

IMPETRO RESOURCES LLC
WALTERS-CALHOUN
OTIS, COLORADO

Sample Location	Sample ID	Collection Date	DRO (mg/kg)	ORO (mg/kg)	Calcium (me/L)	Magnesium (me/L)	Sodium (me/L)	pH	SAR	EC (mmhos/cm)
SS-01	SS-01@1'	7/14/2020	<50.0	<200	4.66	1.46	16.89	8.58	9.66	0.256
SS-01	SS-01@3'	7/14/2020	<50.0	<200	3.62	1.35	12.14	8.36	7.70	0.224
SS-02	SS-02@1'	7/14/2020	1120	1860	3.13	0.90	12.15	8.78	8.56	0.206
SS-02	SS-02@3'	7/14/2020	<50.0	<200	2.28	0.93	11.02	8.73	8.70	0.179
SS-03	SS-03@1'	7/14/2020	<50.0	<200	2.46	0.78	13.48	8.44	10.59	0.254
SS-03	SS-03@3'	7/14/2020	67.2	<200	8.49	6.01	15.85	8.42	5.89	0.328
SS-04	SS-04@1'	7/14/2020	<50.0	<200	3.91	1.07	19.72	8.80	12.50	0.244
SS-04	SS-04@3'	7/14/2020	<50.0	<200	10.13	3.07	15.24	8.33	5.93	0.292
SS-05	SS-05@1'	7/14/2020	118	215	3.44	0.80	17.62	8.69	12.10	0.239
SS-05	SS-05@3'	7/14/2020	<50.0	<200	6.66	2.24	8.47	8.10	4.02	0.240
SS-06	SS-06@1'	7/14/2020	<50	<200	1.81	0.50	8.02	8.90	7.46	0.145
SS-06	SS-06@3'	7/14/2020	<50.0	<200	16.3	7.02	2.03	8.02	0.59	0.318
COGCC Colorado Soil Evaluation Value			500	500				6 to 9	<12	<4

Note: <50.0 - Not detected above laboratory detection limit.

Values in RED exceeded COGCC Table 910-1.

LEGEND:

● SS-01

SOIL SAMPLE LOCATION

07/14/20

SOIL SAMPLE DATE

1'

SOIL SAMPLE DEPTH (FT)

1120

DIESEL RANGE ORGANICS (C10-C28) (mg/kg)

1860

RESIDUAL RANGE ORGANICS (C28-C40) (mg/kg)

3.13

CALCIUM CONCENTRATION (me/L)

0.90

MAGNESIUM CONCENTRATION (me/L)

12.15

SODIUM CONCENTRATION (me/L)

8.78

pH (pH UNITS)

8.56

SODIUM ABSORPTION RATION

0.206

SPECIFIC CONDUCTANCE (mmhos/cm)

<50.0

LESS THAN LABORATORY DETECTION LIMITS (mg/kg)

1120

VALUES IN RED ABOVE RISK BASED SCREENING LEVEL (mg/kg)

COUNTY ROAD 39

07/14/20	07/14/20
1'	3'
<50.0	<50.0
<200	<200
4.66	3.62
1.46	1.35
16.89	12.14
8.58	8.36
9.66	7.70
0.256	0.224

SS-01

07/14/20	07/14/20
1'	3'
1120	<50.0
1860	<200
3.13	2.28
0.90	0.93
12.15	11.02
8.78	8.73
8.56	8.70
0.206	0.179

SS-02

07/14/20	07/14/20
1'	3'
<50.0	67.2
<200	<200
2.46	8.49
0.78	6.01
13.48	15.85
8.44	8.42
10.59	5.89
0.254	0.328

SS-03

07/14/20	07/14/20
1'	3'
<50.0	<50.0
<200	<200
3.91	10.13
1.07	3.07
19.72	15.24
8.80	8.33
12.50	5.93
0.244	0.292

SS-04

07/14/20	07/14/20
1'	3'
118	<50.0
215	<200
3.44	6.66
0.80	2.24
17.62	8.47
8.69	8.10
12.10	4.02
0.239	0.240

