



March 17, 2022

Peterson Energy Operating, Inc.

Ryan Dornbos

2154 W. Eisenhower Blvd.

Loveland CO 80537

Project Name - Church Pit

Project Number - [none]

Attached are your analytical results for Church Pit received by Origins Laboratory, Inc. February 21, 2022. This project is associated with Origins project number Y202477-01.

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.

2154 W. Eisenhower Blvd.

Loveland CO 80537

Ryan Dornbos

Project Number: [none]

Project: Church Pit

CROSS REFERENCE REPORT

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------------|---------------|--------|-------------------------|------------------|
| Church Pit | Y202477-01 | Water | February 21, 2022 14:00 | 02/21/2022 16:15 |
| Church Pit 909J | Y203031-01 | Water | March 1, 2022 15:00 | 03/01/2022 16:40 |

Chain of Custody Modification Request

On 2/28/2022, Ryan Dornbos from Peterson Energy contacted Jennifer Pellegrini via phone call regarding Y202477 requesting that GBTEX+N and DRO/ORO be cancelled on the chain of custody due to a temperature deviation at the lab. The client will recollect and resubmit for these analyses.

Requested modifications to the chain of custody were made by Jennifer Pellegrini on 2/28/2022.

Containers for 8260 and 8015 analysis were recollected to due a lab error. The vial refrigerator went out overnight and the vials got above temp recommendations per the methods. The client resampled for those two analysis. JEP

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.

Jen Pellegrini For Noelle Doyle Mathis, President

Peterson Energy Operating, Inc.

2154 W. Eisenhower Blvd.

Loveland CO 80537

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:

Y202477

Client:

Peterson Energy

Client Project ID:

Church Pit

Checklist Completed by:

SG

Shipped Via:

HD

Date/time completed:

2/21/22

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #:

N/A

Matrix(s) Received: (Check all that apply):

Soil/Solid

X

Water

Other:

Cooler Number/Temperature:

1, 5.1 °C

1

°C

1

°C

(Describe)

Thermometer ID:

T003

| 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"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is there ice present (document if blue ice is used)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 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"/> | |
| Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is a chain-of-custody (COC) 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 with date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| For volatiles in water – is there headspace (> ¼ inch bubble) present? if yes, contact client and note in narrative. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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"/> | <input type="checkbox"/> | <input type="checkbox"/> | HCL/HNO ₃ /Not checked |
| 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 (Project Manager)

2-22-22

Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

ORIGINS
LABORATORY, INC

www.originslaboratory.com

4203331

page 1 of 1

Client: PETERSON ENERGY
Address: _____
Telephone Number: _____
Email Address: _____
Project Manager: RYAN DORNOS
Project Name: CHURCH PIT
Project Number: _____
Samples Collected By: RYAN DORNOS

DE-SAMPLE DUE TO ORIGINS FRIDGE FAILURE

| Sample ID Description | Date Sampled | Time Sampled | # of Containers | Preservative | | | | Matrix | | | Analysis | Sample Instructions | |
|-----------------------|--------------|--------------|-----------------|--------------|-----|------------------|-------|-------------|------|---------------|----------|---------------------|----------|
| | | | | Unpreserved | HCl | HNO ₃ | Other | Groundwater | Soil | Air Sampler # | | | Other PM |
| CHURCH PIT 9001 | 3/1/12 | 1500 | 6 | X | | | | | | | | | 1 |
| | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | 3 |
| | | | | | | | | | | | | | 4 |
| | | | | | | | | | | | | | 5 |
| | | | | | | | | | | | | | 6 |
| | | | | | | | | | | | | | 7 |
| | | | | | | | | | | | | | 8 |
| | | | | | | | | | | | | | 9 |
| | | | | | | | | | | | | | 10 |

| | | | | | | |
|--|-----------------|---------------|------------------|-----------------|---------------|---|
| Relinquished By: <u>RYAN DORNOS</u> | Date: 3/1/12 | Time: 1600 | Received By: | Date: 3/1/12 | Time: 1600 | Turnaround Time: 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"/> |
| | Date: 3/1/12 | Time: 1600 | | Date: 3/1/12 | Time: 1600 | |

Date Results Needed

Temp Received: 16.4

Origins Laboratory, Inc.

