

Wednesday, August 08, 2018

Timber Creek Energy

Joe Amato

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Trinidad, CO 81082

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Re: Project Name: COARLA05a Existing

Project Number: 032A-A

Oxidor received 1 liquid sample(s). The analysis performed were as follows:

<u>Sample</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Analysis</u>
18080035-001	032A-A	Liquid	8/1/2018 10:00	Arsenic, Chromium, Molybdenum, Nickel, Trivalent Chromium

*To the best of my knowledge, all problems/ anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified via associated flags and/ or in the case narrative. The analyses and data met requirements of NELAC except where noted. All non-NELAC methods are identified accordingly and all estimated uncertainties of test results are within method or EPA specifications.*

Respectfully submitted,



Charles Brungardt

President

Timber Creek Energy  
Joe Amato

## Analytical Report

Project Name: **COARLA05a Existing**

Customer Sample ID: **032A-A**

Oxidor Sample ID: 18080035-001

Sample Received: 8/2/2018

Matrix: **Liquid**

Sample Collected: **8/1/2018 10:00**

Parameter	MQL	PQL	Result	Units	Date Analyzed	Method	Analyst	Flags
<b>General Chemistry</b>								
Chromium, Trivalent	20	20.0	ND	µg/L		Calculation		E-5
<b>Metals</b>								
<i>Digested by method 200.8 on 08/03/18 at 10:14</i>								
Arsenic	5	1.0	ND	µg/L	08/06/18 15:38	200.8	S.M.	C-1
Chromium	20	20.0	ND	µg/L	08/06/18 15:36	200.8	S.M.	
Molybdenum	5	1.0	ND	µg/L	08/06/18 15:38	200.8	S.M.	C-1
Nickel	50	50.0	ND	µg/L	08/06/18 15:36	200.8	S.M.	

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## Sample Cross Reference

Project Name: **COARLA05a Existing**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
032A-A	18080035-001	Nickel	200.8	META_18472_L
		Molybdenum	200.8	META_18472_L
		Chromium	200.8	META_18472_L
		Arsenic	200.8	META_18472_L

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## QC Summary

Project Name: **COARLA05a Existing**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
<b>QCBatchID META_18472_L</b>									
Blank	Arsenic	ND mg/L							
	Chromium	ND mg/L							
	Molybdenum	ND mg/L							
	Nickel	ND mg/L							
LCS	Arsenic	0.098 mg/L		0.1 mg/L	98%	85-115%			
	Chromium	0.098 mg/L		0.1 mg/L	98%	85-115%			
	Molybdenum	0.099 mg/L		0.1 mg/L	99%	85-115%			
	Nickel	0.096 mg/L		0.1 mg/L	96%	85-115%			
LCSD	Arsenic	0.098 mg/L		0.1 mg/L	98%	85-115%	0.0%	0-20%	
	Chromium	0.099 mg/L		0.1 mg/L	99%	85-115%	1.0%	0-20%	
	Molybdenum	0.101 mg/L		0.1 mg/L	101%	85-115%	2.0%	0-20%	
	Nickel	0.098 mg/L		0.1 mg/L	98%	85-115%	2.1%	0-20%	
MS	Arsenic	0.488 mg/L	ND	0.5 mg/L	98%	80-120%			
	Chromium	0.507 mg/L	0.017 mg/L	0.5 mg/L	98%	80-120%			
	Molybdenum	0.497 mg/L	0.001 mg/L	0.5 mg/L	99%	80-120%			
	Nickel	0.485 mg/L	0.009 mg/L	0.5 mg/L	95%	80-120%			
MSD	Arsenic	0.498 mg/L	ND	0.5 mg/L	100%	80-120%	2.0%	0-20%	
	Chromium	0.516 mg/L	0.017 mg/L	0.5 mg/L	100%	80-120%	1.8%	0-20%	
	Molybdenum	0.505 mg/L	0.001 mg/L	0.5 mg/L	101%	80-120%	1.6%	0-20%	
	Nickel	0.497 mg/L	0.009 mg/L	0.5 mg/L	98%	80-120%	2.4%	0-20%	