SS-05

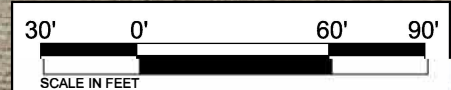
07/14/20	07/14/20
1'	3'
<50.0	<50.0
<200	<200
1.81	16.30
0.50	7.02
8.02	2.03
8.90	8.02
7.46	0.59
0.145	0.318

SS-06

DIRT BERM

HOLDING POND

DIRT BERM



Ardor Environmental LLC
11546 W. 26th Place
Lakewood, CO 80215

IMPETRO RESOURCES LLC
WALTERS-CALHOUN LEASE HISTORICAL IMPACTS
OTIS, COLORADO

CREATED BY: C. BIRD

CREATION DATE: 07/21/20

REVISION DATE: 08/03/20

SOIL SAMPLE
LOCATION FIGURE
(07/14/20)

July 29, 2020

Impetro Resources**Trisha Fanning****2820 Logan Dr.****Loveland****CO 80538****Project Name - COGCC****Project Number - 7096**

Attached are your analytical results for COGCC received by Origins Laboratory, Inc. July 15, 2020. This project is associated with Origins project number Y007196-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-01@1'	Y007196-01	Soil	July 14, 2020 14:42	07/15/2020 10:40
SS-01@3'	Y007196-02	Soil	July 14, 2020 14:48	07/15/2020 10:40
SS-02@1'	Y007196-03	Soil	July 14, 2020 14:54	07/15/2020 10:40
SS-02@3'	Y007196-04	Soil	July 14, 2020 15:00	07/15/2020 10:40
SS-03@1'	Y007196-05	Soil	July 14, 2020 15:07	07/15/2020 10:40
SS-03@3'	Y007196-06	Soil	July 14, 2020 15:13	07/15/2020 10:40
SS-04@1'	Y007196-07	Soil	July 14, 2020 15:23	07/15/2020 10:40
SS-04@3'	Y007196-08	Soil	July 14, 2020 15:27	07/15/2020 10:40
SS-05@1'	Y007196-09	Soil	July 14, 2020 15:35	07/15/2020 10:40
SS-05@3'	Y007196-10	Soil	July 14, 2020 15:40	07/15/2020 10:40
SS-06@1'	Y007196-11	Soil	July 14, 2020 15:46	07/15/2020 10:40
SS-06@3'	Y007196-12	Soil	July 14, 2020 15:52	07/15/2020 10:40

Origins Laboratory, Inc.



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.

Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

ORIGINS
LABORATORY, INC

www.originslaboratory.com

7007196

page 1 of 2

Client: Impetro Resources
Address:
Telephone Number: (303) 503-7539
Email Address: TFanning@orbenvironmental.com

Project Manager: Trisha Fanning
Project Name: COGCC
Project Number: 7096
Samples Collected By: CB/CC

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other	FC	SAR	PI		DRO
SS-01@1'	7/14/20	1442	3 X						X				X	X	X	1
SS-01@3'		1448	3 X						X				X	X	X	2
SS-02@1'		1454	3 X						X				X	X	X	3
SS-02@3'		1500	3 X						X				X	X	X	4
SS-03@1'		1507	3 X						X				X	X	X	5
SS-03@3'		1513	3 X						X				X	X	X	6
SS-04@1'		1523	3 X						X				X	X	X	7
SS-04@3'		1527	3 X						X				X	X	X	8
SS-05@1'		1535	3 X						X				X	X	X	9
SS-05@3'	↓	1540	3 X						X				X	X	X	10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
Trisha Fanning	7/15/20	1040	[Signature]	7/15/20	1040	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>
						48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>
						Standard <input checked="" type="checkbox"/>

Temp Received - 20 Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

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Trisha Fanning
Project Number: 7096
Project: COGCC

[illegible]

Origins Laboratory, Inc.

Jeff Pellgrini

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.

