

September 24, 2019

CGRS, Inc

Drezden Kinnaird

1301 Academy Court

Fort Collins CO 80524

**Project Name - Impetro Snyder - Skim Pit**

**Project Number - 17721aa**

Attached are your analytical results for Impetro Snyder - Skim Pit received by Origins Laboratory, Inc. September 18, 2019. This project is associated with Origins project number Y909272-01.

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



CGRS, Inc  
1301 Academy Court  
Fort Collins CO 80524

Drezden Kinnaird  
Project Number: 17721aa  
Project: Impetro Snyder - Skim Pit

## CROSS REFERENCE REPORT

| Sample ID   | Laboratory ID | Matrix | Date Sampled             | Date Received    |
|-------------|---------------|--------|--------------------------|------------------|
| SS-S        | Y909272-01    | Soil   | September 17, 2019 10:00 | 09/18/2019 09:10 |
| SS-E        | Y909272-02    | Soil   | September 17, 2019 10:10 | 09/18/2019 09:10 |
| SS-W        | Y909272-03    | Soil   | September 17, 2019 11:20 | 09/18/2019 09:10 |
| SS-N        | Y909272-04    | Soil   | September 17, 2019 10:40 | 09/18/2019 09:10 |
| SS-C        | Y909272-05    | Soil   | September 17, 2019 10:50 | 09/18/2019 09:10 |
| SS-BG       | Y909272-06    | Soil   | September 17, 2019 12:00 | 09/18/2019 09:10 |
| Flowline-BG | Y909272-07    | Soil   | September 17, 2019 13:00 | 09/18/2019 09:10 |

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

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177212

ORIGINS

LABORATORY, INC

Client: CGRS  
 Address: 1301 Academy Ct, Fort Collins  
 Telephone Number: 970-631-4876  
 Email Address: Drezden, Elizabeth, Chris Lattes

Project Manager: Drezden Kinnaird  
 Project Name: Impetro Snyder - Skim Pit  
 Project Number: 17721aa  
 Samples Collected By: John Acker

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 <sub>3</sub> | Other | Groundwater  | Soil | Air Summa # |          |                        | Other |
| SS-S                                     | 9/17/19       | 16:00        | 3               | X                               |               |                  |       | X  |      |             |          | PAH on Hold            | 1     |
| SS-C                                     |               | 16:10        | 3               | X                               |               |                  |       | X  |      |             |          |                        | 2     |
| SS-W                                     |               | 11:20        | 3               | X                               |               |                  |       | X  |      |             |          |                        | 3     |
| SS-N                                     |               | 10:40        | 3               | X                               |               |                  |       | X  |      |             |          |                        | 4     |
| SS-C                                     |               | 10:50        | 3               | X                               |               |                  |       | X  |      |             |          |                        | 5     |
| SS-Bite                                  |               | 12:00        | 3               | X                               |               |                  |       | X  |      |             |          |                        | 6     |
| Filter/line - Bite                       |               | 13:10        | 3               | X                               |               |                  |       | X  |      |             |          | BTEX, TPH, PH, EL, SAR | 7     |
|  |               |              |                 |                                 |               |                  |       |  |      |             |          |                        | 8     |
|  |               |              |                 |                                 |               |                  |       |  |      |             |          |                        | 9     |
|  |               |              |                 |                                 |               |                  |       |  |      |             |          |                        | 10    |
| Relinquished By: <i>[Signature]</i>      | Date: 9/17/19 | Time: 23:00  |                 | Received By: <i>[Signature]</i> | Date: 9-18-19 | Time: 9:10       |       | Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input checked="" type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/> |      |             |          |                        |       |
| Relinquished By: <i>Elizabeth Wilton</i> | Date: 9/18/19 | Time: 09:10  |                 | Received By: <i>[Signature]</i> | Date: 9-18-19 | Time: 9:10       |       |  |      |             |          |                        |       |

Date Results Needed: 2.6

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: y909272 Client: CGRS Inc.  
 Client Project ID: 977 Impetro Snyder  
 Checklist Completed by: JG Shipped Via: HA  
 Date/time completed: 9/18/19 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1 / 2.6 °c \_\_\_\_\_ / \_\_\_\_\_ °c \_\_\_\_\_ / \_\_\_\_\_ °c \_\_\_\_\_ / \_\_\_\_\_ °c (Describe)  
 Thermometer ID: 7003

| Requirement Description   | Yes                                 | No                                  | N/A                                 | Comments (if any) |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?   | <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 <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> |                                     |                                     |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> |                                     |                                     |                   |
| Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?  |                                     | <input checked="" type="checkbox"/> |                                     |                   |
| Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> |                                     |                                     |                   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> |                                     |                                     |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> |                                     |                                     |                   |
| Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?   | <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 <sup>(1)</sup> ? (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 <sub>3</sub> , HCl, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH) |                                     |                                     | <input checked="" type="checkbox"/> |                   |
| Additional Comments (if any):   |                                     |                                     |                                     |                   |

<sup>(1)</sup>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) JG

Date/Time Reviewed 9/19/19

Origins Laboratory, Inc.



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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-S**

**9/17/2019 10:00:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-01 (Soil)**

**BTEX by EPA 8260D**

|                |    |       |       |   |         |     |            |            |   |
|----------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Benzene        | ND | 0.002 | mg/kg | 1 | B9I1805 | KDK | 09/18/2019 | 09/18/2019 | U |
| Toluene        | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Ethylbenzene   | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Xylenes, total | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |

|                                  |        |        |  |  |   |   |   |   |  |
|----------------------------------|--------|--------|--|--|---|---|---|---|--|
| Surrogate: 1,2-Dichloroethane-d4 | 128 %  | 70-130 |  |  | " | " | " | " |  |
| Surrogate: Toluene-d8            | 95.5 % | 70-130 |  |  | " | " | " | " |  |
| Surrogate: 4-Bromofluorobenzene  | 105 %  | 70-130 |  |  | " | " | " | " |  |

**Metals (Saturated Paste Prep)**

|           |             |  |      |   |        |  |            |            |  |
|-----------|-------------|--|------|---|--------|--|------------|------------|--|
| Calcium   | <b>2.29</b> |  | me/L | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
| Magnesium | <b>1.01</b> |  | "    | " | "      |  | "          | "          |  |
| Sodium    | <b>0.65</b> |  | "    | " | "      |  | "          | "          |  |

**pH in Soil by EPA 9045D**

|    |             |  |          |   |         |     |            |            |  |
|----|-------------|--|----------|---|---------|-----|------------|------------|--|
| pH | <b>10.0</b> |  | pH Units | 1 | B9I1809 | DJL | 09/18/2019 | 09/18/2019 |  |
|----|-------------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |             |  |  |   |        |  |            |            |  |
|-----|-------------|--|--|---|--------|--|------------|------------|--|
| SAR | <b>0.51</b> |  |  | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
|-----|-------------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |              |         |          |   |         |     |            |            |  |
|---------------------------|--------------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | <b>0.206</b> | 0.00500 | mmhos/cm | 1 | B9I1810 | DJL | 09/18/2019 | 09/18/2019 |  |
|---------------------------|--------------|---------|----------|---|---------|-----|------------|------------|--|

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-S**

**9/17/2019 10:00:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-01 (Soil)**

**TPH-Carbon Chain by EPA 8015D**

|                                   |    |      |       |   |        |     |            |            |   |
|-----------------------------------|----|------|-------|---|--------|-----|------------|------------|---|
| Gasoline (C6-C10)                 | ND | 50.0 | mg/kg | 1 | B91806 | KDK | 09/18/2019 | 09/19/2019 | U |
| Diesel (C10-C28)                  | ND | 50.0 | "     | " | "      | KDK | "          | "          | U |
| Residual Range Organics (C28-C40) | ND | 200  | "     | " | "      | KDK | "          | "          | U |

Surrogate: *o*-Terphenyl      84.3 %      50-150      "      "      "

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 Project: Impetro Snyder - Skim Pit

**SS-E**

**9/17/2019 10:10:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-02 (Soil)**

**BTEX by EPA 8260D**

|                |    |       |       |   |         |     |            |            |   |
|----------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Benzene        | ND | 0.002 | mg/kg | 1 | B9I1805 | KDK | 09/18/2019 | 09/19/2019 | U |
| Toluene        | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Ethylbenzene   | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Xylenes, total | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |

|                                  |        |        |  |  |   |   |   |   |  |
|----------------------------------|--------|--------|--|--|---|---|---|---|--|
| Surrogate: 1,2-Dichloroethane-d4 | 123 %  | 70-130 |  |  | " | " | " | " |  |
| Surrogate: Toluene-d8            | 97.0 % | 70-130 |  |  | " | " | " | " |  |
| Surrogate: 4-Bromofluorobenzene  | 106 %  | 70-130 |  |  | " | " | " | " |  |

**Metals (Saturated Paste Prep)**

|           |      |  |      |   |        |  |            |            |  |
|-----------|------|--|------|---|--------|--|------------|------------|--|
| Calcium   | 1.35 |  | me/L | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
| Magnesium | 0.43 |  | "    | " | "      |  | "          | "          |  |
| Sodium    | 26.0 |  | "    | " | "      |  | "          | "          |  |

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 9.85 |  | pH Units | 1 | B9I1809 | DJL | 09/18/2019 | 09/18/2019 |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |       |  |  |   |        |  |            |            |  |
|-----|-------|--|--|---|--------|--|------------|------------|--|
| SAR | 27.56 |  |  | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
|-----|-------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |       |         |          |   |         |     |            |            |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | 0.220 | 0.00502 | mmhos/cm | 1 | B9I1810 | DJL | 09/18/2019 | 09/18/2019 |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-E**

**9/17/2019 10:10:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-02 (Soil)**

**TPH-Carbon Chain by EPA 8015D**

|                                   |    |      |       |   |        |     |            |            |   |
|-----------------------------------|----|------|-------|---|--------|-----|------------|------------|---|
| Gasoline (C6-C10)                 | ND | 50.0 | mg/kg | 1 | B91806 | KDK | 09/18/2019 | 09/19/2019 | U |
| Diesel (C10-C28)                  | ND | 50.0 | "     | " | "      | KDK | "          | "          | U |
| Residual Range Organics (C28-C40) | ND | 200  | "     | " | "      | KDK | "          | "          | U |

Surrogate: o-Terphenyl 85.4 % 50-150 " " "

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 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-W**

**9/17/2019 11:20:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-03 (Soil)**

**BTEX by EPA 8260D**

|                |    |       |       |   |         |     |            |            |   |
|----------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Benzene        | ND | 0.002 | mg/kg | 1 | B9I1805 | KDK | 09/18/2019 | 09/18/2019 | U |
| Toluene        | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Ethylbenzene   | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Xylenes, total | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |

|                                  |        |        |  |  |   |   |   |      |
|----------------------------------|--------|--------|--|--|---|---|---|------|
| Surrogate: 1,2-Dichloroethane-d4 | 131 %  | 70-130 |  |  | " | " | " | S-07 |
| Surrogate: Toluene-d8            | 95.0 % | 70-130 |  |  | " | " | " |      |
| Surrogate: 4-Bromofluorobenzene  | 106 %  | 70-130 |  |  | " | " | " |      |