Jefe Pellegrini

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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Origins Laboratory

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

Origins Work Order: Y203031

Sample Receipt Checklist

Client: Peterson Energy
Client Project ID: Church Pit

Checklist Completed by: jm

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

Date/time completed: 3-2-22

Airbill #: 7112

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

Cooler Number/Temperature: 110.4 °C / 1 °C / 1 °C (Describe) °C

Thermometer ID: 9003

| 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"/> | | | <u>same day</u> |
| 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"/> | <input checked="" type="checkbox"/> | | <u>ADZ-1103 jm</u> |
| 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"/> | | | <u>not checked</u> |
| 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 (Project Manager) jm

3-3-22
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Church Pit

2/21/2022 2:00:00PM

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|

GEL Laboratories, LLC

Y202477-01 (Water)

Alkalinity by SM 2320B

| | | | | | | | | | |
|---|------|------|------|---|---------|------|------------|------------|--|
| Alkalinity, Total as CaCO ₃ | 775 | 4.00 | mg/L | 1 | 2235524 | RXB5 | 02/21/2022 | 03/01/2022 | |
| Bicarbonate alkalinity (CaCO ₃) | 735 | 4.00 | " | " | " | RXB5 | " | " | |
| Carbonate alkalinity (CaCO ₃) | 40.0 | 4.00 | " | " | " | RXB5 | " | " | |

Anions by IC 300.0

| | | | | | | | | | |
|----------|------|-------|------|-----|---------|-----|------------|------------|--|
| Chloride | 196 | 31.2 | mg/L | 125 | B2B2139 | AHK | 02/21/2022 | 02/22/2022 | |
| Fluoride | 5.03 | 0.100 | " | 1 | " | AHK | " | 02/22/2022 | |
| Bromide | ND | 0.100 | " | " | " | AHK | " | " | |
| Sulfate | 243 | 31.2 | " | 125 | " | AHK | " | 02/22/2022 | |
| Nitrate | ND | 0.100 | " | 1 | " | AHK | " | 02/22/2022 | |
| Nitrite | ND | 0.100 | " | " | " | AHK | " | " | |

pH in Water by EPA 9040C

| | | | | | | | | | |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 8.62 | | pH Units | " | B2B2137 | AHK | 02/21/2022 | 02/21/2022 | |
|----|------|--|----------|---|---------|-----|------------|------------|--|

Radium 226 by EPA 903.1

| | | | | | | | | | |
|------------|-------|------|-------|---|---------|------|------------|------------|--|
| Radium-226 | 0.458 | 1.00 | pCi/L | 1 | 2233667 | LXP1 | 02/21/2022 | 03/03/2022 | |
|------------|-------|------|-------|---|---------|------|------------|------------|--|

Radium 228 by EPA 904.0

| | | | | | | | | | |
|------------|-------|------|-------|---|---------|------|---|------------|---|
| Radium-228 | 0.570 | 3.00 | pCi/L | 1 | 2233677 | JXC9 | " | 03/04/2022 | U |
|------------|-------|------|-------|---|---------|------|---|------------|---|

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.

2154 W. Eisenhower Blvd.

Loveland CO 80537

Ryan Dornbos

Project Number: [none]

Project: Church Pit

Church Pit

2/21/2022 2:00:00PM

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|

GEL Laboratories, LLC

Y202477-01 (Water)

Specific Conductance Mod. 9050A

| | | | | | | | | |
|---------------------------|------|---------|----------|---|---------|-----|------------|------------|
| Specific Conductance (EC) | 2.17 | 0.00500 | mmhos/cm | 1 | B2B2138 | AHK | 02/21/2022 | 02/21/2022 |
|---------------------------|------|---------|----------|---|---------|-----|------------|------------|

Total Dissolved Solids by 2540C

| | | | | | | | | |
|------------------------|------|------|------|---|---------|-----|------------|------------|
| Total Dissolved Solids | 1590 | 5.00 | mg/L | 1 | B2B2202 | SCL | 02/22/2022 | 02/22/2022 |
|------------------------|------|------|------|---|---------|-----|------------|------------|

Total Metals by EPA 200.8

| | | | | | | | | |
|-----------|--------|---------|------|----|---------|-----|------------|------------|
| Barium | 0.0584 | 0.00400 | mg/L | 1 | 2234426 | PRB | 02/25/2022 | 03/01/2022 |
| Boron | 1.04 | 0.300 | " | 20 | " | PRB | " | " |
| Calcium | 6.47 | 0.200 | " | 1 | " | PRB | " | " |
| Iron | 0.707 | 0.100 | " | " | " | PRB | " | " |
| Magnesium | 1.32 | 0.0300 | " | " | " | PRB | " | " |
| Manganese | 0.0368 | 0.00500 | " | " | " | PRB | " | " |
| Potassium | 4.12 | 0.300 | " | " | " | PRB | " | " |
| Selenium | ND | 0.00500 | " | " | " | PRB | " | " |
| Sodium | 620 | 5.00 | " | 20 | " | PRB | " | " |
| Strontium | 0.110 | 0.0500 | " | 5 | " | PRB | " | " |

Total Phosphorus by EPA 365.4

| | | | | | | | | |
|------------------------|--------|--------|------|---|---------|------|---|------------|
| Phosphorus, Total as P | 0.0859 | 0.0500 | mg/L | 1 | 2234314 | KLP1 | " | 03/01/2022 |
|------------------------|--------|--------|------|---|---------|------|---|------------|

Total Suspended Solids by 2540D

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Church Pit

2/21/2022 2:00:00PM

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|

Origins Laboratory, Inc. Y202477-01 (Water)