Impetro Resources

2820 Logan Dr.

Loveland

CO

80538

Trisha Fanning

Project Number: 7096

Project: COGCC

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y007196

Client: Impetro

Client Project ID: COGCC

Checklist Completed by: JG

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/15/20

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other:

Cooler Number/Temperature: 1 7.0 °C 1 °C 1 °C (Describe)

Thermometer ID: TC03

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) / (pH < 2 for samples preserved with HNO ₃ , HCl, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: JM (Project Manager)

7-16-20
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-01@1'

7/14/2020 2:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 64.6 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	4.66	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	1.46	"	"	"	"	"
Sodium	16.89	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.58	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	9.66	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.256	0.00510	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-01@3'
7/14/2020 2:48:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 71.5 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	3.62	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	1.35	"	"	"	"	"
Sodium	12.14	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.36	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	7.70	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.224	0.00501	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-02@1'

7/14/2020 2:54:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-03 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	1120	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020
Residual Range Organics (C28-C40)	1860	200	"	"	"	TEM	"	"

Surrogate: o-Terphenyl	81.8 %	50-150			"	"	"	"
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Metals (Saturated Paste Prep)

Calcium	3.13		me/L	1	[none]		07/24/2020	07/28/2020
Magnesium	0.90		"	"	"		"	"
Sodium	12.15		"	"	"		"	"

pH in Soil by EPA 9045D

pH	8.78		pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	8.56			1	[none]		07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.206	0.00500	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-02@3'

7/14/2020 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-04 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 62.2 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	2.28	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	0.93	"	"	"	"	"
Sodium	11.02	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.73	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	8.70	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.179	0.00500	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-03@1'

7/14/2020 3:07:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-05 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 71.7 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	2.46	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	0.78	"	"	"	"	"
Sodium	13.48	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.44	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	10.59		1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.254	0.00500	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-03@3'

7/14/2020 3:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-06 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	67.2	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	63.5 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	8.49		me/L	1	[none]		07/24/2020	07/28/2020	
Magnesium	6.01		"	"	"		"	"	
Sodium	15.85		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.42		pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020	
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SAR by 20B Saturated Paste

SAR	5.89			1	[none]		07/24/2020	07/28/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.328	0.00501	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020	
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-04@1'

7/14/2020 3:23:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-07 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 68.7 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	3.91	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	1.07	"	"	"	"	"
Sodium	19.72	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.80	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	12.50	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.244	0.00502	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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.

Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-04@3'
7/14/2020 3:27:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-08 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 59.9 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	10.13	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	3.07	"	"	"	"	"
Sodium	15.24	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.33	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	5.93	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.292	0.00505	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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.

Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-05@1'

7/14/2020 3:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-09 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	118	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020
Residual Range Organics (C28-C40)	215	200	"	"	"	TEM	"	"

Surrogate: o-Terphenyl	60.3 %	50-150			"	"	"	"
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Metals (Saturated Paste Prep)

Calcium	3.44		me/L	1	[none]		07/24/2020	07/28/2020
Magnesium	0.80		"	"	"		"	"
Sodium	17.62		"	"	"		"	"

pH in Soil by EPA 9045D

pH	8.69		pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	12.10			1	[none]		07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.239	0.00502	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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.

Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-05@3'
7/14/2020 3:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-10 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 64.4 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	6.66	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	2.24	"	"	"	"	"
Sodium	8.47	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.10	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	4.02	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.240	0.00500	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-06@1'
7/14/2020 3:46:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-11 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 63.4 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	1.81	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	0.50	"	"	"	"	"
Sodium	8.02	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.90	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	7.46	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.145	0.00500	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

SS-06@3'
7/14/2020 3:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y007196-12 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0G1505	TEM	07/15/2020	07/17/2020	U
Residual Range Organics (C28-C40)	ND	200	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl 63.2 % 50-150 " " "

Metals (Saturated Paste Prep)

