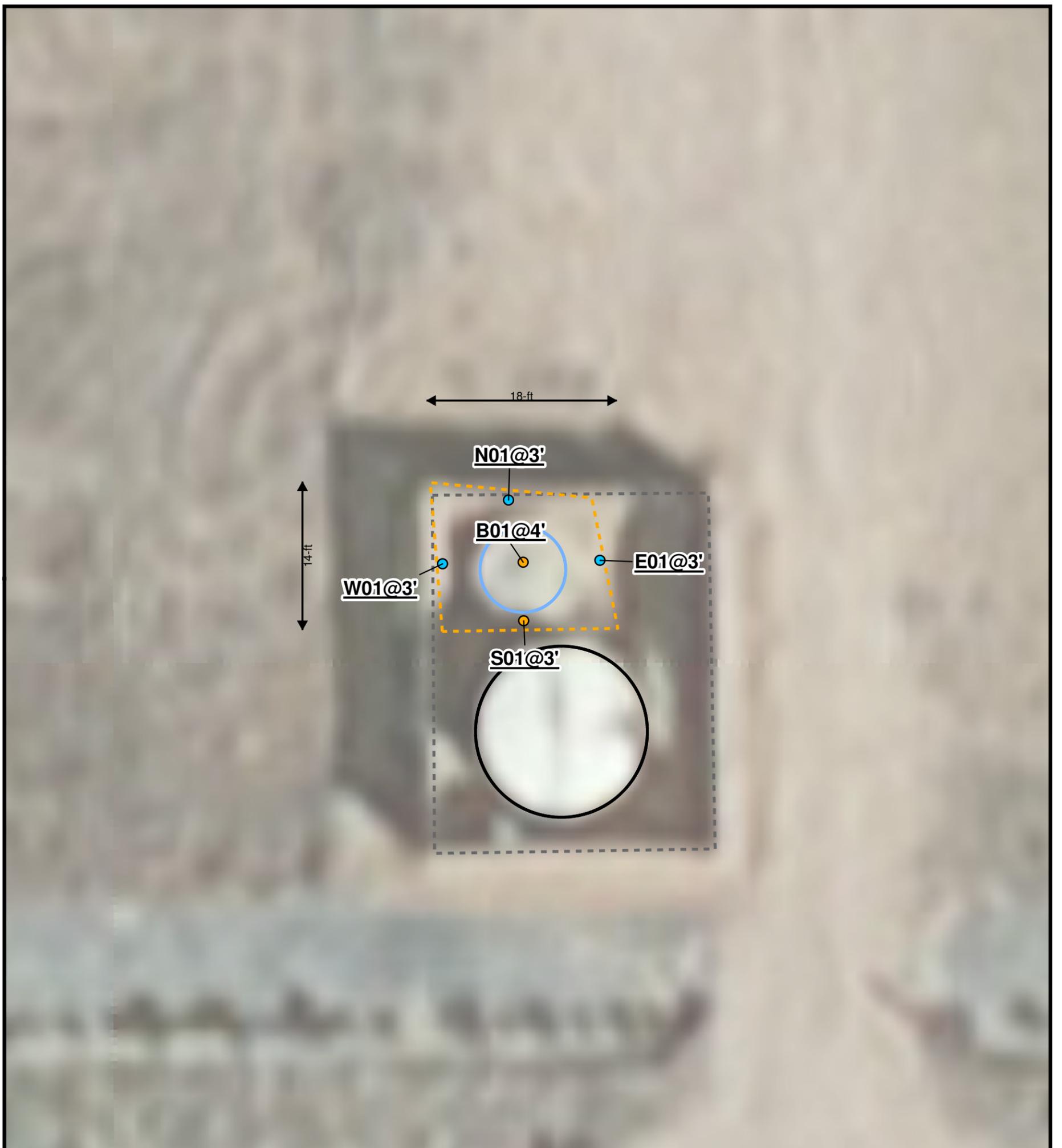




# Topographic Location Map "Dier 34"





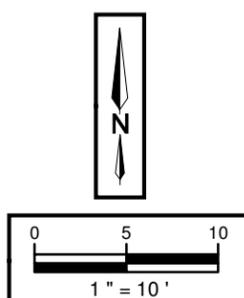
**Crestone Peak Resources  
Dier 34-8  
COGCC Location ID: 330836  
Site Diagram**