Total Suspended Solids by 2540D

| | | | | | | | | |
|------------------------|------|------|------|---|---------|-----|------------|------------|
| Total Suspended Solids | 12.0 | 5.00 | mg/L | 1 | B2B2203 | AHK | 02/22/2022 | 02/22/2022 |
|------------------------|------|------|------|---|---------|-----|------------|------------|

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Church Pit 909J

3/1/2022 3:00:00PM

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|---------|----------|----------|-------|

Origins Laboratory, Inc. Y203031-01 (Water)

DRO/ORO by EPA 8015D

| | | | | | | | | | |
|-----------------------------------|----|------|------|---|---------|-----|------------|------------|----|
| Diesel (C10-C28) | ND | 5.00 | mg/L | 1 | B2C0410 | ZZZ | 03/04/2022 | 03/09/2022 | Ua |
| Residual Range Organics (C28-C40) | ND | 10.0 | " | " | " | ZZZ | " | " | Ua |

Surrogate: o-Terphenyl 77.3 % 50-150 " " "

GBTEX + Naphthalene by EPA 8260D

| | | | | | | | | | |
|-----------------------------|----|------|------|---|---------|-----|------------|------------|----|
| Benzene | ND | 2.00 | ug/L | 1 | B2C1524 | ZZZ | 03/15/2022 | 03/15/2022 | Ua |
| Ethylbenzene | ND | 2.00 | " | " | " | ZZZ | " | " | Ua |
| Toluene | ND | 2.00 | " | " | " | ZZZ | " | " | Ua |
| Naphthalene | ND | 10.0 | " | " | " | ZZZ | " | " | Ua |
| Gasoline Range Hydrocarbons | ND | 200 | " | " | " | ZZZ | " | " | Ua |
| Xylenes, total | ND | 2.00 | " | " | " | ZZZ | " | " | Ua |

Surrogate: 1,2-Dichloroethane-d4 94.4 % 70-130 " " "
Surrogate: Toluene-d8 101 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

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 B2C0410 - EPA 3511 Mod. | | | | | | | | | | |
| Blank (B2C0410-BLK1) | | | | | Prepared: 03/04/2022 Analyzed: 03/09/2022 | | | | | |
| Diesel (C10-C28) | ND | 5.00 | mg/L | | | | | | | Ua |
| Residual Range Organics (C28-C40) | ND | 10.0 | " | | | | | | | Ua |
| Surrogate: o-Terphenyl | 4.5 | | " | 4.98 | | 89.6 | 50-150 | | | |

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Loveland CO 80537

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

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 B2C0410 - EPA 3511 Mod.

LCS (B2C0410-BS1)

Prepared: 03/04/2022 Analyzed: 03/09/2022

| | | | | | | | | | | |
|-----------------------------------|-----|------|------|------|--|------|--------|--|--|--|
| Diesel (C10-C28) | 111 | 5.00 | mg/L | 100 | | 111 | 70-130 | | | |
| Residual Range Organics (C28-C40) | 106 | 10.0 | " | 100 | | 106 | 70-130 | | | |
| Surrogate: o-Terphenyl | 4.2 | | " | 4.98 | | 85.1 | 50-150 | | | |

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2154 W. Eisenhower Blvd.
Loveland CO 80537

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

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 B2C0410 - EPA 3511 Mod.

| Matrix Spike (B2C0410-MS1) | | Source: Y203032-01 | | | Prepared: 03/04/2022 Analyzed: 03/09/2022 | | | | | |
|-----------------------------------|-----|--------------------|------|------|---|------|--------|--|--|--|
| Diesel (C10-C28) | 116 | 5.00 | mg/L | 100 | ND | 116 | 70-130 | | | |
| Residual Range Organics (C28-C40) | 108 | 10.0 | " | 100 | ND | 108 | 70-130 | | | |
| Surrogate: o-Terphenyl | 4.7 | | " | 4.98 | | 94.1 | 50-150 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

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 B2C0410 - EPA 3511 Mod.

| | | | | | | | | | | |
|--|------|---------------------------|------|------|---|------|--------|------|----|--|
| Matrix Spike Dup (B2C0410-MSD1) | | Source: Y203032-01 | | | Prepared: 03/04/2022 Analyzed: 03/09/2022 | | | | | |
| Diesel (C10-C28) | 108 | 5.00 | mg/L | 100 | ND | 108 | 70-130 | 7.42 | 20 | |
| Residual Range Organics (C28-C40) | 98.5 | 10.0 | " | 100 | ND | 98.5 | 70-130 | 8.96 | 20 | |
| Surrogate: o-Terphenyl | 4.3 | | " | 4.98 | | 86.1 | 50-150 | | | |