Calcium	16.30	me/L	1	[none]	07/24/2020	07/28/2020
Magnesium	7.02	"	"	"	"	"
Sodium	2.03	"	"	"	"	"

pH in Soil by EPA 9045D

pH	8.02	pH Units	1	B0G1510	DJL	07/15/2020	07/15/2020
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SAR by 20B Saturated Paste

SAR	0.59	1	[none]	07/24/2020	07/28/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.318	0.00506	mmhos/cm	1	B0G1511	DJL	07/15/2020	07/15/2020
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Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0G1505 - EPA 3550B										
Blank (B0G1505-BLK1)					Prepared: 07/15/2020 Analyzed: 07/16/2020					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	28		"	50.0		56.4	50-150			

Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0G1505 - EPA 3550B

LCS (B0G1505-BS1)

Prepared: 07/15/2020 Analyzed: 07/16/2020

Diesel (C10-C28)	939	50.0	mg/kg	1000		93.9	70-130			
Residual Range Organics (C28-C40)	919	200	"	1000		91.9	70-130			
Surrogate: o-Terphenyl	41		"	50.0		81.3	50-150			

Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0G1505 - EPA 3550B

Matrix Spike (B0G1505-MS1)		Source: Y007189-01			Prepared: 07/15/2020 Analyzed: 07/16/2020					
Diesel (C10-C28)	990	50.0	mg/kg	1000	ND	99.0	70-130			
Residual Range Organics (C28-C40)	993	200	"	1000	57.1	93.5	70-130			
Surrogate: o-Terphenyl	39		"	50.0		77.4	50-150			

Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0G1505 - EPA 3550B

Matrix Spike Dup (B0G1505-MSD1)		Source: Y007189-01			Prepared: 07/15/2020 Analyzed: 07/16/2020					
Diesel (C10-C28)	937	50.0	mg/kg	1000	ND	93.7	70-130	5.44	35	
Residual Range Organics (C28-C40)	912	200	"	1000	57.1	85.5	70-130	8.95	35	
Surrogate: o-Terphenyl	35		"	50.0		70.6	50-150			

Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Classical Chemistry Parameters - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0G1510 - NO PREP

Duplicate (B0G1510-DUP1)		Source: Y007196-01			Prepared: 07/15/2020 Analyzed: 07/15/2020					
pH	8.53		pH Units		8.58			0.584	25	

Batch B0G1511 - NO PREP

Blank (B0G1511-BLK1)		Prepared: 07/15/2020 Analyzed: 07/15/2020								
Specific Conductance (EC)	0.00480	0.00500	mmhos/cm							
Duplicate (B0G1511-DUP1)		Source: Y007196-01			Prepared: 07/15/2020 Analyzed: 07/15/2020					
Specific Conductance (EC)	0.293	0.00508	mmhos/cm		0.256			13.5	25	

Origins Laboratory, Inc.



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Impetro Resources
2820 Logan Dr.
Loveland CO 80538

Trisha Fanning
Project Number: 7096
Project: COGCC

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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PROJECT: County Road 39 Otis, CO		WELL/BORING ID: SS-01	CO DWR PERMIT #: NA
LOCATION: Washington County, CO		NORTHING: 40.133818	EASTING: -102.867062
DRILLING CONTRACTOR: Ardor Environmental		GROUND SURFACE ELEV.: 4250	TOC ELEVATION: NA
DRILLING EQUIPMENT: 4" Hand Auger	DRILLING METHOD: Hand Auger	TOTAL DEPTH: 3.50	STATIC WATER LEVEL: NA
SAMPLING METHOD: Hand Auger	Casing Diameter: NA	FILTER PACK MATERIAL: NA	ANNULAR SEAL MATERIAL: NA
LOGGED BY: C. Bird	Screen Slot Size: NA	Casing Material: NA	Surface Casing: Backfilled
			DATE COMPLETED: 7/14/2020

Depth (feet)	Sample	# Blows	OVM	Completion	Lithology	Description
0						Dark brown clayey silt
1		Hand Auger	9.5			Dark brown clayey silt (~90/10%), dry, friable, no stain, no odor
2					ML	Dark brown clayey silt
3		Hand Auger	12.3			Dark brown clayey silt (~80/20%), moist, friable, no stain, no odor