**Metals (Saturated Paste Prep)**

|           |       |  |      |   |        |  |            |            |
|-----------|-------|--|------|---|--------|--|------------|------------|
| Calcium   | 0.72  |  | me/L | 1 | [none] |  | 09/19/2019 | 09/19/2019 |
| Magnesium | 0.23  |  | "    | " | "      |  | "          | "          |
| Sodium    | 20.48 |  | "    | " | "      |  | "          | "          |

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |
|----|------|--|----------|---|---------|-----|------------|------------|
| pH | 10.1 |  | pH Units | 1 | B9I1809 | DJL | 09/18/2019 | 09/18/2019 |
|----|------|--|----------|---|---------|-----|------------|------------|

**SAR by 20B Saturated Paste**

|     |       |  |  |   |        |  |            |            |
|-----|-------|--|--|---|--------|--|------------|------------|
| SAR | 29.72 |  |  | 1 | [none] |  | 09/19/2019 | 09/19/2019 |
|-----|-------|--|--|---|--------|--|------------|------------|

**Specific Conductance by Modified 9050A**

|                           |       |         |          |   |         |     |            |            |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|
| Specific Conductance (EC) | 0.188 | 0.00507 | mmhos/cm | 1 | B9I1810 | DJL | 09/18/2019 | 09/18/2019 |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-W**

**9/17/2019 11:20:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-03 (Soil)**

**TPH-Carbon Chain by EPA 8015D**

|                                   |    |      |       |   |         |     |            |            |   |
|-----------------------------------|----|------|-------|---|---------|-----|------------|------------|---|
| Gasoline (C6-C10)                 | ND | 50.0 | mg/kg | 1 | B911806 | KDK | 09/18/2019 | 09/19/2019 | U |
| Diesel (C10-C28)                  | ND | 50.0 | "     | " | "       | KDK | "          | "          | U |
| Residual Range Organics (C28-C40) | ND | 200  | "     | " | "       | KDK | "          | "          | U |

Surrogate: o-Terphenyl      81.7%      50-150      "      "      "

Origins Laboratory, Inc.



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Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-C**

**9/17/2019 10:50:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-05 (Soil)**

**BTEX by EPA 8260D**

|                |    |       |       |   |         |     |            |            |   |
|----------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Benzene        | ND | 0.002 | mg/kg | 1 | B9I1805 | KDK | 09/18/2019 | 09/19/2019 | U |
| Toluene        | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Ethylbenzene   | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Xylenes, total | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |

|                                  |        |        |  |  |   |   |   |   |  |
|----------------------------------|--------|--------|--|--|---|---|---|---|--|
| Surrogate: 1,2-Dichloroethane-d4 | 126 %  | 70-130 |  |  | " | " | " | " |  |
| Surrogate: Toluene-d8            | 95.0 % | 70-130 |  |  | " | " | " | " |  |
| Surrogate: 4-Bromofluorobenzene  | 108 %  | 70-130 |  |  | " | " | " | " |  |

**Metals (Saturated Paste Prep)**

|           |       |  |      |   |        |  |            |            |  |
|-----------|-------|--|------|---|--------|--|------------|------------|--|
| Calcium   | 1.72  |  | me/L | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
| Magnesium | 0.41  |  | "    | " | "      |  | "          | "          |  |
| Sodium    | 17.21 |  | "    | " | "      |  | "          | "          |  |

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 9.99 |  | pH Units | 1 | B9I1809 | DJL | 09/18/2019 | 09/18/2019 |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |       |  |  |   |        |  |            |            |  |
|-----|-------|--|--|---|--------|--|------------|------------|--|
| SAR | 16.68 |  |  | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
|-----|-------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |       |         |          |   |         |     |            |            |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | 0.212 | 0.00500 | mmhos/cm | 1 | B9I1810 | DJL | 09/18/2019 | 09/18/2019 |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|

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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-C**

**9/17/2019 10:50:00AM**

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

**Origins Laboratory, Inc.**  
**Y909272-05 (Soil)**

**TPH-Carbon Chain by EPA 8015D**

|                                   |    |      |       |   |        |     |            |            |   |
|-----------------------------------|----|------|-------|---|--------|-----|------------|------------|---|
| Gasoline (C6-C10)                 | ND | 50.0 | mg/kg | 1 | B91806 | KDK | 09/18/2019 | 09/19/2019 | U |
| Diesel (C10-C28)                  | ND | 50.0 | "     | " | "      | KDK | "          | "          | U |
| Residual Range Organics (C28-C40) | ND | 200  | "     | " | "      | KDK | "          | "          | U |

Surrogate: *o*-Terphenyl      82.3 %      50-150      "      "      "

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-BG**

**9/17/2019 12:00:00PM**

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

**Origins Laboratory, Inc.**  
**Y909272-06 (Soil)**

**BTEX by EPA 8260D**

|                |    |       |       |   |         |     |            |            |   |
|----------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Benzene        | ND | 0.002 | mg/kg | 1 | B9I1805 | KDK | 09/18/2019 | 09/18/2019 | U |
| Toluene        | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Ethylbenzene   | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |
| Xylenes, total | ND | 0.002 | "     | " | "       | KDK | "          | "          | U |

|                                  |        |        |  |  |   |   |   |   |  |
|----------------------------------|--------|--------|--|--|---|---|---|---|--|
| Surrogate: 1,2-Dichloroethane-d4 | 130 %  | 70-130 |  |  | " | " | " | " |  |
| Surrogate: Toluene-d8            | 96.4 % | 70-130 |  |  | " | " | " | " |  |
| Surrogate: 4-Bromofluorobenzene  | 107 %  | 70-130 |  |  | " | " | " | " |  |

**Metals (Saturated Paste Prep)**

|           |      |  |      |   |        |  |            |            |  |
|-----------|------|--|------|---|--------|--|------------|------------|--|
| Calcium   | 5.41 |  | me/L | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
| Magnesium | 1.18 |  | "    | " | "      |  | "          | "          |  |
| Sodium    | 0.95 |  | "    | " | "      |  | "          | "          |  |

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 8.48 |  | pH Units | 1 | B9I1809 | DJL | 09/18/2019 | 09/18/2019 |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |      |  |  |   |        |  |            |            |  |
|-----|------|--|--|---|--------|--|------------|------------|--|
| SAR | 0.52 |  |  | 1 | [none] |  | 09/19/2019 | 09/19/2019 |  |
|-----|------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |        |         |          |   |         |     |            |            |  |
|---------------------------|--------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | 0.0267 | 0.00507 | mmhos/cm | 1 | B9I1810 | DJL | 09/18/2019 | 09/18/2019 |  |
|---------------------------|--------|---------|----------|---|---------|-----|------------|------------|--|

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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim Pit

**SS-BG**

**9/17/2019 12:00:00PM**

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

**Origins Laboratory, Inc.**  
**Y909272-06 (Soil)**

**TPH-Carbon Chain by EPA 8015D**

|                                   |    |      |       |   |        |     |            |            |   |
|-----------------------------------|----|------|-------|---|--------|-----|------------|------------|---|
| Gasoline (C6-C10)                 | ND | 50.0 | mg/kg | 1 | B91806 | KDK | 09/18/2019 | 09/19/2019 | U |
| Diesel (C10-C28)                  | ND | 50.0 | "     | " | "      | KDK | "          | "          | U |
| Residual Range Organics (C28-C40) | ND | 200  | "     | " | "      | KDK | "          | "          | U |

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

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B911805 - EPA 5030 (soil)**

**Blank (B911805-BLK1)**

Prepared: 09/18/2019 Analyzed: 09/18/2019

|   |             |       |          |              |  |             |               |  |  |   |
|---|-------------|-------|----------|--------------|--|-------------|---------------|--|--|---|
| Benzene                                 | ND          | 0.002 | mg/kg    |              |  |             |               |  |  | U |
| Toluene                                 | ND          | 0.002 | "        |              |  |             |               |  |  | U |
| Ethylbenzene                            | ND          | 0.002 | "        |              |  |             |               |  |  | U |
| Xylenes, total                          | ND          | 0.002 | "        |              |  |             |               |  |  | U |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.15</i> |       | <i>"</i> | <i>0.125</i> |  | <i>119</i>  | <i>70-130</i> |  |  |   |
| <i>Surrogate: Toluene-d8</i>            | <i>0.12</i> |       | <i>"</i> | <i>0.125</i> |  | <i>97.7</i> | <i>70-130</i> |  |  |   |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>0.13</i> |       | <i>"</i> | <i>0.125</i> |  | <i>107</i>  | <i>70-130</i> |  |  |   |

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B9I1805 - EPA 5030 (soil)**

**LCS (B9I1805-BS1)**

Prepared: 09/18/2019 Analyzed: 09/18/2019

|                                  |       |       |       |       |  |      |        |  |  |  |
|----------------------------------|-------|-------|-------|-------|--|------|--------|--|--|--|
| Benzene                          | 0.113 | 0.002 | mg/kg | 0.100 |  | 113  | 70-130 |  |  |  |
| Toluene                          | 0.101 | 0.002 | "     | 0.100 |  | 101  | 70-130 |  |  |  |
| Ethylbenzene                     | 0.100 | 0.002 | "     | 0.100 |  | 99.6 | 70-130 |  |  |  |
| m,p-Xylene                       | 0.185 | 0.004 | "     | 0.200 |  | 92.7 | 70-130 |  |  |  |
| o-Xylene                         | 0.098 | 0.002 | "     | 0.100 |  | 98.1 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.15  |       | "     | 0.125 |  | 124  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.12  |       | "     | 0.125 |  | 96.6 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.13  |       | "     | 0.125 |  | 106  | 70-130 |  |  |  |

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Noelle Doyle Mathis, President

CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B911805 - EPA 5030 (soil)**

| <b>Matrix Spike (B911805-MS1)</b>       | <b>Source: Y909256-01</b> |       |          | <b>Prepared: 09/18/2019 Analyzed: 09/18/2019</b> |        |             |               |  |  |       |
|---|---------------------------|-------|----------|--|--------|-------------|---------------|--|--|-------|
| Benzene                                 | 0.097                     | 0.002 | mg/kg    | 0.100  | 0.0008 | 95.8        | 70-130        |  |  |       |
| Toluene                                 | 0.082                     | 0.002 | "        | 0.100  | 0.002  | 79.5        | 70-130        |  |  |       |
| Ethylbenzene                            | 0.076                     | 0.002 | "        | 0.100  | ND     | 76.4        | 70-130        |  |  |       |
| m,p-Xylene                              | 0.139                     | 0.004 | "        | 0.200  | 0.001  | 69.0        | 70-130        |  |  | QM-07 |
| o-Xylene                                | 0.076                     | 0.002 | "        | 0.100  | 0.0008 | 74.9        | 70-130        |  |  |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.16</i>               |       | <i>"</i> | <i>0.125</i>                                     |        | <i>128</i>  | <i>70-130</i> |  |  |       |
| <i>Surrogate: Toluene-d8</i>            | <i>0.12</i>               |       | <i>"</i> | <i>0.125</i>                                     |        | <i>94.6</i> | <i>70-130</i> |  |  |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>0.14</i>               |       | <i>"</i> | <i>0.125</i>                                     |        | <i>109</i>  | <i>70-130</i> |  |  |       |