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

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 B2C1524 - EPA 5030B (Water) | | | | | | | | | | |
| Blank (B2C1524-BLK1) | | | | | Prepared: 03/15/2022 Analyzed: 03/15/2022 | | | | | |
| Benzene | ND | 2.00 | ug/L | | | | | | | Ua |
| Ethylbenzene | ND | 2.00 | " | | | | | | | Ua |
| Toluene | ND | 2.00 | " | | | | | | | Ua |
| Naphthalene | ND | 10.0 | " | | | | | | | Ua |
| 1,2-Dichloroethane | ND | 1.00 | " | | | | | | | Ua |
| 1-Methylnaphthalene | ND | 5.00 | " | | | | | | | Ua |
| 2-Methylnaphthalene | ND | 5.00 | " | | | | | | | Ua |
| Methyl tert-Butyl Ether | ND | 1.00 | " | | | | | | | Ua |
| Import Verification | 0.00 | | " | | | | | | | Ua |
| Gasoline Range Hydrocarbons | ND | 200 | " | | | | | | | Ua |
| Xylenes, total | ND | 2.00 | " | | | | | | | Ua |
| Surrogate: 1,2-Dichloroethane-d4 | 59 | | " | 62.5 | | 94.9 | 70-130 | | | |
| Surrogate: Toluene-d8 | 64 | | " | 62.5 | | 103 | 70-130 | | | |
| Surrogate: 4-Bromofluorobenzene | 60 | | " | 62.5 | | 96.0 | 70-130 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|--------|-----------------|-------|-------------|---|------|-------------|-----|-----------|-------|
| Batch B2C1524 - EPA 5030B (Water) | | | | | | | | | | |
| LCS (B2C1524-BS1) | | | | | Prepared: 03/15/2022 Analyzed: 03/15/2022 | | | | | |
| Benzene | 46.9 | 2.00 | ug/L | 50.0 | | 93.8 | 70-130 | | | |
| Ethylbenzene | 50.4 | 2.00 | " | 50.0 | | 101 | 70-130 | | | |
| m,p-Xylene | 99.2 | 4.00 | " | 100 | | 99.2 | 70-130 | | | |
| o-Xylene | 50.5 | 2.00 | " | 50.0 | | 101 | 70-130 | | | |
| Toluene | 48.3 | 2.00 | " | 50.0 | | 96.6 | 70-130 | | | |
| Naphthalene | 47.7 | 10.0 | " | 50.0 | | 95.5 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 44.7 | 1.00 | " | 50.0 | | 89.4 | 70-130 | | | |
| 1,2-Dichloroethane | 42.7 | 1.00 | " | 50.0 | | 85.3 | 70-130 | | | |
| 1-Methylnaphthalene | 48.3 | 5.00 | " | 50.0 | | 96.6 | 70-130 | | | |
| 2-Methylnaphthalene | 51.1 | 5.00 | " | 50.0 | | 102 | 70-130 | | | |
| Methyl tert-Butyl Ether | 39.4 | 1.00 | " | 50.0 | | 78.8 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 58 | | " | 62.5 | | 92.3 | 70-130 | | | |
| Surrogate: Toluene-d8 | 64 | | " | 62.5 | | 102 | 70-130 | | | |
| Surrogate: 4-Bromofluorobenzene | 64 | | " | 62.5 | | 102 | 70-130 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

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

Batch B2C1524 - EPA 5030B (Water)