Notes: Location hand augered to 3.5 feet bgs and refilled with cuttings and surficial soil

Site: County Road 39 Otis, CO

Location Shown on Soil Sample Location Figure



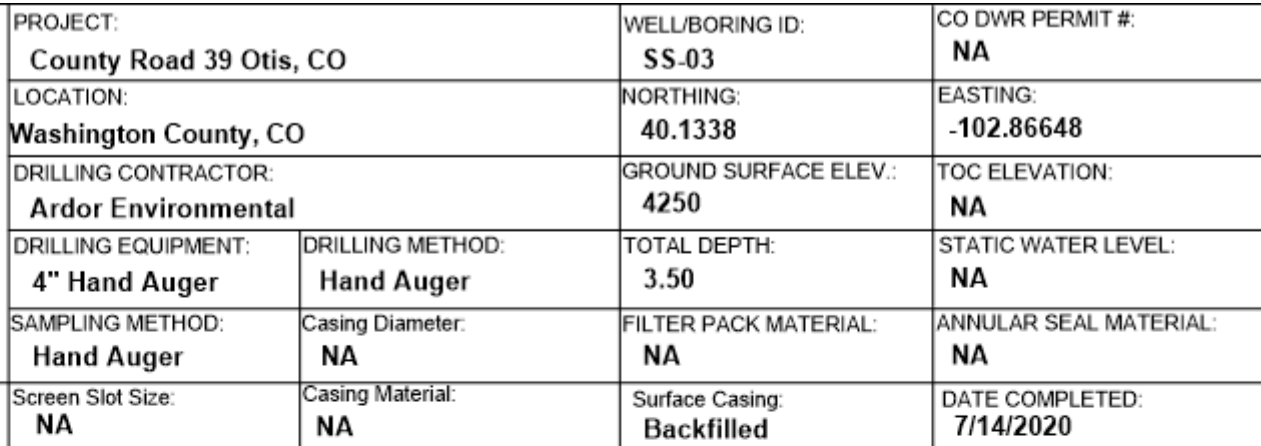
PROJECT: County Road 39 Otis, CO		WELL/BORING ID: SS-02	CO DWR PERMIT #: NA
LOCATION: Washington County, CO		NORTHING: 40.133808	EASTING: -102.866735
DRILLING CONTRACTOR: Ardor Environmental		GROUND SURFACE ELEV.: 4250	TOC ELEVATION: NA
DRILLING EQUIPMENT: 4" Hand Auger	DRILLING METHOD: Hand Auger	TOTAL DEPTH: 3.50	STATIC WATER LEVEL: NA
SAMPLING METHOD: Hand Auger	Casing Diameter: NA	FILTER PACK MATERIAL: NA	ANNULAR SEAL MATERIAL: NA
LOGGED BY: C. Bird	Screen Slot Size: NA	Casing Material: NA	Surface Casing: Backfilled
			DATE COMPLETED: 7/14/2020

Depth (feet)	Sample	# Blows	OVM	Completion	Lithology	Description
0						Dark brown clayey silt
1		Hand Auger	1.8			Dark brown clayey silt (~90/10%), dry, friable, no stain, no odor
2					ML	Dark brown clayey silt
3		Hand Auger	9.1			Dark brown clayey silt (~80/20%), moist, medium stiff, friable, no stain, no odor

Notes: Location hand augered to 3.5 feet bgs and refilled with cuttings and surficial soil