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B911805 - EPA 5030 (soil)**

| Matrix Spike Dup (B911805-MSD1)  | Source: Y909256-01 |       |       | Prepared: 09/18/2019 Analyzed: 09/18/2019 |        |      |        |      |    |       |
|----------------------------------|--------------------|-------|-------|---|--------|------|--------|------|----|-------|
| Benzene                          | 0.084              | 0.002 | mg/kg | 0.100                                     | 0.0008 | 82.8 | 70-130 | 14.5 | 20 |       |
| Toluene                          | 0.072              | 0.002 | "     | 0.100                                     | 0.002  | 69.8 | 70-130 | 12.6 | 20 | QM-07 |
| Ethylbenzene                     | 0.065              | 0.002 | "     | 0.100                                     | ND     | 64.7 | 70-130 | 16.6 | 20 | QM-07 |
| m,p-Xylene                       | 0.117              | 0.004 | "     | 0.200                                     | 0.001  | 57.7 | 70-130 | 17.7 | 20 | QM-07 |
| o-Xylene                         | 0.064              | 0.002 | "     | 0.100                                     | 0.0008 | 63.6 | 70-130 | 16.2 | 20 | QM-07 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.16               |       | "     | 0.125                                     |        | 125  | 70-130 |      |    |       |
| Surrogate: Toluene-d8            | 0.12               |       | "     | 0.125                                     |        | 97.3 | 70-130 |      |    |       |
| Surrogate: 4-Bromofluorobenzene  | 0.13               |       | "     | 0.125                                     |        | 108  | 70-130 |      |    |       |

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 |
|-----------------------------------|--------|-----------------|-------|-------------|---|------|-------------|-----|-----------|-------|
| <b>Batch B911806 - EPA 3580</b>   |        |                 |       |             |   |      |             |     |           |       |
| <b>Blank (B911806-BLK1)</b>       |        |                 |       |             |   |      |             |     |           |       |
|                                   |        |                 |       |             | Prepared: 09/18/2019 Analyzed: 09/18/2019 |      |             |     |           |       |
| Gasoline (C6-C10)                 | ND     | 25.0            | mg/kg |             |   |      |             |     |           | U     |
| Diesel (C10-C28)                  | ND     | 25.0            | "     |             |   |      |             |     |           | U     |
| Residual Range Organics (C28-C40) | ND     | 100             | "     |             |   |      |             |     |           | U     |
| Surrogate: o-Terphenyl            | 21.9   |                 | "     | 25.0        |   | 87.6 | 50-150      |     |           |       |

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 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B9I1806 - EPA 3580**

**LCS (B9I1806-BS1)**

Prepared: 09/18/2019 Analyzed: 09/18/2019

|                                   |      |      |       |      |  |      |        |  |  |  |
|-----------------------------------|------|------|-------|------|--|------|--------|--|--|--|
| Gasoline (C6-C10)                 | 926  | 50.0 | mg/kg | 1000 |  | 92.6 | 70-130 |  |  |  |
| Diesel (C10-C28)                  | 946  | 50.0 | "     | 1000 |  | 94.6 | 70-130 |  |  |  |
| Residual Range Organics (C28-C40) | 857  | 200  | "     | 1000 |  | 85.7 | 70-130 |  |  |  |
| Surrogate: o-Terphenyl            | 50.9 |      | "     | 50.0 |  | 102  | 50-150 |  |  |  |

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B9I1806 - EPA 3580**

| <b>Matrix Spike (B9I1806-MS1)</b> | <b>Source: Y909256-01</b> |      |       | <b>Prepared: 09/18/2019 Analyzed: 09/18/2019</b> |    |      |        |  |  |  |
|-----------------------------------|---------------------------|------|-------|--|----|------|--------|--|--|--|
| Gasoline (C6-C10)                 | 852                       | 50.0 | mg/kg | 1000   | ND | 85.2 | 70-130 |  |  |  |
| Diesel (C10-C28)                  | 874                       | 50.0 | "     | 1000   | ND | 87.4 | 70-130 |  |  |  |
| Residual Range Organics (C28-C40) | 818                       | 200  | "     | 1000   | ND | 81.8 | 70-130 |  |  |  |
| Surrogate: o-Terphenyl            | 44.5                      |      | "     | 50.0   |    | 89.0 | 50-150 |  |  |  |

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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 17721aa  
 Project: Impetro Snyder - Skim 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 B911806 - EPA 3580**

| <b>Matrix Spike Dup (B911806-MSD1)</b> | <b>Source: Y909256-01</b> |      |       | <b>Prepared: 09/18/2019 Analyzed: 09/18/2019</b> |    |      |        |      |    |  |
|--|---------------------------|------|-------|--|----|------|--------|------|----|--|
| Gasoline (C6-C10)                      | 982                       | 50.0 | mg/kg | 1000   | ND | 98.2 | 70-130 | 14.2 | 35 |  |
| Diesel (C10-C28)                       | 986                       | 50.0 | "     | 1000   | ND | 98.6 | 70-130 | 12.0 | 35 |  |
| Residual Range Organics (C28-C40)      | 921                       | 200  | "     | 1000   | ND | 92.1 | 70-130 | 11.9 | 35 |  |
| Surrogate: o-Terphenyl                 | 54.4                      |      | "     | 50.0   |    | 109  | 50-150 |      |    |  |

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CGRS, Inc  
1301 Academy Court  
Fort Collins CO 80524

Drezden Kinnaird  
Project Number: 17721aa  
Project: Impetro Snyder - Skim Pit

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**Notes and Definitions**

U Sample is Non-Detect.

S-07 High surrogate in sample, however sample is non-detect. High surrogate indicates result values are biased high.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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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Noelle Doyle Mathis, President



Friday, December 20, 2019

Sam Bradley  
Impetro Resources LLC  
2820 Logan Dr  
Loveland, CO 80538

Re: ALS Workorder: 1912033  
Project Name: Spotted Dog + Snyder  
Project Number: 2019-12-04

Note: Spotted Dog = Young 14-1

Dear Mr. Bradley:

Three soil samples were received from Impetro Resources LLC, on 12/4/2019. The samples were scheduled for the following analysis:

Inorganics

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental  
Lance R. Steere  
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

| ALS Environmental – Fort Collins |                                 |
|----------------------------------|---------------------------------|
| Accreditation Body               | License or Certification Number |
| AIHA                             | 214884                          |
| Alaska (AK)                      | UST-086                         |
| Alaska (AK)                      | CO01099                         |
| Arizona (AZ)                     | AZ0742                          |
| California (CA)                  | 06251CA                         |
| Colorado (CO)                    | CO01099                         |
| Florida (FL)                     | E87914                          |
| Idaho (ID)                       | CO01099                         |
| Kansas (KS)                      | E-10381                         |
| Kentucky (KY)                    | 90137                           |
| PJ-LA (DoD ELAP/ISO 170250)      | 95377                           |
| Louisiana (LA)                   | 05057                           |
| Maryland (MD)                    | 285                             |
| Missouri (MO)                    | 175                             |
| Nebraska(NE)                     | NE-OS-24-13                     |
| Nevada (NV)                      | CO000782008A                    |
| New York (NY)                    | 12036                           |
| North Dakota (ND)                | R-057                           |
| Oklahoma (OK)                    | 1301                            |
| Pennsylvania (PA)                | 68-03116                        |
| Tennessee (TN)                   | 2976                            |
| Texas (TX)                       | T104704241                      |
| Utah (UT)                        | CO01099                         |
| Washington (WA)                  | C1280                           |



## 1912033

### **Inorganics:**

The samples were analyzed following USDA Handbook 60 Chapter 6 procedures for the current revision of the following SOP and method:

| <u>Analyte</u>          | <u>Method</u> | <u>SOP #</u> |
|-------------------------|---------------|--------------|
| Electrical conductivity | USDA60        | 810 Draft    |
| Sodium Adsorption Ratio | USDA60        | 810 Draft    |
| Paste pH                | USDA60        | 810 Draft    |

All acceptance criteria were met.

# ALS -- Fort Collins

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1912033

**Client Name:** Impetro Resources LLC

**Client Project Name:** Spotted Dog + Snyder      Note: Spoted Dog = Young 14-1

**Client Project Number:** 2019-12-04

**Client PO Number:**

---

| Client Sample Number       | Lab Sample Number | COC Number | Matrix     | Date Collected | Time Collected |
|----------------------------|-------------------|------------|------------|----------------|----------------|
| Spotted Dog Back Ground    | 1912033-1         |            | SOIL       | 25-Nov-19      | 14:25          |
| Spotted Dog Spill Area     | 1912033-2         |            | SOIL       | 25-Nov-19      | 14:30          |
| Snyder Skim Pit North Wall | 1912033-3         |            | SOIL       | 20-Nov-19      | 10:30          |
| Spotted Dog Back Ground    | 1912033-4         |            | SatExtract | 25-Nov-19      | 14:25          |
| Spotted Dog Spill Area     | 1912033-5         |            | SatExtract | 25-Nov-19      | 14:30          |
| Snyder Skim Pit North Wall | 1912033-6         |            | SatExtract | 20-Nov-19      | 10:30          |





ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Impetro Workorder No: 1912033  
Project Manager: LS Initials: CD Date: 12-4-19

|  |                 |            |                             |
|--|-----------------|------------|-----------------------------|
| 1. Are airbills / shipping documents present and/or removable?   | <u>DROP OFF</u> | YES        | NO                          |
| 2. Are custody seals on <b>shipping</b> containers intact?   | <u>NONE</u>     | YES        | NO *                        |
| 3. Are custody seals on <b>sample</b> containers intact?   | <u>NONE</u>     | YES        | NO *                        |
| 4. Is there a COC (chain-of-custody) present?  |                 | <u>YES</u> | NO *                        |
| 5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)     |                 | <u>YES</u> | NO *                        |
| 6. Are short-hold samples present?   |                 | <u>YES</u> | <u>NO</u> <sup>CO5-17</sup> |
| 7. Are all samples within holding times for the requested analyses?  |                 | <u>YES</u> | NO *                        |
| 8. Were all sample containers received intact? (not broken or leaking)   |                 | <u>YES</u> | NO *                        |
| 9. Is there sufficient sample for the requested analyses?  |                 | <u>YES</u> | NO *                        |
| 10. Are samples in proper containers for requested analyses? (form 250, Sample Handling Guidelines)  |                 | <u>YES</u> | NO *                        |
| 11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)  | <u>N/A</u>      | YES        | NO *                        |
| 12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea) | <u>N/A</u>      | YES        | NO                          |
| 13. Were the samples shipped on ice?   |                 | YES        | <u>NO</u>                   |
| 14. Were cooler temperatures measured at 0.1-6.0°C?  | IR gun used*:   | #3         | #5                          |
|  |                 |            | RAD ONLY                    |
|  |                 | YES        | <u>NO</u>                   |
| Cooler #:  | <u>1</u>        |            |                             |
| Temperature (°C):  | <u>Amb</u>      |            |                             |
| # of custody seals on cooler:  | <u>0</u>        |            |                             |
| External mR/hr reading:  | <u>NA</u>       |            |                             |
| Background mR/hr reading:  | <u>NA</u>       |            |                             |
| Were external mR/hr readings ≤ two times background and within DOI acceptance criteria? YES / NO / <u>NA</u> (If no, see Form 008.)        |                 |            |                             |

\* Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

pH hold time 4 days from receipt.