| Matrix Spike (B2C1524-MS1) | | Source: Y203031-01 | | | Prepared: 03/15/2022 Analyzed: 03/16/2022 | | | | | |
|----------------------------------|------|--------------------|------|------|---|------|--------|--|--|--|
| Benzene | 50.6 | 2.00 | ug/L | 50.0 | ND | 101 | 70-130 | | | |
| Ethylbenzene | 50.2 | 2.00 | " | 50.0 | ND | 100 | 70-130 | | | |
| m,p-Xylene | 97.8 | 4.00 | " | 100 | ND | 97.8 | 70-130 | | | |
| o-Xylene | 50.1 | 2.00 | " | 50.0 | ND | 100 | 70-130 | | | |
| Toluene | 46.8 | 2.00 | " | 50.0 | ND | 93.5 | 70-130 | | | |
| Naphthalene | 48.9 | 10.0 | " | 50.0 | ND | 97.8 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 48.1 | 1.00 | " | 50.0 | ND | 96.1 | 70-130 | | | |
| 1,2-Dichloroethane | 50.4 | 1.00 | " | 50.0 | ND | 101 | 70-130 | | | |
| 1-Methylnaphthalene | 49.3 | 5.00 | " | 50.0 | ND | 98.6 | 70-130 | | | |
| 2-Methylnaphthalene | 51.7 | 5.00 | " | 50.0 | ND | 103 | 70-130 | | | |
| Methyl tert-Butyl Ether | 43.7 | 1.00 | " | 50.0 | ND | 87.4 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 65 | | " | 62.5 | | 104 | 70-130 | | | |
| Surrogate: Toluene-d8 | 59 | | " | 62.5 | | 95.2 | 70-130 | | | |
| Surrogate: 4-Bromofluorobenzene | 64 | | " | 62.5 | | 103 | 70-130 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|---------------------------|-------|-------------|---|------|-------------|------|-----------|-------|
| Batch B2C1524 - EPA 5030B (Water) | | | | | | | | | | |
| Matrix Spike Dup (B2C1524-MSD1) | | Source: Y203031-01 | | | Prepared: 03/15/2022 Analyzed: 03/16/2022 | | | | | |
| Benzene | 48.7 | 2.00 | ug/L | 50.0 | ND | 97.4 | 70-130 | 3.91 | 20 | |
| Ethylbenzene | 52.4 | 2.00 | " | 50.0 | ND | 105 | 70-130 | 4.38 | 20 | |
| m,p-Xylene | 101 | 4.00 | " | 100 | ND | 101 | 70-130 | 3.60 | 20 | |
| o-Xylene | 52.0 | 2.00 | " | 50.0 | ND | 104 | 70-130 | 3.84 | 20 | |
| Toluene | 47.4 | 2.00 | " | 50.0 | ND | 94.9 | 70-130 | 1.44 | 20 | |
| Naphthalene | 47.4 | 10.0 | " | 50.0 | ND | 94.8 | 70-130 | 3.07 | 20 | |
| 1,2-Dibromoethane (EDB) | 47.2 | 1.00 | " | 50.0 | ND | 94.4 | 70-130 | 1.76 | 20 | |
| 1,2-Dichloroethane | 48.2 | 1.00 | " | 50.0 | ND | 96.4 | 70-130 | 4.46 | 20 | |
| 1-Methylnaphthalene | 46.7 | 5.00 | " | 50.0 | ND | 93.4 | 70-130 | 5.35 | 20 | |
| 2-Methylnaphthalene | 49.5 | 5.00 | " | 50.0 | ND | 99.0 | 70-130 | 4.43 | 20 | |
| Methyl tert-Butyl Ether | 40.6 | 1.00 | " | 50.0 | ND | 81.1 | 70-130 | 7.41 | 20 | |
| Surrogate: 1,2-Dichloroethane-d4 | 62 | | " | 62.5 | | 99.7 | 70-130 | | | |
| Surrogate: Toluene-d8 | 61 | | " | 62.5 | | 98.3 | 70-130 | | | |
| Surrogate: 4-Bromofluorobenzene | 66 | | " | 62.5 | | 105 | 70-130 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.

2154 W. Eisenhower Blvd.

Loveland CO 80537

Ryan Dornbos

Project Number: [none]

Project: Church Pit

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory, Inc.

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

Classical Chemistry Parameters - Quality Control

Origins Laboratory, Inc.

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

Batch B2B2137 - NO PREP

Duplicate (B2B2137-DUP1)

Source: Y202476-01

Prepared: 02/21/2022 Analyzed: 02/21/2022

| | | | | | |
|----|------|----------|------|------|-----|
| pH | 8.47 | pH Units | 8.61 | 1.64 | 200 |
|----|------|----------|------|------|-----|

Batch B2B2139 - Filter .45um non acidified

Blank (B2B2139-BLK1)

Prepared: 02/21/2022 Analyzed: 02/22/2022

| | | | |
|----------|----|-------|------|
| Chloride | ND | 0.250 | mg/L |
| Fluoride | ND | 0.100 | " |
| Bromide | ND | 0.100 | " |
| Sulfate | ND | 0.250 | " |
| Nitrate | ND | 0.100 | " |
| Nitrite | ND | 0.100 | " |

LCS (B2B2139-BS1)

Prepared: 02/21/2022 Analyzed: 02/22/2022

| | | | | | | |
|----------|------|-------|------|------|------|--------|
| Chloride | 3.96 | 0.250 | mg/L | 4.00 | 98.9 | 90-110 |
| Fluoride | 3.96 | 0.100 | " | 4.00 | 98.9 | 90-110 |
| Bromide | 4.00 | 0.100 | " | 4.00 | 99.9 | 90-110 |
| Sulfate | 4.02 | 0.250 | " | 4.00 | 101 | 90-110 |
| Nitrate | 3.99 | 0.100 | " | 4.00 | 99.7 | 90-110 |
| Nitrite | 4.02 | 0.100 | " | 4.00 | 100 | 90-110 |

Matrix Spike (B2B2139-MS1)

Source: Y202476-01

Prepared: 02/21/2022 Analyzed: 02/22/2022

| | | | | | | |
|----------|-----|------|-----|-----|------|--------|
| Chloride | 705 | mg/L | 500 | 212 | 98.7 | 80-120 |
|----------|-----|------|-----|-----|------|--------|