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## Case Narrative

Project Name: **COARLA05a Existing**

C-1	SDL / SQL lowered by means of initial sample aliquot adjustment.
E-5	Calculation not available under scope of NELAP accreditations. Individual components may or may not be available.
ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution)
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section and / or Case Narrative

Solid samples submitted to the laboratory for analysis by SW-846 Method 8260 should be collected by SW-846 Method 5035. Those samples in which concentrations are less than or equal to 200 ug/kg should be collected in accordance with SW-846 Method 5035, Section 6.2.1. For samples with higher concentrations (> 200 ug/kg), collect samples by SW-846 Method 5035, Section 6.2.2 or 6.2.3. Sample results may not accurately reflect volatile concentrations if collection is not performed according to the referenced methodologies.

Solid samples submitted to the laboratory for analysis by TNRCC Method 1005 should be collected in accordance to the methodology. Those samples in which concentrations of C6 to C12 are known to be absent, or fall under the Petroleum Storage Tank (PST) rule, may be collected in bulk sample jars in accordance with TNRCC Method 1005, Revision 3 clarifications. For samples with concentrations of C6 to C12, or where knowledge of the site does not exist, collect samples by TNRCC Method 1005, Section 6.1. Sample results may not accurately reflect TPH concentrations if collection is not performed according to the referenced methodologies.

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5.

Metals internal standard percent recovery of Germanium for masses 63 to 78 for Oxidior Sample ID 18080035-001 was higher than Oxidior QC limits (60%-120%).

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Oxidior Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.

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## Sample Preservation Verification

Project Name: **COARLA05a Existing**

Receipt temp: **3.3 °C on Ice**

Receipt method: **Fed Ex**

Custody seal intact: **Yes**

All samples / labels received intact: **Yes**

Customer Sample ID: **032A-A**

Collected By: **Tom Vertovec**

Oxidor Sample ID: **18080035-001**

Collector Affiliation: **Timber Creek Energy**

Collected: **08/01/18 10:00**

Matrix: **Liquid**

<u>Bottle Type</u>	<u>Count</u>	<u>Collection Method</u>	<u>Parts / Interval</u>	<u>Indicated Preservation</u>	<u>pH</u>
500 mL Plastic	1	Grab		HNO3	<2
1000 mL Plastic	1	Grab		Temp	-

Sample conditions at time of receipt at laboratory verified in part or in whole by:

N.F.



## Documentation

PROJECT DESCRIPTION: **COARLA05a Existing**

### Oxidior Laboratories, LLC

1825 E Plano Pkwy, Suite 160

Plano, TX 75074

Phone: 972-424-6422 - Email: hyoungblood@oxidior.com

Company Name: Timber Creek Energy LLC

Address: 21603 State Hwy 12

Trinidad, CO 81082

Contact: Joseph Amato

Phone #: 719-845-2110

Project # / Name: COARLA05a Existing

Permit #: CO0048062

### ANALYTIC CHAIN-OF-CUSTODY

#### PARAMETERS FOR ANALYSIS

Sample Description	Sample Date	Time MST	Matrix Liquid	(Clomp/ (G)rab	Preservative
032A-A - 001	8/1/2018	9:00	L	G	Ice/HNO3
079H-H	8/1/2018	9:30	L	G	Ice/HNO3

#### # Containers

Nickel	X	X	X	X
Molybdenum	X	X	X	X
Chromium, Trivalent	X	X	X	X
Chromium	X	X	X	X
Arsenic	X	X	X	X

Collected by: (Signature)	<i>Tom Ventore</i>	Date: 8-1-18	Time: 16:30
Relinquished by: (Signature)	<i>Tom Ventore</i>	Date:	Time:
Received by: (Signature)	<i>[Signature]</i>	Date: 8/2/18	Time: 825
Received by: (Signature)	<i>[Signature]</i>	Date:	Time:
Method of Shipment:	FE0-EX		
Additional Comments:	Semi Annual Coarla 05a		

33°C Dry