Were unpreserved bottles pH checked? YES / NA  
All client bottle ID's vs ALS lab ID's double-checked by: CD  
If applicable, was the client contacted? YES / NO / NA Contact: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Project Manager Signature / Date: [Signature] 12/6/19

**Client:** Impetro Resources LLC  
**Project:** 2019-12-04 Spotted Dog + Snyder  
**Sample ID:** Snyder Skim Pit North Wall  
**Legal Location:**  
**Collection Date:** 11/20/2019 10:30

**Date:** 20-Dec-19  
**Work Order:** 1912033  
**Lab ID:** 1912033-3  
**Matrix:** SOIL  
**Percent Moisture:**

| Analyses                                   | Result | Qual | Report Limit  | Units  | Dilution Factor | Date Analyzed  |
|--|--------|------|---------------|--------|-----------------|--|
| <b>Sodium Adsorption Ratio</b><br>PASTE PH | 7.5    |      | <b>USDA60</b> | 0.1 pH | 1               | Prep Date: <b>12/13/2019</b><br>PrepBy: <b>LMC</b><br>12/13/2019 |

**Client:** Impetro Resources LLC  
**Project:** 2019-12-04 Spotted Dog + Snyder  
**Sample ID:** Snyder Skim Pit North Wall  
**Legal Location:**  
**Collection Date:** 11/20/2019 10:30

**Date:** 20-Dec-19  
**Work Order:** 1912033  
**Lab ID:** 1912033-6  
**Matrix:** SATEXTRACT  
**Percent Moisture:**

| Analyses                             | Result | Qual | Report Limit  | Units    | Dilution Factor              | Date Analyzed      |
|--------------------------------------|--------|------|---------------|----------|------------------------------|--------------------|
| <b>ICP Metals</b>                    |        |      | <b>USDA60</b> |          | Prep Date: <b>12/9/2019</b>  | PrepBy: <b>JML</b> |
| CALCIUM                              | 130    |      | 10            | MG/L     | 10                           | 12/11/2019 14:14   |
| MAGNESIUM                            | 10     |      | 10            | MG/L     | 10                           | 12/11/2019 14:14   |
| SODIUM                               | ND     |      | 10            | MG/L     | 10                           | 12/11/2019 14:14   |
| <b>Sodium Adsorption Ratio</b>       |        |      | <b>USDA60</b> |          | Prep Date: <b>12/13/2019</b> | PrepBy: <b>LMC</b> |
| ELECTRICAL CONDUCTIVITY @ SATURATION | 920    |      | 1             | umhos/cm | 1                            | 12/13/2019         |
| SODIUM ADSORPTION RATIO              | 0.23   | S    | 0.54          | NU       | 10                           | 12/11/2019 14:14   |

**Client:** Impetro Resources LLC  
**Project:** 2019-12-04 Spotted Dog + Snyder  
**Sample ID:** Snyder Skim Pit North Wall  
**Legal Location:**  
**Collection Date:** 11/20/2019 10:30

**Date:** 20-Dec-19  
**Work Order:** 1912033  
**Lab ID:** 1912033-6  
**Matrix:** SATEXTRACT  
**Percent Moisture:**

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------|--------|------|--------------|-------|-----------------|---------------|
|----------|--------|------|--------------|-------|-----------------|---------------|

### Explanation of Qualifiers

#### Radiochemistry:

- "Report Limit" is the MDC  
 U or ND - Result is less than the sample specific MDC.  
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.  
 Y2 - Chemical Yield outside default limits.  
 W - DER is greater than Warning Limit of 1.42  
 \* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.  
 # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.  
 G - Sample density differs by more than 15% of LCS density.  
 D - DER is greater than Control Limit  
 M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.  
 L - LCS Recovery below lower control limit.  
 H - LCS Recovery above upper control limit.  
 P - LCS, Matrix Spike Recovery within control limits.  
 N - Matrix Spike Recovery outside control limits  
 NC - Not Calculated for duplicate results less than 5 times MDC  
 B - Analyte concentration greater than MDC.  
 B3 - Analyte concentration greater than MDC but less than Requested MDC.

#### Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).  
 U or ND - Indicates that the compound was analyzed for but not detected.  
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.  
 M - Duplicate injection precision was not met.  
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.  
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.  
 \* - Duplicate analysis (relative percent difference) not within control limits.  
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

#### Organics:

U or ND - Indicates that the compound was analyzed for but not detected.  
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.  
 E - Analyte concentration exceeds the upper level of the calibration range.  
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).  
 A - A tentatively identified compound is a suspected aldol-condensation product.  
 X - The analyte was diluted below an accurate quantitation level.  
 \* - The spike recovery is equal to or outside the control criteria used.  
 + - The relative percent difference (RPD) equals or exceeds the control criteria.  
 G - A pattern resembling gasoline was detected in this sample.  
 D - A pattern resembling diesel was detected in this sample.  
 M - A pattern resembling motor oil was detected in this sample.  
 C - A pattern resembling crude oil was detected in this sample.  
 4 - A pattern resembling JP-4 was detected in this sample.  
 5 - A pattern resembling JP-5 was detected in this sample.  
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.  
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.  
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
 - gasoline  
 - JP-8  
 - diesel  
 - mineral spirits  
 - motor oil  
 - Stoddard solvent  
 - bunker C



Thursday, January 09, 2020

Sam Bradley  
Impetro Resources LLC  
2820 Logan Dr  
Loveland, CO 80538

Re: ALS Workorder: 1912479  
Project Name: Spotted Dog + Snyder  
Project Number: 2019-12-04

Dear Mr. Bradley:

Three soil samples were received from Impetro Resources LLC, on 12/4/2019. The samples were scheduled for the following analyses:

GC/MS Volatiles

Total Extractable Petroleum Hydrocarbons (Diesel)

Total Volatile Petroleum Hydrocarbons (Gasoline)

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental

For Lance R. Steere  
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

| ALS Environmental – Fort Collins |                                 |
|----------------------------------|---------------------------------|
| Accreditation Body               | License or Certification Number |
| AIHA                             | 214884                          |
| Alaska (AK)                      | UST-086                         |
| Alaska (AK)                      | CO01099                         |
| Arizona (AZ)                     | AZ0742                          |
| California (CA)                  | 06251CA                         |
| Colorado (CO)                    | CO01099                         |
| Florida (FL)                     | E87914                          |
| Idaho (ID)                       | CO01099                         |
| Kansas (KS)                      | E-10381                         |
| Kentucky (KY)                    | 90137                           |
| PJ-LA (DoD ELAP/ISO 170250)      | 95377                           |
| Louisiana (LA)                   | 05057                           |
| Maryland (MD)                    | 285                             |
| Missouri (MO)                    | 175                             |
| Nebraska(NE)                     | NE-OS-24-13                     |
| Nevada (NV)                      | CO000782008A                    |
| New York (NY)                    | 12036                           |
| North Dakota (ND)                | R-057                           |
| Oklahoma (OK)                    | 1301                            |
| Pennsylvania (PA)                | 68-03116                        |
| Tennessee (TN)                   | 2976                            |
| Texas (TX)                       | T104704241                      |
| Utah (UT)                        | CO01099                         |
| Washington (WA)                  | C1280                           |



## 1912479

The samples were past hold time at time of request.

### **GC/MS Volatiles:**

The samples were analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

The samples were stored at ambient temperature before analysis.

All remaining acceptance criteria were met.

### **GRO:**

The samples were analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. TVPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C6 to C10.

All acceptance criteria were met.

### **DRO:**

The samples were analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.

All acceptance criteria were met.

# ALS -- Fort Collins

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1912479

**Client Name:** Impetro Resources LLC

**Client Project Name:** Spotted Dog + Snyder

**Client Project Number:** 2019-12-04

**Client PO Number:**

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| Client Sample Number       | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|----------------------------|-------------------|------------|--------|----------------|----------------|
| Spotted Dog Back Ground    | 1912479-1         |            | SOIL   | 25-Nov-19      | 14:25          |
| Spotted Dog Spill Area     | 1912479-2         |            | SOIL   | 25-Nov-19      | 14:30          |
| Snyder Skim Pit North Wall | 1912479-3         |            | SOIL   | 20-Nov-19      | 10:30          |



# ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524  
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

## Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.  
Turnaround time for samples received Saturday will be calculated beginning from the next business day.

1912479 1/16/19

ALS WORKORDER #  
1912033

|                |                            |  |                                       |                               |  |
|----------------|----------------------------|--|---------------------------------------|-------------------------------|--|
| PROJECT NAME   | Spotted Owl + Snyder       |  | SAMPLER                               | Sam Bradley                   |  |
| PROJECT NO.    | 2019-12-04                 |  | DISPOSAL                              | BY LAB or RETURN              |  |
| COMPANY NAME   | Impetro Resources LLC      |  | PARAMETER/METHOD REQUEST FOR ANALYSIS |                               |  |
| SEND REPORT TO | Sam Bradley                |  | A                                     | PH                            |  |
| ADDRESS        | 2870 Logan Dr.             |  | B                                     | EC                            |  |
| CITY/STATE/ZIP | Loveland, CO 80538         |  | C                                     | SAR                           |  |
| PHONE          | 970-593-8626               |  | D                                     |                               |  |
| FAX            |                            |  | E                                     |                               |  |
| E-MAIL         | SBRADLEY.IMPETRO@gmail.com |  | F                                     | Add GRD, DRD/OAO/BTEX per Sam |  |
|                |                            |  | G                                     | Verbal 1/12/19                |  |
|                |                            |  | H                                     |                               |  |
|                |                            |  | I                                     |                               |  |
|                |                            |  | J                                     |                               |  |

| LAB ID | FIELD ID                    | MATRIX | SAMPLE DATE | SAMPLE TIME | # OF BOTTLES | PRESERVATIVE | QC | PARAMETER/METHOD REQUEST FOR ANALYSIS |   |   |   |   |   |   |   |   |   | SEE NOTES SECTION |   |   |  |
|--------|-----------------------------|--------|-------------|-------------|--------------|--------------|----|---------------------------------------|---|---|---|---|---|---|---|---|---|-------------------|---|---|--|
|        |                             |        |             |             |              |              |    | A                                     | B | C | D | E | F | G | H | I | J |                   |   |   |  |
| 1      | Spotted Owl Back Ground #4  |        | 11/25/19    | 14:25       | 1            |              |    | X                                     | X | X | X | X | X | X | X | X | X | X                 | X | X |  |
| 2      | Spotted Owl Spill Area      |        | 11/25/19    | 14:30       | 1            |              |    | X                                     | X | X | X | X | X | X | X | X | X | X                 | X | X |  |
| 3      | Snyder 5 Km P.A. North Well |        | 11/20/19    | 10:30       | 1            |              |    | X                                     | X | X | X | X | X | X | X | X | X | X                 | X | X |  |
|        |                             |        |             |             |              |              |    |                                       |   |   |   |   |   |   |   |   |   |                   |   |   |  |
|        |                             |        |             |             |              |              |    |                                       |   |   |   |   |   |   |   |   |   |                   |   |   |  |

Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

Form 2029

|                 |        |           |             |              |      |         |      |      |
|-----------------|--------|-----------|-------------|--------------|------|---------|------|------|
| RELINQUISHED BY | Snyder | SIGNATURE | Sam Bradley | PRINTED NAME | DATE | 12/4/19 | TIME | 0947 |
| RECEIVED BY     |        |           |             |              |      |         |      |      |
| RELINQUISHED BY |        |           |             |              |      |         |      |      |
| RECEIVED BY     |        |           |             |              |      |         |      |      |
| RELINQUISHED BY |        |           |             |              |      |         |      |      |
| RECEIVED BY     |        |           |             |              |      |         |      |      |

5 of 13

PRESERVATION KEY 1-HCl 2-HNO3 3-H2SO4 4-NHOH 5-NH4OH/ZnAcetate 6-NaHSO4 7-4°C 8-Other



ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Impetro

Workorder No: 1912033

Project Manager: LS

Initials: CDT Date: 12-4-19

|  |                     |            |                              |
|--|---------------------|------------|------------------------------|
| 1. Are airbills / shipping documents present and/or removable?   | <u>DROP OFF</u>     | YES        | NO                           |
| 2. Are custody seals on shipping containers intact?  | <u>NONE</u>         | YES        | NO *                         |
| 3. Are custody seals on sample containers intact?  | <u>NONE</u>         | YES        | NO *                         |
| 4. Is there a COC (chain-of-custody) present?  |                     | <u>YES</u> | NO *                         |
| 5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)     |                     | <u>YES</u> | NO *                         |
| 6. Are short-hold samples present?   |                     | <u>YES</u> | <u>NO</u> <sup>12-4-19</sup> |
| 7. Are all samples within holding times for the requested analyses?  |                     | <u>YES</u> | NO *                         |
| 8. Were all sample containers received intact? (not broken or leaking)   |                     | <u>YES</u> | NO *                         |
| 9. Is there sufficient sample for the requested analyses?  |                     | <u>YES</u> | NO *                         |
| 10. Are samples in proper containers for requested analyses? (form 250, Sample Handling Guidelines)  |                     | <u>YES</u> | NO *                         |
| 11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)  | <u>N/A</u>          | YES        | NO *                         |
| 12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea) | <u>N/A</u>          | YES        | NO                           |
| 13. Were the samples shipped on ice?   |                     | YES        | <u>NO</u>                    |
| 14. Were cooler temperatures measured at 0.1-6.0°C?  | IR gun used*: #3 #5 | RAD ONLY   | YES <u>NO</u>                |
| Cooler #: <u>1</u>   |                     |            |                              |
| Temperature (°C): <u>Anal</u>  |                     |            |                              |
| # of custody seals on cooler: <u>0</u>   |                     |            |                              |
| External mR/hr reading: <u>NA</u>  |                     |            |                              |
| Background mR/hr reading: <u>NA</u>  |                     |            |                              |
| Were external mR/hr readings ≤ two times background and within DO1 acceptance criteria? YES / NO / <u>NA</u> (If no, see Form 008.)        |                     |            |                              |

\* Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

pH hold time 4 days from receipt.

Were unpreserved bottles pH checked? YES / NA NO All client bottle ID's vs ALS lab ID's double-checked by: CDT

If applicable, was the client contacted? YES / NO / NA Contact: [Signature] Date/Time: 12/6/19

Project Manager Signature / Date: [Signature] 12/6/19

**Client:** Impetro Resources LLC  
**Project:** 2019-12-04 Spotted Dog + Snyder  
**Sample ID:** Snyder Skim Pit North Wall  
**Legal Location:**  
**Collection Date:** 11/20/2019 10:30

**Date:** 09-Jan-20  
**Work Order:** 1912479  
**Lab ID:** 1912479-3  
**Matrix:** SOIL  
**Percent Moisture:** 9.3

| Analyses                       | Result | Qual | Report Limit             | Units | Dilution Factor | Date Analyzed    |
|--------------------------------|--------|------|--------------------------|-------|-----------------|------------------|
| <b>Diesel Range Organics</b>   |        |      |                          |       |                 |                  |
| <b>OIL RANGE ORGANICS</b>      | 32     | H    | <b>SW8015M_MO</b><br>4.4 | MG/KG | 1               | 1/7/2020 13:31   |
| DIESEL RANGE ORGANICS          | ND     |      | 4.4                      | MG/KG | 1               | 1/7/2020 13:31   |
| Surr: O-TERPHENYL              | 88     |      | 48-148                   | %REC  | 1               | 1/7/2020 13:31   |
| <b>Gasoline Range Organics</b> |        |      |                          |       |                 |                  |
| <b>GASOLINE RANGE ORGANICS</b> | ND     |      | <b>SW8015</b><br>0.54    | MG/KG | 1               | 12/30/2019 14:45 |
| Surr: 2,3,4-TRIFLUOROTOLUENE   | 98     |      | 76-126                   | %REC  | 1               | 12/30/2019 14:45 |
| <b>GC/MS Volatiles</b>         |        |      |                          |       |                 |                  |
| <b>BENZENE</b>                 | ND     |      | <b>SW8260</b><br>5.4     | UG/KG | 1               | 12/31/2019 12:45 |
| TOLUENE                        | ND     |      | 5.4                      | UG/KG | 1               | 12/31/2019 12:45 |
| ETHYLBENZENE                   | ND     |      | 5.4                      | UG/KG | 1               | 12/31/2019 12:45 |
| M+P-XYLENE                     | ND     |      | 7.6                      | UG/KG | 1               | 12/31/2019 12:45 |
| O-XYLENE                       | ND     |      | 5.4                      | UG/KG | 1               | 12/31/2019 12:45 |
| Surr: DIBROMOFLUOROMETHANE     | 109    |      | 61-134                   | %REC  | 1               | 12/31/2019 12:45 |
| Surr: TOLUENE-D8               | 96     |      | 57-135                   | %REC  | 1               | 12/31/2019 12:45 |
| Surr: 4-BROMOFLUOROBENZENE     | 91     |      | 52-151                   | %REC  | 1               | 12/31/2019 12:45 |

**Client:** Impetro Resources LLC  
**Project:** 2019-12-04 Spotted Dog + Snyder  
**Sample ID:** Snyder Skim Pit North Wall  
**Legal Location:**  
**Collection Date:** 11/20/2019 10:30

**Date:** 09-Jan-20  
**Work Order:** 1912479  
**Lab ID:** 1912479-3  
**Matrix:** SOIL  
**Percent Moisture:** 9.3

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------|--------|------|--------------|-------|-----------------|---------------|
|----------|--------|------|--------------|-------|-----------------|---------------|

### Explanation of Qualifiers

#### Radiochemistry:

- "Report Limit" is the MDC  
 U or ND - Result is less than the sample specific MDC.  
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.  
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 W - DER is greater than Warning Limit of 1.42  
 \* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.  
 # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.  
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 D - DER is greater than Control Limit  
 M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.  
 L - LCS Recovery below lower control limit.  
 H - LCS Recovery above upper control limit.  
 P - LCS, Matrix Spike Recovery within control limits.  
 N - Matrix Spike Recovery outside control limits  
 NC - Not Calculated for duplicate results less than 5 times MDC  
 B - Analyte concentration greater than MDC.  
 B3 - Analyte concentration greater than MDC but less than Requested MDC.

#### Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).  
 U or ND - Indicates that the compound was analyzed for but not detected.  
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.  
 M - Duplicate injection precision was not met.  
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.  
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.  
 \* - Duplicate analysis (relative percent difference) not within control limits.  
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

#### Organics:

U or ND - Indicates that the compound was analyzed for but not detected.  
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.  
 E - Analyte concentration exceeds the upper level of the calibration range.  
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).  
 A - A tentatively identified compound is a suspected aldol-condensation product.  
 X - The analyte was diluted below an accurate quantitation level.  
 \* - The spike recovery is equal to or outside the control criteria used.  
 + - The relative percent difference (RPD) equals or exceeds the control criteria.  
 G - A pattern resembling gasoline was detected in this sample.  
 D - A pattern resembling diesel was detected in this sample.  
 M - A pattern resembling motor oil was detected in this sample.  
 C - A pattern resembling crude oil was detected in this sample.  
 4 - A pattern resembling JP-4 was detected in this sample.  
 5 - A pattern resembling JP-5 was detected in this sample.  
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.  
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.  
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
 - gasoline  
 - JP-8  
 - diesel  
 - mineral spirits  
 - motor oil  
 - Stoddard solvent  
 - bunker C

ALS -- Fort Collins

Date: 1/9/2020 9:30:3

Client: Impetro Resources LLC

QC BATCH REPORT

Work Order: 1912479

Project: 2019-12-04 Spotted Dog + Snyder

Batch ID: **HC191230-61-1**

Instrument ID **FUELS-1**

Method: **SW8015**

| LCS                          |        | Sample ID: <b>HC191230-61</b> |         | Units: <b>MG/KG</b> |                              |               | Analysis Date: <b>12/30/2019 12:35</b> |              |     |           |      |
|------------------------------|--------|-------------------------------|---------|---------------------|------------------------------|---------------|--|--------------|-----|-----------|------|
| Client ID:                   |        | Run ID: <b>HC191230-6A</b>    |         |                     | Prep Date: <b>12/30/2019</b> |               |  | DF: <b>1</b> |     |           |      |
| Analyte                      | Result | ReportLimit                   | SPK Val | SPK Ref Value       | %REC                         | Control Limit | Decision Level                         | RPD Ref      | RPD | RPD Limit | Qual |
| GASOLINE RANGE ORGANICS      | 2.5    | 0.5                           | 2.5     |                     | 100                          | 79-118        |  |              |     | 20        |      |
| Surr: 2,3,4-TRIFLUOROTOLUENE | 0.476  |                               | 0.5     |                     | 95                           | 76-126        |  |              |     |           |      |

| LCSD                         |        | Sample ID: <b>HC191230-61</b> |         | Units: <b>MG/KG</b> |                              |               | Analysis Date: <b>12/30/2019 15:08</b> |              |     |           |      |
|------------------------------|--------|-------------------------------|---------|---------------------|------------------------------|---------------|--|--------------|-----|-----------|------|
| Client ID:                   |        | Run ID: <b>HC191230-6A</b>    |         |                     | Prep Date: <b>12/30/2019</b> |               |  | DF: <b>1</b> |     |           |      |
| Analyte                      | Result | ReportLimit                   | SPK Val | SPK Ref Value       | %REC                         | Control Limit | Decision Level                         | RPD Ref      | RPD | RPD Limit | Qual |
| GASOLINE RANGE ORGANICS      | 2.42   | 0.5                           | 2.5     |                     | 97                           | 79-118        |  | 2.5          | 3   | 20        |      |
| Surr: 2,3,4-TRIFLUOROTOLUENE | 0.475  |                               | 0.5     |                     | 95                           | 76-126        |  |              | 0   |           |      |

| MB                           |        | Sample ID: <b>HC191230-61</b> |         | Units: <b>MG/KG</b> |                              |               | Analysis Date: <b>12/30/2019 12:57</b> |              |     |           |      |
|------------------------------|--------|-------------------------------|---------|---------------------|------------------------------|---------------|--|--------------|-----|-----------|------|
| Client ID:                   |        | Run ID: <b>HC191230-6A</b>    |         |                     | Prep Date: <b>12/30/2019</b> |               |  | DF: <b>1</b> |     |           |      |
| Analyte                      | Result | ReportLimit                   | SPK Val | SPK Ref Value       | %REC                         | Control Limit | Decision Level                         | RPD Ref      | RPD | RPD Limit | Qual |
| GASOLINE RANGE ORGANICS      | ND     | 0.5                           |         |                     |                              |               |  |              |     |           |      |
| Surr: 2,3,4-TRIFLUOROTOLUENE | 0.477  |                               |         |                     | 95                           | 76-126        |  |              |     |           |      |