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

Ryan Dornbos
Project Number: [none]
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 |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch B2B2139 - Filter .45um non acidified

| | | | | | | | | | | |
|--|-----|---------------------------|------|-----|---|------|--------|-------|----|--|
| Matrix Spike (B2B2139-MS1) | | Source: Y202476-01 | | | Prepared: 02/21/2022 Analyzed: 02/22/2022 | | | | | |
| Fluoride | 491 | | mg/L | 500 | 6.00 | 97.0 | 80-120 | | | |
| Bromide | 488 | | " | 500 | 1.16 | 97.3 | 80-120 | | | |
| Sulfate | 717 | | " | 500 | 218 | 99.7 | 80-120 | | | |
| Nitrate | 487 | | " | 500 | 0.00 | 97.5 | 80-120 | | | |
| Nitrite | 487 | | " | 500 | 0.00 | 97.3 | 80-120 | | | |
| Matrix Spike Dup (B2B2139-MSD1) | | Source: Y202476-01 | | | Prepared: 02/21/2022 Analyzed: 02/22/2022 | | | | | |
| Chloride | 712 | | mg/L | 500 | 212 | 99.9 | 80-120 | 0.849 | 20 | |
| Fluoride | 494 | | " | 500 | 6.00 | 97.6 | 80-120 | 0.634 | 20 | |
| Bromide | 491 | | " | 500 | 1.16 | 97.9 | 80-120 | 0.611 | 20 | |
| Sulfate | 721 | | " | 500 | 218 | 100 | 80-120 | 0.520 | 20 | |
| Nitrate | 510 | | " | 500 | 0.00 | 102 | 80-120 | 4.45 | 20 | |
| Nitrite | 492 | | " | 500 | 0.00 | 98.3 | 80-120 | 1.03 | 20 | |

Batch B2B2202 - NO PREP

| | | | | | | | | | | |
|---------------------------------|------|---|------|------|---|------|--------|--------|----|--|
| Blank (B2B2202-BLK1) | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | | | | |
| Total Dissolved Solids | ND | 5.00 | mg/L | | | | | | | |
| LCS (B2B2202-BS1) | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | | | | |
| Total Dissolved Solids | 993 | 5.00 | mg/L | 1000 | | 99.3 | 90-110 | | | |
| Duplicate (B2B2202-DUP1) | | Source: Y202471-01 | | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | |
| Total Dissolved Solids | 1150 | 5.00 | mg/L | | 1150 | | | 0.0868 | 10 | |

Batch B2B2203 - NO PREP

| | | | | | | | | | | |
|-----------------------------|--|---|--|--|--|--|--|--|--|--|
| Blank (B2B2203-BLK1) | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | | | | |
|-----------------------------|--|---|--|--|--|--|--|--|--|--|

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

Ryan Dornbos
Project Number: [none]
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 |
|---------------------------------|--------|-----------------|-------|-------------|--|------|-------------|-----|-----------|-------|
| Batch B2B2203 - NO PREP | | | | | | | | | | |
| Blank (B2B2203-BLK1) | | | | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | |
| Total Suspended Solids | ND | 5.00 | mg/L | | | | | | | |
| LCS (B2B2203-BS1) | | | | | Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | |
| Total Suspended Solids | 108 | 5.00 | mg/L | 100 | | 108 | 75-110 | | | |
| Duplicate (B2B2203-DUP1) | | | | | Source: Y202470-01 Prepared: 02/22/2022 Analyzed: 02/22/2022 | | | | | |
| Total Suspended Solids | 2.00 | 5.00 | mg/L | | ND | | | | 20 | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Saturated Paste - Quality Control
Origins Laboratory, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------|---------|-----------------|----------|-------------|---|------|-------------|-------|-----------|-------|
| Batch B2B2138 - NO PREP | | | | | | | | | | |
| Blank (B2B2138-BLK1) | | | | | Prepared: 02/21/2022 Analyzed: 02/21/2022 | | | | | |
| Specific Conductance (EC) | 0.00230 | 0.00500 | mmhos/cm | | | | | | | |
| Duplicate (B2B2138-DUP1) | | | | | Source: Y202476-01 Prepared: 02/21/2022 Analyzed: 02/21/2022 | | | | | |
| Specific Conductance (EC) | 2.51 | 0.00500 | mmhos/cm | | 2.50 | | | 0.531 | 25 | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Alkalinity by SM 2320B - Quality Control GEL Laboratories, LLC

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|--------|--------------------------|-------|-------------|--------------------------------|------|-------------|-----|-----------|-------|
| Batch 2235524 - | | | | | | | | | | |
| DUP (1205026171 D) | | Source: 571067001 | | | Prepared: Analyzed: 03/01/2022 | | | | | |
| Carbonate alkalinity (CaCO ₃) | ND | 4.00 | mg/L | | <1.45 | | 0-20 | 0 | 20 | U |
| Alkalinity, Total as CaCO ₃ | 239 | 4.00 | " | | 231 | | 0-20 | 3.4 | 20 | |
| Bicarbonate alkalinity (CaCO ₃) | 239 | 4.00 | " | | 231 | | 0-20 | 3.4 | 20 | |
| MS (1205026173 S) | | Source: 571067001 | | | Prepared: Analyzed: 03/01/2022 | | | | | |
| Alkalinity, Total as CaCO ₃ | 349 | 4.00 | mg/L | 100 | 231 | 118 | 80-120 | | | |
| LCS (1205031110-BKS) | | | | | Prepared: Analyzed: 03/01/2022 | | | | | |
| Alkalinity, Total as CaCO ₃ | 104 | 4.00 | mg/L | 100 | | 104 | 90-110 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Radium 226 by EPA 903.1 - Quality Control GEL Laboratories, LLC