Legal Description: SWSE, Sec 8, T2N R67W  
County: Weld  
Land Use: Cropland  
Topography: 0-3% Slopes  
Run-Off Risk: Very low  
Soil Type: Vona loamy sand  
Receiving Waters: Coal Ridge Ditch

- Soil Sample - With Lab Analysis (12/9/2019)
- Soil Sample - Field Screening Analysis (12/9/2019)
- ⬡ Excavation Extent (12/9/2019)
- Crude Oil Tank
- Former Produced Water Vessel
- ⬡ Former Secondary Containment



Sample ID	Latitude NAD83	Longitude NAD83
N01@3'	40.145863	-104.910377
E01@3'	40.145847	-104.910346
S01@3'	40.145831	-104.910372
W01@3'	40.145846	-104.910400
B01@4'	40.145846	-104.910372



Sample Date	Sample ID	Organics (mg/kg)					EC (mmhos/cm)	Units	pH (Units)
		TPH (total volatile and extractable petroleum hydrocarbons) (TPH-GRO + TPH-DRO)	Benzene	Toluene	Ethylbenzene	Xylenes - total	(≤4 mmhos/cm or 2x background)	SAF (Sodium Adsorption Ratio) (calculation)	(6-9)
12/9/19	B01@4	<50	<0.0020	<0.0050	<0.0050	<0.010			
12/9/19	S01@3	2.3	<0.0020	<0.0050	<0.0050	0.012	0.165	0.537	6.98

Spatial data collected for this project was acquired using a GPS with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. To accurately reflect field conditions, illustrated data may have been manually corrected in order to fit with the aerial imagery reference points and other collected data points.



## Laboratory Results Summary Table - Soil Dier 34

Location	Sample Date	Sample ID	Organics (mg/kg)					(mmhos/cm)	Units	(pH Units)
			COGCC Allowable Concentration (Soil) -->	500	0.17	85	100	175	4	12
			TPH (total volatile and extractable petroleum hydrocarbons) (TPH-GRO + TPH-DRO)	Benzene	Toluene	Ethylbenzene	Xylenes - total	EC (Specific Conductance) (<4 mmhos/cm or 2x background)	SAR (Sodium Adsorption Ratio) (calculation)	pH
Dier 34	12/9/19	B01@4	<50	<0.0020	<0.0050	<0.0050	<0.010	NA	NA	NA
Dier 34	12/9/19	S01@3	2.3	<0.0020	<0.0050	<0.0050	0.012	0.165	0.537	6.98

Yellow Highlight - TPH Detection

Grey Highlight - Below Detection Limit

NA- Not Analyzed

**Attachment A**

**Laboratory Analytical Report**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 10, 2019

Maggie Graham  
Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood, CO 80101  
RE: CPR - Dier 34

Enclosed are the results of analyses for samples received by Summit Scientific on 12/09/19 14:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'P. Shrewsbury', is written over a light blue horizontal line.

Paul Shrewsbury  
President



Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@4	1912130-01	Soil	12/09/19 13:15	12/09/19 14:52
S01@3	1912130-05	Soil	12/09/19 13:25	12/09/19 14:52

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.*



**Sample Receipt Checklist**

S2 Work Order 1912130

Client: Apex/CPR Client Project ID: Dier 34

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

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	4.6
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			on ice
Were all samples received intact <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			Same Day
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

AT  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

12-9-19 1452  
Date/Time



Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

**B01@4**  
**1912130-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/09/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1912110	12/09/19	12/09/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/09/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/09/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1912111	"	12/09/19	EPA 8015M	

Date Sampled: **12/09/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		91.2 %	30-150		"	"	"	"	