The following samples were analyzed in this batch: 

|           |           |           |
|-----------|-----------|-----------|
| 1912479-1 | 1912479-2 | 1912479-3 |
|-----------|-----------|-----------|

Client: Impetro Resources LLC  
 Work Order: 1912479  
 Project: 2019-12-04 Spotted Dog + Snyder

# QC BATCH REPORT

Batch ID: **HC191230-84-2** Instrument ID **FUELS-1** Method: **SW8015M\_MO**

| LCS                   |        | Sample ID: <b>HC191230-84</b> |         |               | Units: <b>MG/KG</b>          |               | Analysis Date: <b>1/7/2020 11:47</b> |         |     |           |      |
|-----------------------|--------|-------------------------------|---------|---------------|------------------------------|---------------|--------------------------------------|---------|-----|-----------|------|
| Client ID:            |        | Run ID: <b>HC200107-8A</b>    |         |               | Prep Date: <b>12/30/2019</b> |               | DF: <b>1</b>                         |         |     |           |      |
| Analyte               | Result | ReportLimit                   | SPK Val | SPK Ref Value | %REC                         | Control Limit | Decision Level                       | RPD Ref | RPD | RPD Limit | Qual |
| OIL RANGE ORGANICS    | 66.2   | 4                             | 62.5    |               | 106                          | 30-150        |                                      |         |     | 20        |      |
| DIESEL RANGE ORGANICS | 54.8   | 4                             | 62.5    |               | 88                           | 30-150        |                                      |         |     | 20        |      |
| Surr: O-TERPHENYL     | 8.72   |                               | 12.5    |               | 70                           | 48-148        |                                      |         |     |           |      |

| LCSD                  |        | Sample ID: <b>HC191230-84</b> |         |               | Units: <b>MG/KG</b>          |               | Analysis Date: <b>1/7/2020 12:13</b> |         |     |           |      |
|-----------------------|--------|-------------------------------|---------|---------------|------------------------------|---------------|--------------------------------------|---------|-----|-----------|------|
| Client ID:            |        | Run ID: <b>HC200107-8A</b>    |         |               | Prep Date: <b>12/30/2019</b> |               | DF: <b>1</b>                         |         |     |           |      |
| Analyte               | Result | ReportLimit                   | SPK Val | SPK Ref Value | %REC                         | Control Limit | Decision Level                       | RPD Ref | RPD | RPD Limit | Qual |
| OIL RANGE ORGANICS    | 67.2   | 4                             | 62.5    |               | 108                          | 30-150        |                                      | 66.2    | 2   | 20        |      |
| DIESEL RANGE ORGANICS | 55     | 4                             | 62.5    |               | 88                           | 30-150        |                                      | 54.8    | 0   | 20        |      |
| Surr: O-TERPHENYL     | 8.8    |                               | 12.5    |               | 70                           | 48-148        |                                      |         |     | 1         |      |

| MB                    |        | Sample ID: <b>HC191230-84</b> |         |               | Units: <b>MG/KG</b>          |               | Analysis Date: <b>1/7/2020 11:21</b> |         |     |           |      |
|-----------------------|--------|-------------------------------|---------|---------------|------------------------------|---------------|--------------------------------------|---------|-----|-----------|------|
| Client ID:            |        | Run ID: <b>HC200107-8A</b>    |         |               | Prep Date: <b>12/30/2019</b> |               | DF: <b>1</b>                         |         |     |           |      |
| Analyte               | Result | ReportLimit                   | SPK Val | SPK Ref Value | %REC                         | Control Limit | Decision Level                       | RPD Ref | RPD | RPD Limit | Qual |
| OIL RANGE ORGANICS    | ND     | 4                             |         |               |                              |               |                                      |         |     |           |      |
| DIESEL RANGE ORGANICS | ND     | 4                             |         |               |                              |               |                                      |         |     |           |      |
| Surr: O-TERPHENYL     | 9.98   |                               |         |               | 80                           | 48-148        |                                      |         |     |           |      |

The following samples were analyzed in this batch: 1912479-1      1912479-2      1912479-3

Client: Impetro Resources LLC  
 Work Order: 1912479  
 Project: 2019-12-04 Spotted Dog + Snyder

# QC BATCH REPORT

Batch ID: VL191231-2-2 Instrument ID: HPV2 Method: SW8260

| LCS                        |        | Sample ID: VL191231-2 |         |               | Units: UG/KG          |               | Analysis Date: 12/31/2019 10:02 |         |     |           |      |
|----------------------------|--------|-----------------------|---------|---------------|-----------------------|---------------|---------------------------------|---------|-----|-----------|------|
| Client ID:                 |        | Run ID: VL191231-2A   |         |               | Prep Date: 12/31/2019 |               | DF: 1                           |         |     |           |      |
| Analyte                    | Result | ReportLimit           | SPK Val | SPK Ref Value | %REC                  | Control Limit | Decision Level                  | RPD Ref | RPD | RPD Limit | Qual |
| BENZENE                    | 39.2   | 5                     | 40      |               | 98                    | 73-126        |                                 |         |     | 30        |      |
| TOLUENE                    | 38.5   | 5                     | 40      |               | 96                    | 71-127        |                                 |         |     | 30        |      |
| ETHYLBENZENE               | 38.8   | 5                     | 40      |               | 97                    | 74-127        |                                 |         |     | 30        |      |
| M+P-XYLENE                 | 79.5   | 7                     | 80      |               | 99                    | 79-126        |                                 |         |     | 30        |      |
| O-XYLENE                   | 40.3   | 5                     | 40      |               | 101                   | 77-125        |                                 |         |     | 30        |      |
| Surr: DIBROMOFLUOROMETHANE | 52.8   |                       | 50      |               | 106                   | 61-134        |                                 |         |     |           |      |
| Surr: TOLUENE-D8           | 48.5   |                       | 50      |               | 97                    | 57-135        |                                 |         |     |           |      |
| Surr: 4-BROMOFLUOROBENZENE | 47.8   |                       | 50      |               | 96                    | 52-151        |                                 |         |     |           |      |

| LCSD                       |        | Sample ID: VL191231-2 |         |               | Units: UG/KG          |               | Analysis Date: 12/31/2019 10:24 |         |     |           |      |
|----------------------------|--------|-----------------------|---------|---------------|-----------------------|---------------|---------------------------------|---------|-----|-----------|------|
| Client ID:                 |        | Run ID: VL191231-2A   |         |               | Prep Date: 12/31/2019 |               | DF: 1                           |         |     |           |      |
| Analyte                    | Result | ReportLimit           | SPK Val | SPK Ref Value | %REC                  | Control Limit | Decision Level                  | RPD Ref | RPD | RPD Limit | Qual |
| BENZENE                    | 36.5   | 5                     | 40      |               | 91                    | 73-126        |                                 | 39.2    | 7   | 30        |      |
| TOLUENE                    | 36.6   | 5                     | 40      |               | 92                    | 71-127        |                                 | 38.5    | 5   | 30        |      |
| ETHYLBENZENE               | 37     | 5                     | 40      |               | 92                    | 74-127        |                                 | 38.8    | 5   | 30        |      |
| M+P-XYLENE                 | 74.6   | 7                     | 80      |               | 93                    | 79-126        |                                 | 79.5    | 6   | 30        |      |
| O-XYLENE                   | 37.9   | 5                     | 40      |               | 95                    | 77-125        |                                 | 40.3    | 6   | 30        |      |
| Surr: DIBROMOFLUOROMETHANE | 52.6   |                       | 50      |               | 105                   | 61-134        |                                 |         |     | 1         |      |
| Surr: TOLUENE-D8           | 49.3   |                       | 50      |               | 99                    | 57-135        |                                 |         |     | 2         |      |
| Surr: 4-BROMOFLUOROBENZENE | 48.3   |                       | 50      |               | 97                    | 52-151        |                                 |         |     | 1         |      |

| MB                         |        | Sample ID: VL191231-2 |         |               | Units: UG/KG          |               | Analysis Date: 12/31/2019 11:11 |         |     |           |      |
|----------------------------|--------|-----------------------|---------|---------------|-----------------------|---------------|---------------------------------|---------|-----|-----------|------|
| Client ID:                 |        | Run ID: VL191231-2A   |         |               | Prep Date: 12/31/2019 |               | DF: 1                           |         |     |           |      |
| Analyte                    | Result | ReportLimit           | SPK Val | SPK Ref Value | %REC                  | Control Limit | Decision Level                  | RPD Ref | RPD | RPD Limit | Qual |
| BENZENE                    | ND     | 5                     |         |               |                       |               |                                 |         |     |           |      |
| TOLUENE                    | ND     | 5                     |         |               |                       |               |                                 |         |     |           |      |
| ETHYLBENZENE               | ND     | 5                     |         |               |                       |               |                                 |         |     |           |      |
| M+P-XYLENE                 | ND     | 7                     |         |               |                       |               |                                 |         |     |           |      |
| O-XYLENE                   | ND     | 5                     |         |               |                       |               |                                 |         |     |           |      |
| Surr: DIBROMOFLUOROMETHANE | 51.8   |                       |         |               | 104                   | 61-134        |                                 |         |     |           |      |
| Surr: TOLUENE-D8           | 48.7   |                       |         |               | 97                    | 57-135        |                                 |         |     |           |      |
| Surr: 4-BROMOFLUOROBENZENE | 45.5   |                       |         |               | 91                    | 52-151        |                                 |         |     |           |      |