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-------------------------------|--------|-----------------|-------|-------------|--|------|-------------|------|-----------|-------|
| Batch 2233667 - | | | | | | | | | | |
| BLANK (1205027579-BLK) | | | | | Prepared: Analyzed: 03/03/2022 | | | | | |
| Radium-226 | 0.690 | 1.00 | pCi/L | | | | - | | | |
| DUP (1205027580 D) | | | | | Source: 570956001 Prepared: Analyzed: 03/03/2022 | | | | | |
| Radium-226 | 0.315 | 1.00 | pCi/L | | 0.435 | | 0-20 | 32.1 | 20 | |
| MS (1205027581 S) | | | | | Source: 570956001 Prepared: Analyzed: 03/03/2022 | | | | | |
| Radium-226 | 113 | 1.00 | pCi/L | 132 | 0.435 | 85.5 | 75-125 | | | |
| LCS (1205027582-BKS) | | | | | Prepared: Analyzed: 03/03/2022 | | | | | |
| Radium-226 | 20.8 | 1.00 | pCi/L | 26.4 | | 78.7 | 75-125 | | | |
| LCSD (1205027583-BKSD) | | | | | Prepared: Analyzed: 03/03/2022 | | | | | |
| Radium-226 | 25.0 | 1.00 | pCi/L | 26.4 | | 94.7 | 75-125 | 18.4 | 20 | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Radium 228 by EPA 904.0 - Quality Control GEL Laboratories, LLC

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|------------------------|--------|-----------------|-------|-------------|--|------|-------------|------|-----------|-------|
| Batch 2233677 - | | | | | | | | | | |
| BLANK (1205027604-BLK) | | | | | Prepared: Analyzed: 03/04/2022 | | | | | |
| Radium-228 | 0.650 | 3.00 | pCi/L | | | | - | | | |
| DUP (1205027605 D) | | | | | Source: 571108001 Prepared: Analyzed: 03/04/2022 | | | | | |
| Radium-228 | 1.27 | 1.00 | pCi/L | | 1.02 | | 0-20 | 22.1 | 20 | |
| LCS (1205027606-BKS) | | | | | Prepared: Analyzed: 03/04/2022 | | | | | |
| Radium-228 | 13.2 | 3.00 | pCi/L | 16.1 | | 81.7 | 75-125 | | | |
| LCSD (1205027607-BKSD) | | | | | Prepared: Analyzed: 03/04/2022 | | | | | |
| Radium-228 | 14.5 | 3.00 | pCi/L | 16.1 | | 89.9 | 75-125 | 9.5 | 20 | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Total Phosphorus by EPA 365.4 - Quality Control GEL Laboratories, LLC

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--------------------------------|--------|-------------------|-------|-------------|---|------|-------------|------|-----------|-------|
| Batch 2234314 - EPA 365.4 Prep | | | | | | | | | | |
| BLANK (1205028707-BLK) | | | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| Phosphorus, Total as P | ND | 0.0500 | mg/L | | | | - | | | U |
| LCS (1205028708-BKS) | | | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| Phosphorus, Total as P | 1.09 | 0.0500 | mg/L | 1.00 | | 109 | 80-123 | | | |
| DUP (1205028713 D) | | | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| | | Source: 570734001 | | | | | | | | |
| Phosphorus, Total as P | 6.36 | 0.200 | mg/L | | 6.68 | | 0-36 | 4.91 | 36 | |
| MS (1205028714 S) | | | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| | | Source: 570734001 | | | | | | | | |
| Phosphorus, Total as P | 10.8 | 0.200 | mg/L | 4.00 | 6.68 | 103 | 66-140 | | | |

Origins Laboratory, Inc.



