



April 05, 2023

Peterson Energy Operating, Inc.

Ryan Dornbos

PO Box 2169

Loveland CO 80539

Project Name - Church Pit

Project Number - [none]

Attached are your analytical results for Church Pit received by Origins Laboratory, Inc. April 03, 2023. This project is associated with Origins project number Y304002-01.

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



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

Peterson Energy Operating, Inc.
PO Box 2169
Loveland CO 80539

Ryan Dornbos
Project Number: [none]
Project: Church Pit

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W OF 41B-25	Y304002-01	Soil	April 3, 2023 8:00	04/03/2023 11:30
NW OF PAD	Y304002-02	Soil	April 3, 2023 8:00	04/03/2023 11:30

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
 PO Box 2169
 Loveland CO 80539

Ryan Dornbos
 Project Number: [none]
 Project: Church Pit

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4304002

Client: Peterson Energy
 Client Project ID: Church Pit

Checklist Completed by: EHS FWH

Shipped Via: FD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA

Date/time completed: 4/13/12

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

Cooler Number/Temperature: 1 15.0 °C 1 °C 1 °C (Describe) °C

Thermometer ID: T064

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			/	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			/	
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			/	
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 analysis 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 Na ₂ O ₂ +NaOH, ZnAc+NaOH).			/	
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 be taken in the additional comments (above) and the case narrative.

Reviewed by: JB (Project Manager) Date/Time Reviewed: 4-13-12

Origins Laboratory, Inc.


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Peterson Energy Operating, Inc.
PO Box 2169
Loveland CO 80539

Ryan Dornbos
Project Number: [none]
Project: Church Pit

W OF 41B-25

4/3/2023 8:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304002-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	ND	0.0499	meq/L	1	[CALC]	KAP	04/04/2023	04/05/2023
Magnesium	ND	0.0823	"	"	"	KAP	"	"
Sodium	0.759	0.0435	"	"	"	KAP	"	"

SAR by 20B Saturated Paste

SAR	4.66		SAR	"	B3D0409	KAP	"	"
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Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
PO Box 2169
Loveland CO 80539

Ryan Dornbos
Project Number: [none]
Project: Church Pit

NW OF PAD

4/3/2023 8:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304002-02 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	ND	0.0499	meq/L	1	[CALC]	KAP	04/04/2023	04/05/2023
Magnesium	ND	0.0823	"	"	"	KAP	"	"
Sodium	0.585	0.0435	"	"	"	KAP	"	"

SAR by 20B Saturated Paste

SAR	3.02		SAR	"	B3D0409	KAP	"	"
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Origins Laboratory, Inc.



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Ryan Dornbos
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 Project: Church Pit

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 B3D0409 - Saturated Paste Metals

Blank (B3D0409-BLK1)

Prepared: 04/04/2023 Analyzed: 04/05/2023

SAR	0.00		SAR							
Calcium PPM	ND	1.00	mg/L							
Magnesium PPM	ND	1.00	"							
Sodium PPM	ND	1.00	"							

Duplicate (B3D0409-DUP1)

Source: Y303819-33

Prepared: 04/04/2023 Analyzed: 04/05/2023

SAR	0.00		SAR		0.0133			200	200	
Calcium PPM	4.88	1.00	mg/L		5.02			2.95	50	
Magnesium PPM	0.177	1.00	"		0.178			0.169	50	
Sodium PPM	0.116	1.00	"		0.111			3.88	50	

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Notes and Definitions

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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