The following samples were analyzed in this batch: 1912479-1      1912479-2      1912479-3

# Total Extractable Petroleum Hydrocarbons / DRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : 1912479-1

Filename : \\gcserver\gcdata\Projects\GC8\Data\2020\drooro200107\09661.dat

Acquisition Date : 1/7/2020 12:39:22 PM

Instrument : GC8 (Offline)

Quantitation Date : 1/8/2020 8:16:54 AM

Data Acquired By : laine.y.loyd

Last Method Update : 1/8/2020 8:12:03 AM

Data Processed By : laine.y.loyd

Method : \\gcserver\gcdata\Projects\GC8\Method\2020\drooro190807G.met Inj. Vol. (uL) : 2

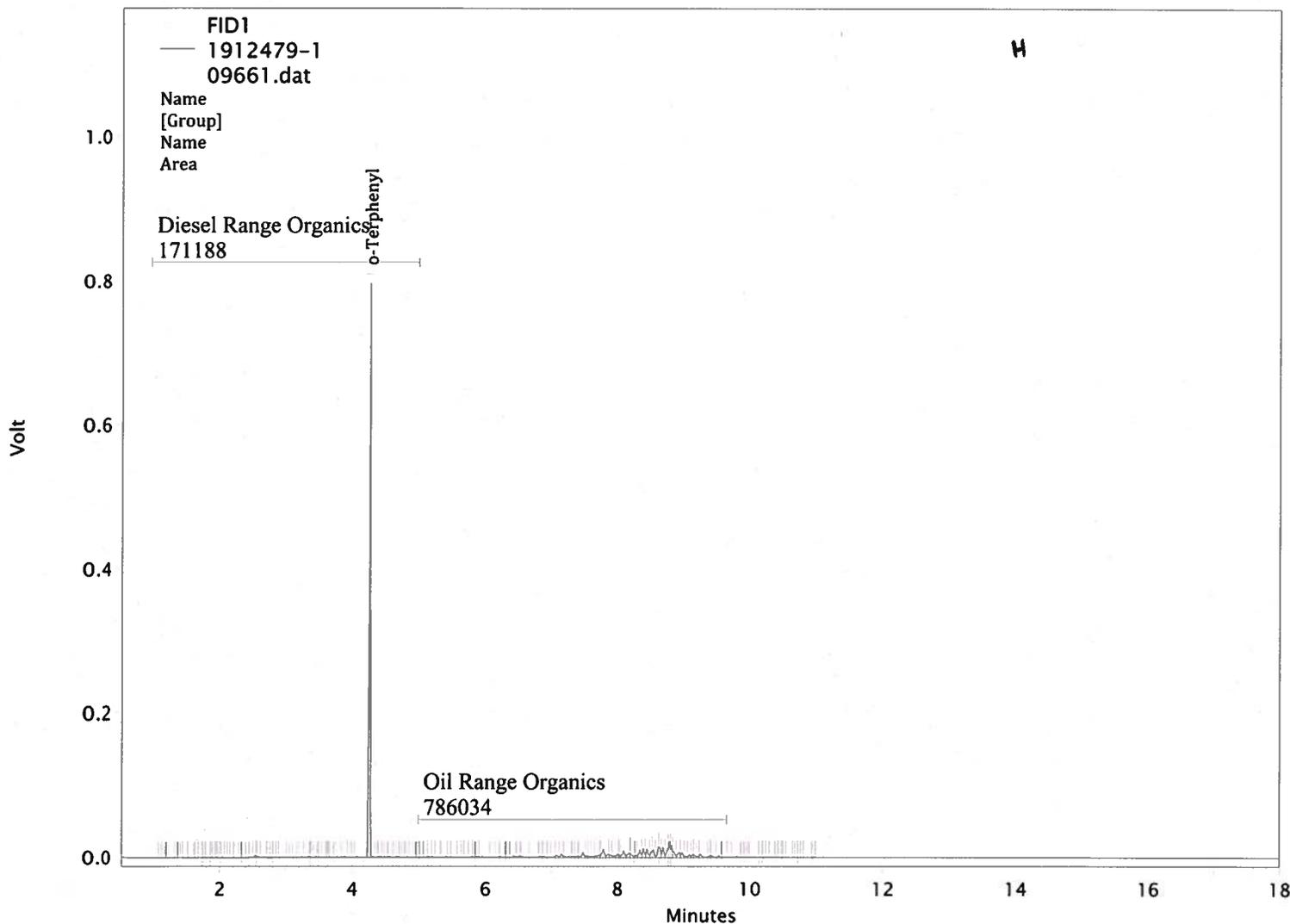
Sequence : \\gcserver\gcdata\Projects\GC8\Sequence\2020\DRO+ORO\drooro200107.seq

Vial : 6

Data Description : {Data Description}

## FID1 Results

| Compound Name         | RT   | Expected RT | Peak Area | Integration Codes | Conc.    | Conc. Units |
|-----------------------|------|-------------|-----------|-------------------|----------|-------------|
| o-Terphenyl           | 4.27 | 4.26        | 1030164   | TL                | 39.738 ✓ | ug/mL       |
| Diesel Range Organics |      |             | 171188    |                   | 0.000    | ug/mL       |
| Oil Range Organics    |      |             | 786034    |                   | 35.330 ✓ | ug/mL       |



Column : ZB-1HT (15M x 0.25mm x 0.25u)

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Printed On : 1/8/2020 8:16:55 AM

# Total Extractable Petroleum Hydrocarbons / DRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : 1912479-2

Filename : \\gcserver\gcdata\Projects\GC8\Data\2020\drooro200107\09662.dat

Acquisition Date : 1/7/2020 1:05:14 PM

Instrument : GC8 (Offline)

Quantitation Date : 1/8/2020 8:16:57 AM

Data Acquired By : laine.y.lloyd

Last Method Update : 1/8/2020 8:12:03 AM

Data Processed By : laine.y.lloyd

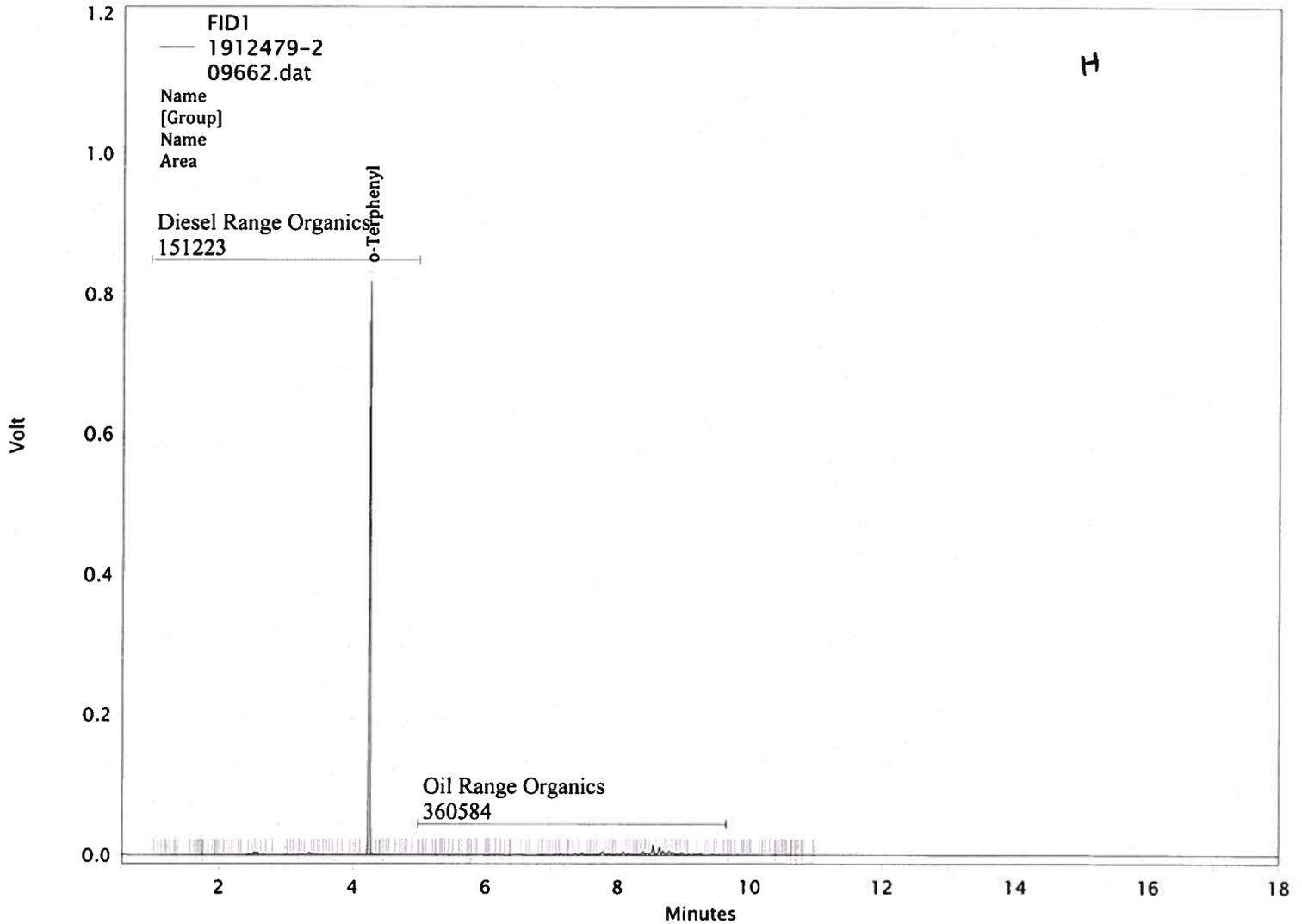
Method : \\gcserver\gcdata\Projects\GC8\Method\2020\drooro190807G.met Inj. Vol. (uL) : 2

Sequence : \\gcserver\gcdata\Projects\GC8\Sequence\2020\DRO+ORO\drooro200107.seq Vial : 7

Data Description : {Data Description}

## FID1 Results

| <u>Compound Name</u>  | <u>RT</u> | <u>Expected RT</u> | <u>Peak Area</u> | <u>Integration Codes</u> | <u>Conc.</u> | <u>Conc. Units</u> |
|-----------------------|-----------|--------------------|------------------|--------------------------|--------------|--------------------|
| o-Terphenyl           | 4.27      | 4.26               | 1034218          | LT                       | 39.911 ✓     | ug/mL              |
| Diesel Range Organics |           |                    | 151223           |                          | 0.000        | ug/mL              |
| Oil Range Organics    |           |                    | 360584           |                          | 16.226 ✓     | ug/mL              |



Column : ZB-1HT (15M x 0.25mm x 0.25u)

(1st int. code is for peak start, 2nd int. code is for peak stop) B=baseline, f=force start or stop, l=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Printed On : 1/8/2020 8:16:58 AM

# Total Extractable Petroleum Hydrocarbons / DRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : 1912479-3

Filename : \\gcserver\gdata\Projects\GC8\Data\2020\drooro200107\09663.dat

Acquisition Date : 1/7/2020 1:31:03 PM

Instrument : GC8 (Offline)