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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Total Metals by EPA 200.8 - Quality Control GEL Laboratories, LLC

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

Batch 2234426 - EPA 200.2

BLANK (1205028876-BLK)

Prepared: 02/25/2022 Analyzed: 03/01/2022

| | | | | | | | | | | |
|-----------|--------|---------|------|--|--|--|---|--|--|---|
| Strontium | ND | 0.0100 | mg/L | | | | - | | | U |
| Sodium | 0.0957 | 0.250 | " | | | | - | | | J |
| Selenium | ND | 0.00500 | " | | | | - | | | U |
| Potassium | ND | 0.300 | " | | | | - | | | U |
| Manganese | ND | 0.00500 | " | | | | - | | | U |
| Magnesium | ND | 0.0300 | " | | | | - | | | U |
| Iron | ND | 0.100 | " | | | | - | | | U |
| Calcium | ND | 0.200 | " | | | | - | | | U |
| Boron | ND | 0.0150 | " | | | | - | | | U |
| Barium | ND | 0.00400 | " | | | | - | | | U |

LCS (1205028877-BKS)

Prepared: 02/25/2022 Analyzed: 03/01/2022

| | | | | | | |
|-----------|--------|---------|------|--------|------|--------|
| Magnesium | 2.10 | 0.0300 | mg/L | 2.00 | 105 | 85-115 |
| Barium | 0.0533 | 0.00400 | " | 0.0500 | 107 | 85-115 |
| Boron | 0.108 | 0.0150 | " | 0.100 | 108 | 85-115 |
| Manganese | 0.0508 | 0.00500 | " | 0.0500 | 102 | 85-115 |
| Potassium | 1.91 | 0.300 | " | 2.00 | 95.4 | 85-115 |
| Selenium | 0.0501 | 0.00500 | " | 0.0500 | 100 | 85-115 |
| Sodium | 1.91 | 0.250 | " | 2.00 | 95.5 | 85-115 |
| Strontium | 0.0522 | 0.0100 | " | 0.0500 | 104 | 85-115 |
| Calcium | 2.25 | 0.200 | " | 2.00 | 113 | 85-115 |
| Iron | 2.08 | 0.100 | " | 2.00 | 104 | 85-115 |

MS (1205028961 S)

Source: 571534001

Prepared: 02/25/2022 Analyzed: 03/01/2022

| | | | | | | | |
|-----------|------|--------|------|--------|------|---|--------|
| Iron | 1080 | 0.100 | mg/L | 2.00 | 562 | 0 | 75-125 |
| Strontium | 12.9 | 0.0100 | " | 0.0500 | 9.38 | 0 | 75-125 |
| Sodium | 1340 | 0.250 | " | 2.00 | 1330 | 0 | 75-125 |

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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Total Metals by EPA 200.8 - Quality Control GEL Laboratories, LLC

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

Batch 2234426 - EPA 200.2

| | | | | | | | | | | |
|----------------------------|--------|--------------------------|------|--------|---|------|--------|-------|----|--|
| MS (1205028961 S) | | Source: 571534001 | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| Selenium | 0.0341 | 0.0250 | mg/L | 0.0500 | 0.0165 | 35.3 | 75-125 | | | |
| Potassium | 28.9 | 0.300 | " | 2.00 | 23.5 | 0 | 75-125 | | | |
| Magnesium | 91.5 | 0.0300 | " | 2.00 | 69.3 | 0 | 75-125 | | | |
| Calcium | 915 | 0.200 | " | 2.00 | 674 | 0 | 75-125 | | | |
| Boron | 0.498 | 0.0150 | " | 0.100 | 0.349 | 149 | 75-125 | | | |
| Barium | 9.31 | 0.00400 | " | 0.0500 | 11.7 | 0 | 75-125 | | | |
| Manganese | 15.2 | 0.00500 | " | 0.0500 | 8.49 | 0 | 75-125 | | | |
| MSD (1205028962 SD) | | Source: 571534001 | | | Prepared: 02/25/2022 Analyzed: 03/01/2022 | | | | | |
| Potassium | 28.8 | 0.300 | mg/L | 2.00 | 23.5 | 0 | 75-125 | 0.233 | 20 | |
| Strontium | 13.5 | 0.0100 | " | 0.0500 | 9.38 | 0 | 75-125 | 4.68 | 20 | |
| Barium | 7.39 | 0.00400 | " | 0.0500 | 11.7 | 0 | 75-125 | 23 | 20 | |
| Boron | 0.505 | 0.0150 | " | 0.100 | 0.349 | 156 | 75-125 | 1.23 | 20 | |
| Calcium | 965 | 0.200 | " | 2.00 | 674 | 0 | 75-125 | 5.32 | 20 | |
| Iron | 1280 | 0.100 | " | 2.00 | 562 | 0 | 75-125 | 17.1 | 20 | |
| Magnesium | 96.5 | 0.0300 | " | 2.00 | 69.3 | 0 | 75-125 | 5.3 | 20 | |
| Manganese | 17.6 | 0.00500 | " | 0.0500 | 8.49 | 0 | 75-125 | 14.6 | 20 | |
| Sodium | 1320 | 0.250 | " | 2.00 | 1330 | 0 | 75-125 | 1.41 | 20 | |
| Selenium | 0.0371 | 0.0250 | " | 0.0500 | 0.0165 | 41.2 | 75-125 | 8.34 | 20 | |

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Peterson Energy Operating, Inc.
2154 W. Eisenhower Blvd.
Loveland CO 80537

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

Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

J Greater than the detection limit but less than the reporting limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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