Site: County Road 39 Otis, CO

Location Shown on Soil Sample Location Figure



Location Shown on Soil Sample Location Figure



PROJECT: County Road 39 Otis, CO		WELL/BORING ID: SS-04	CO DWR PERMIT #: NA
LOCATION: Washington County, CO		NORTHING: 40.133782	EASTING: -102.866287
DRILLING CONTRACTOR: Ardor Environmental		GROUND SURFACE ELEV.: 4250	TOC ELEVATION: NA
DRILLING EQUIPMENT: 4" Hand Auger	DRILLING METHOD: Hand Auger	TOTAL DEPTH: 3.50	STATIC WATER LEVEL: NA
SAMPLING METHOD: Hand Auger	Casing Diameter: NA	FILTER PACK MATERIAL: NA	ANNULAR SEAL MATERIAL: NA
LOGGED BY: C. Bird	Screen Slot Size: NA	Casing Material: NA	Surface Casing: Backfilled
			DATE COMPLETED: 7/14/2020

Depth (feet)	Sample	# Blows	OVM	Completion	Lithology	Description
0						Dark brown silty clay
1		Hand Auger	1.5			Dark brown silty clay (~60/40%), damp, medium firm, medium plasticity, no stain, no odor
2					CL	Dark brown silty clay
3		Hand Auger	2.1			Dark brown silty clay (~70/30%), moist, medium firm, medium plasticity, no stain, no odor

Notes: Location hand augered to 3.5 feet bgs and refilled with cuttings and surficial soil

Site: County Road 39 Otis, CO

Location Shown on Soil Sample Location Figure



PROJECT: County Road 39 Otis, CO		WELL/BORING ID: SS-05	CO DWR PERMIT #: NA
LOCATION: Washington County, CO		NORTHING: 40.13378	EASTING: -102.866137
DRILLING CONTRACTOR: Ardor Environmental		GROUND SURFACE ELEV.: 4250	TOC ELEVATION: NA
DRILLING EQUIPMENT: 4" Hand Auger	DRILLING METHOD: Hand Auger	TOTAL DEPTH: 3.50	STATIC WATER LEVEL: NA
SAMPLING METHOD: Hand Auger	Casing Diameter: NA	FILTER PACK MATERIAL: NA	ANNULAR SEAL MATERIAL: NA
LOGGED BY: C. Bird	Screen Slot Size: NA	Casing Material: NA	Surface Casing: Backfilled
			DATE COMPLETED: 7/14/2020

Depth (feet)	Sample	# Blows	OVM	Completion	Lithology	Description
0						Dark brown clayey silt
1		Hand Auger	3.9			Dark brown clayey silt (~90/10%), damp, friable, no stain, no odor
2					ML	Dark brown clayey silt
3		Hand Auger	1.7			Dark brown clayey silt (~80/20%), damp, friable, no stain, no odor

Notes: Location hand augered to 3.5 feet bgs and refilled with cuttings and surficial soil

Site: County Road 39 Otis, CO

Location Shown on Soil Sample Location Figure



PROJECT: County Road 39 Otis, CO		WELL/BORING ID: SS-06	CO DWR PERMIT #: NA
LOCATION: Washington County, CO		NORTHING: 40.133803	EASTING: -102.866062
DRILLING CONTRACTOR: Ardor Environmental		GROUND SURFACE ELEV.: 4250	TOC ELEVATION: NA
DRILLING EQUIPMENT: 4" Hand Auger	DRILLING METHOD: Hand Auger	TOTAL DEPTH: 3.50	STATIC WATER LEVEL: NA
SAMPLING METHOD: Hand Auger	Casing Diameter: NA	FILTER PACK MATERIAL: NA	ANNULAR SEAL MATERIAL: NA
LOGGED BY: C. Bird	Screen Slot Size: NA	Casing Material: NA	Surface Casing: Backfilled
			DATE COMPLETED: 7/14/2020

Depth (feet)	Sample	# Blows	OVM	Completion	Lithology	Description
0						Dark brown clayey silt
1						Dark brown clayey silt (~90/10%), dry, friable, no stain, no odor
2						Dark brown silty clay
3						Dark/light brown silty clay (~60/40%), damp, soft, medium plasticity, no stain, no odor

Notes: Location hand augered to 3.5 feet bgs and refilled with cuttings and surficial soil

Site: County Road 39 Otis, CO

Location Shown on Soil Sample Location Figure