Quantitation Date : 1/8/2020 8:17:00 AM

Data Acquired By : laine.loyd

Last Method Update : 1/8/2020 8:12:03 AM

Data Processed By : laine.loyd

Method : \\gcserver\gdata\Projects\GC8\Method\2020\drooro190807G.met Inj. Vol. (uL) : 2

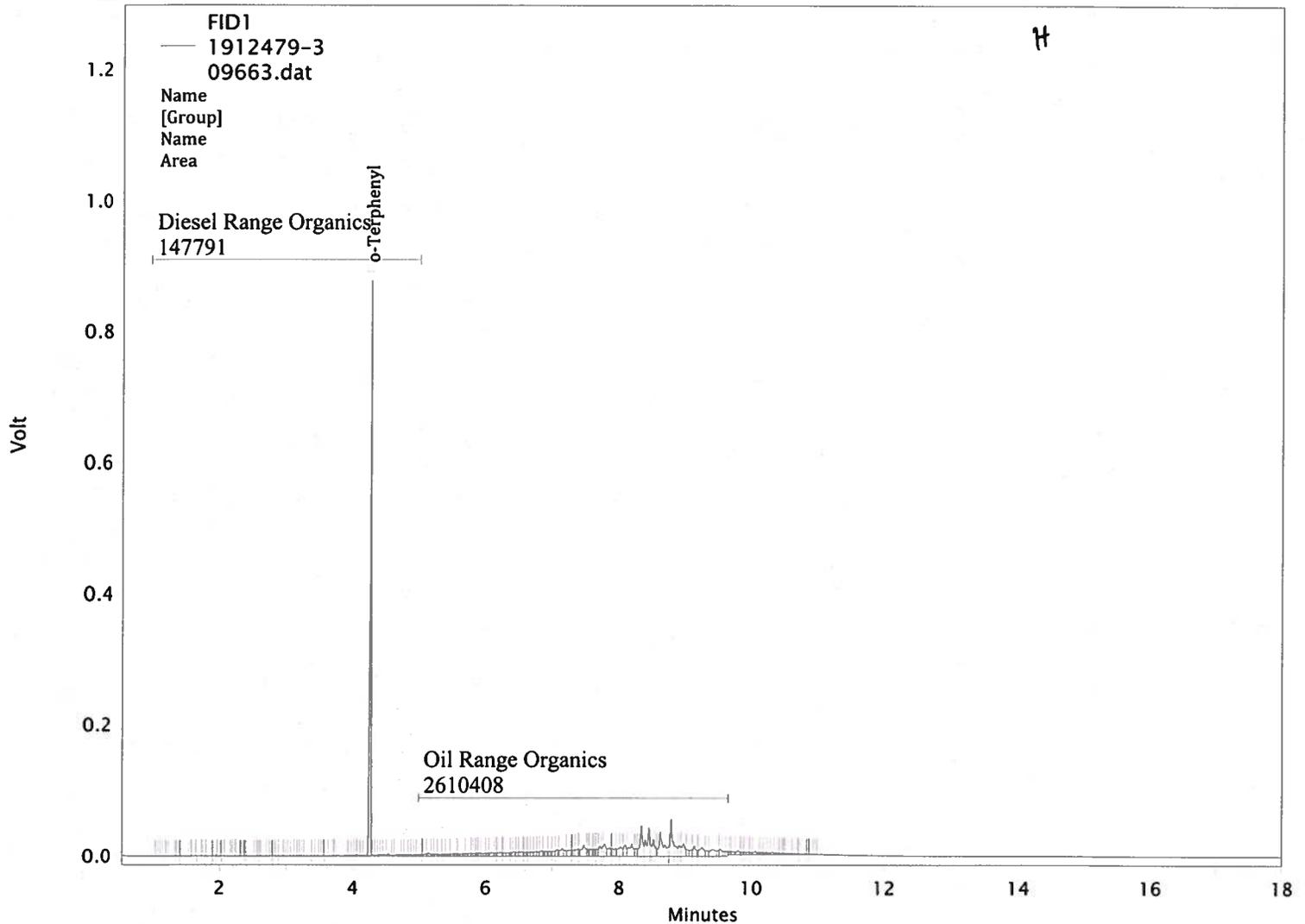
Sequence : \\gcserver\gdata\Projects\GC8\Sequence\2020\DRO+ORO\drooro200107.seq

Vial : 8

Data Description : {Data Description}

## FID1 Results

| Compound Name         | RT   | Expected RT | Peak Area | Integration Codes | Conc.     | Conc. Units |
|-----------------------|------|-------------|-----------|-------------------|-----------|-------------|
| o-Terphenyl           | 4.27 | 4.26        | 1126621   | TL                | 43.904 ✓  | ug/mL       |
| Diesel Range Organics |      |             | 147791    |                   | 0.000 ✓   | ug/mL       |
| Oil Range Organics    |      |             | 2610408   |                   | 117.049 ✓ | ug/mL       |



Column : ZB-1HT (15M x 0.25mm x 0.25u)

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Printed On : 1/8/2020 8:17:01 AM

# Total Extractable Petroleum Hydrocarbons / DRO (8015) Retention Time Marker

ALSLG-Fort Collins

Sample : DRO+ORO RTM

Filename : \\gcserver\gdata\Projects\GC8\Data\2020\drooro200107\09656.dat

Acquisition Date : 1/7/2020 10:30:08 AM

Instrument : GC8 (Offline)

Quantitation Date : 1/8/2020 8:06:55 AM

Data Acquired By : lainej.lloyd

Last Method Update : 1/8/2020 8:06:47 AM

Data Processed By : lainej.lloyd

Method : \\gcserver\gdata\Projects\GC8\Method\2020\drooro190807G.met

Inj. Vol. (uL) : 2

Sequence : \\gcserver\gdata\Projects\GC8\Sequence\2020\DRO+ORO\drooro200107.seq

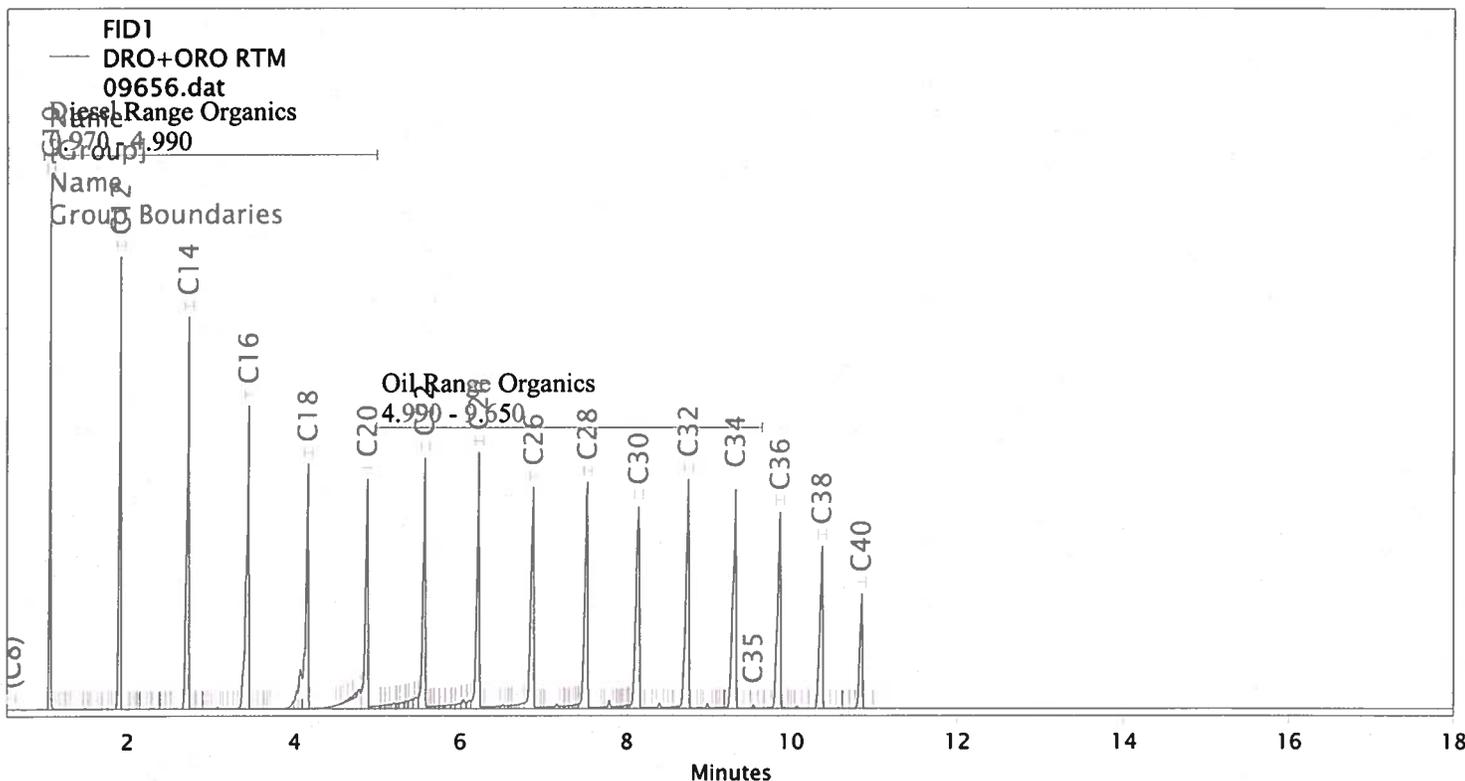
Vial

: 1

Data Description : ST180911-1

## FID1 Results

| Compound Name | RT    | Integration Codes | Peak Start Time | Peak Stop Time |
|---------------|-------|-------------------|-----------------|----------------|
| C10           | 1.07  | LL                | 1.02            | 1.13           |
| C12           | 1.93  | LL                | 1.87            | 1.95           |
| C14           | 2.74  | LL                | 2.63            | 2.75           |
| C16           | 3.46  | LL                | 3.32            | 3.50           |
| C18           | 4.17  | TL                | 4.10            | 4.22           |
| C20           | 4.89  | LL                | 4.81            | 4.90           |
| C22           | 5.58  | LL                | 5.50            | 5.60           |
| C24           | 6.23  | LL                | 6.14            | 6.26           |
| C26           | 6.89  | LL                | 6.78            | 6.92           |
| C28           | 7.54  | LL                | 7.42            | 7.55           |
| C30           | 8.16  | LL                | 8.05            | 8.18           |
| C32           | 8.76  | LL                | 8.64            | 8.80           |
| C34           | 9.33  | LL                | 9.21            | 9.37           |
| C35           | 9.55  | LL                | 9.51            | 9.59           |
| C36           | 9.87  | VV                | 9.77            | 9.90           |
| C38           | 10.38 | VV                | 10.29           | 10.41          |
| C40           | 10.86 | VV                | 10.78           | 10.90          |



Column : ZB-1HT (15M x 0.25mm x 0.25u)

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Printed On : 1/8/2020 8:08:06 AM