Summit Scientific

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



Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

**S01@3**  
**1912130-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1912110	12/09/19	12/09/19	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.012</b>	0.010		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.3</b>	0.50		"	"	"	"	"	"	

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.2 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1912111	"	12/09/19	EPA 8015M	

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>		90.7 %		30-150		"	"	"	"	

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Calcium</b>	<b>407</b>	11.2		mg/kg dry	1	1912099	12/09/19	12/09/19	EPA 6020B	
<b>Magnesium</b>	<b>260</b>	5.61		"	"	"	"	"	"	
<b>Sodium</b>	<b>56.4</b>	5.61		"	"	"	"	"	"	

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.*



Apex Companies  
 176 Cole Blvd. Suite 250  
 Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
 Project Manager: Maggie Graham

**Reported:**  
 12/10/19 08:57

**S01@3**  
**1912130-05 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

**Calculated Analysis**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.537</b>	0.100	units	1	1912115	12/10/19	12/10/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>89.2</b>		%	1	1912109	12/09/19	12/10/19	Calculation	
pH	<b>6.98</b>		pH Units	"	1912108	"	12/09/19	EPA 9045D	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **12/09/19 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.165</b>	0.0100	mmhos/cm	1	1912106	12/09/19	12/09/19	EPA 120.1	

Summit Scientific

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Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 1912110 - EPA 5030 Soil MS

##### Blank (1912110-BLK1)

Prepared: 12/09/19 Analyzed: 12/10/19

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene	0.0463		"	0.0400		116	21-167			

##### LCS (1912110-BS1)

Prepared: 12/09/19 Analyzed: 12/10/19

Benzene	0.0743	0.0020	mg/kg	0.100		74.3	70-130			
Toluene	0.0844	0.0050	"	0.100		84.4	70-130			
Ethylbenzene	0.0884	0.0050	"	0.100		88.4	70-130			
m,p-Xylene	0.160	0.010	"	0.200		79.9	70-130			
o-Xylene	0.0801	0.0050	"	0.100		80.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0400		89.3	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

##### Matrix Spike (1912110-MS1)

Source: 1912130-01

Prepared: 12/09/19 Analyzed: 12/10/19

Benzene	0.0752	0.0020	mg/kg	0.100	ND	75.2	70-130			
Toluene	0.0851	0.0050	"	0.100	ND	85.1	70-130			
Ethylbenzene	0.0910	0.0050	"	0.100	ND	91.0	70-130			
m,p-Xylene	0.165	0.010	"	0.200	ND	82.4	70-130			
o-Xylene	0.0835	0.0050	"	0.100	ND	83.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0400		92.6	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

Summit Scientific

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Apex Companies  
 176 Cole Blvd. Suite 250  
 Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
 Project Manager: Maggie Graham

**Reported:**  
 12/10/19 08:57

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

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

**Batch 1912110 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1912110-MSD1)</b>	<b>Source: 1912130-01</b>			Prepared: 12/09/19 Analyzed: 12/10/19					
Benzene	0.0764	0.0020	mg/kg	0.100	ND	76.4	70-130	1.70	30
Toluene	0.0866	0.0050	"	0.100	ND	86.6	70-130	1.71	30
Ethylbenzene	0.0948	0.0050	"	0.100	ND	94.8	70-130	4.07	30
m,p-Xylene	0.171	0.010	"	0.200	ND	85.5	70-130	3.68	30
o-Xylene	0.0853	0.0050	"	0.100	ND	85.3	70-130	2.20	30
Surrogate: 1,2-Dichloroethane-d4	0.0352		"	0.0400		88.1	23-173		
Surrogate: Toluene-d8	0.0417		"	0.0400		104	20-170		
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	21-167		

Summit Scientific

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Apex Companies  
 176 Cole Blvd. Suite 250  
 Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
 Project Manager: Maggie Graham

**Reported:**  
 12/10/19 08:57

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1912111 - EPA 3550A**

**Blank (1912111-BLK1)**

Prepared & Analyzed: 12/09/19

C10-C28 (DRO) ND 50 mg/kg

**LCS (1912111-BS1)**

Prepared & Analyzed: 12/09/19

C10-C28 (DRO) 528 50 mg/kg 500 106 70-130

**Matrix Spike (1912111-MS1)**

Source: 1912130-01

Prepared: 12/09/19 Analyzed: 12/10/19

C10-C28 (DRO) 512 50 mg/kg 500 17.5 99.0 70-130

**Matrix Spike Dup (1912111-MSD1)**

Source: 1912130-01

Prepared: 12/09/19 Analyzed: 12/10/19

C10-C28 (DRO) 512 50 mg/kg 500 17.5 99.0 70-130 0.00878 20

Summit Scientific

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Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis - Quality Control**

**Summit Scientific**

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

**Batch 1912099 - General Preparation**

**Blank (1912099-BLK1)**

Prepared & Analyzed: 12/09/19

Calcium	ND	10.0	mg/kg wet							
Magnesium	ND	5.00	"							
Sodium	ND	5.00	"							

**LCS (1912099-BS1)**

Prepared & Analyzed: 12/09/19

Calcium	558	10.0	mg/kg wet	500	112	70-130				
Magnesium	567	5.00	"	500	113	70-130				
Sodium	538	5.00	"	500	108	70-130				

**Duplicate (1912099-DUP1)**

Source: 1912130-05

Prepared & Analyzed: 12/09/19

Calcium	431	11.2	mg/kg dry	407			5.78	20		
Magnesium	266	5.61	"	260			2.21	20		
Sodium	58.0	5.61	"	56.4			2.77	20		

**Matrix Spike (1912099-MS1)**

Source: 1912130-05

Prepared & Analyzed: 12/09/19

Calcium	878	11.2	mg/kg dry	561	407	83.9	70-130			
Magnesium	787	5.61	"	561	260	93.9	70-130			
Sodium	586	5.61	"	561	56.4	94.4	70-130			

**Matrix Spike Dup (1912099-MSD1)**

Source: 1912130-05

Prepared & Analyzed: 12/09/19

Calcium	874	11.2	mg/kg dry	561	407	83.3	70-130	0.412	25	
Magnesium	758	5.61	"	561	260	88.9	70-130	3.67	25	
Sodium	570	5.61	"	561	56.4	91.6	70-130	2.73	25	

Summit Scientific

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Apex Companies  
 176 Cole Blvd. Suite 250  
 Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
 Project Manager: Maggie Graham

**Reported:**  
 12/10/19 08:57

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

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

**Batch 1912108 - General Preparation**

**LCS (1912108-BS1)**

Prepared & Analyzed: 12/09/19

pH 9.19 pH Units 9.18 100 95-105

**Duplicate (1912108-DUP1)**

Source: 1912130-05

Prepared & Analyzed: 12/09/19

pH 7.00 pH Units 6.98 0.286 20

**Batch 1912109 - General Preparation**

**Duplicate (1912109-DUP1)**

Source: 1912130-05

Prepared: 12/09/19 Analyzed: 12/10/19

% Solids 89.1 % 89.2 0.112 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.*



Apex Companies  
 176 Cole Blvd. Suite 250  
 Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
 Project Manager: Maggie Graham

**Reported:**  
 12/10/19 08:57

**Specific Conductance by EPA Method 120.1 - Quality Control**  
**Summit Scientific**

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

**Batch 1912106 - General Preparation**

**Blank (1912106-BLK1)**

Prepared & Analyzed: 12/09/19

Specific Conductance (EC)      ND      0.0100    mmhos/cm

**LCS (1912106-BS1)**

Prepared & Analyzed: 12/09/19

Specific Conductance (EC)      0.744      0.0100    mmhos/cm      0.750      99.1      90-110

**Duplicate (1912106-DUP1)**

**Source: 1912130-05**

Prepared & Analyzed: 12/09/19

Specific Conductance (EC)      0.199      0.0100    mmhos/cm      0.165      18.3      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.*



Apex Companies  
176 Cole Blvd. Suite 250  
Lakewood CO, 80101

Project: CPR - Dier 34

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
12/10/19 08:57

### 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