

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 17, 2019

Alyssa Beard

Foundation Energy

1801 Broadway, Suite 1500

Denver, CO 80202

RE: Federal 31-16

Enclosed are the results of analyses for samples received by Summit Scientific on 04/10/19 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature is written in a cursive style and reads "Muri Premer".

Muri Premer For Ben Shrewsbury

Laboratory Manager



Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| East @4' | 1904142-01 | Soil | 04/07/19 00:00 | 04/10/19 16:00 |
| North @4' | 1904142-02 | Soil | 04/07/19 00:00 | 04/10/19 16:00 |
| West @4' | 1904142-03 | Soil | 04/07/19 00:00 | 04/10/19 16:00 |
| South @4' | 1904142-04 | Soil | 04/07/19 00:00 | 04/10/19 16:00 |
| Base @5' | 1904142-05 | Soil | 04/07/19 00:00 | 04/10/19 16:00 |

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S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

1904142

Page 1 of 1

Client: Foundation Energy

Project Manager: Alyssa Beard

Address: 1801 Broadway, Suite 1500

E-Mail: abeard@foundationenergy.com

City/State/Zip: Denver, CO 80202


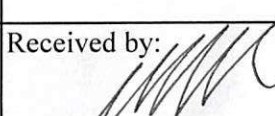
Phone: 303.844.2114 720.257.2302

Project Name: Federal 31-16

Sampler Name: Alyssa Beard

Project Number:

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-------|--------|------|----------------|-------|--------------------|-----|----|----|-----|---|----------------------|
| | | | | | HCl | HNO ₃ | None | Other | Water | Soil | Air-Canister # | Other | GBTEX | DRO | PH | EC | SAR | | |
| 1 | East @ 4' | 4/7/19 | | 1 | | | | | | X | | | | X | X | X | X | X | |
| 2 | North @ 4' | 4/7/19 | | 1 | | | | | | X | | | | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 3 | West @ 4' | 4/7/19 | | 1 | | | | | | X | | | | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 4 | South @ 4' | 4/7/19 | | 1 | | | | | | X | | | | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 5 | Base @ 5' | 4/7/19 | | 1 | | | | | | X | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|-------------------------|--|-------------------------|--|-----------------------------|
| Relinquished by:  | Date/Time: 4/10/19 1600 | Received by:  | Date/Time: 4-10-19 1600 | Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: 5.2 Samples Intact: Yes No | Notes: on 1st |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | | |

Sample Receipt Checklist

S2 Work Order

1904142

Client:

Foundation

Client Project ID:

Federal 31-16

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Temp (°C)

5.2

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | on ice |
| NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | | | | |
| Were all samples received intact ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was adequate sample volume provided ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If custody seals are present, are they intact ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Record the pH in Comments. | | | | |
| If dissolved metals are requested, were samples field filtered? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name or Initials

Signature of Custodian

4-10-19 1606
Date/Time



Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

East @4'
1904142-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1904178 | 04/11/19 | 04/12/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 82.9 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 100 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1904176 | 04/11/19 | 04/11/19 | EPA 8015M | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: o-Terphenyl | | 97.1 % | 30-150 | | " | " | " | " | |

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------|-------------|-----------|-----------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Calcium | 4000 | 11.6 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B | |
| Magnesium | 2470 | 5.82 | " | " | " | " | " | " | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

East @4'
1904142-01 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

| | | | | | | | | |
|--------|------|------|-----------|---|---------|----------|----------|-----------|
| Sodium | 76.9 | 5.82 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B |
|--------|------|------|-----------|---|---------|----------|----------|-----------|

Calculated Analysis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------|--------|-----------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 0.236 | 0.100 | units | 1 | 1904263 | 04/16/19 | 04/17/19 | Calculation | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|--------|-----------------|----------|----------|---------|----------|----------|-------------|-------|
| % Solids | 85.9 | | % | 1 | 1904197 | 04/12/19 | 04/12/19 | Calculation | |
| pH | 8.84 | | pH Units | " | 1904242 | 04/12/19 | 04/12/19 | EPA 9045D | |

Specific Conductance by EPA Method 120.1

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------------------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.624 | 0.0100 | mmhos/cm | 1 | 1904243 | 04/16/19 | 04/17/19 | EPA 120.1 | |

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Foundation Energy
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Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

North @4'
1904142-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1904178 | 04/11/19 | 04/12/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 80.7 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 100 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.9 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1904176 | 04/11/19 | 04/12/19 | EPA 8015M | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 102 % | 30-150 | | " | " | " | " | |

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------|-------------|-----------|-----------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Calcium | 6820 | 11.1 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B | |
| Magnesium | 2010 | 5.57 | " | " | " | " | " | " | |
| Sodium | 47.2 | 5.57 | " | " | " | " | " | " | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

North @4'
1904142-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Calculated Analysis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 0.129 | 0.100 | units | 1 | 1904263 | 04/16/19 | 04/17/19 | Calculation | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|--------------------|----------|----------|---------|----------|----------|-------------|-------|
| % Solids | 89.7 | | % | 1 | 1904197 | 04/12/19 | 04/12/19 | Calculation | |
| pH | 8.93 | | pH Units | " | 1904242 | 04/12/19 | 04/12/19 | EPA 9045D | |

Specific Conductance by EPA Method 120.1

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------------------|--------------|--------------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.382 | 0.0100 | mmhos/cm | 1 | 1904243 | 04/16/19 | 04/17/19 | EPA 120.1 | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

West @4'
1904142-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1904178 | 04/11/19 | 04/12/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 81.9 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 99.2 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1904176 | 04/11/19 | 04/12/19 | EPA 8015M | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 106 % | 30-150 | | " | " | " | " | |

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------|--------|-----------|-----------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Calcium | 10700 | 11.7 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B | |
| Magnesium | 3250 | 5.84 | " | " | " | " | " | " | |
| Sodium | 72.3 | 5.84 | " | " | " | " | " | " | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16
Project Number: [none]
Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

West @4'
1904142-03 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Calculated Analysis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------|--------|--------------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 0.157 | 0.100 | units | 1 | 1904263 | 04/16/19 | 04/17/19 | Calculation | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|--------|--------------------|----------|----------|---------|----------|----------|-------------|-------|
| % Solids | 85.7 | | % | 1 | 1904197 | 04/12/19 | 04/12/19 | Calculation | |
| pH | 8.76 | | pH Units | " | 1904242 | 04/12/19 | 04/12/19 | EPA 9045D | |

Specific Conductance by EPA Method 120.1

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------------------|--------|--------------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.403 | 0.0100 | mmhos/cm | 1 | 1904243 | 04/16/19 | 04/17/19 | EPA 120.1 | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

South @4'
1904142-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1904178 | 04/11/19 | 04/12/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 85.0 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.2 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1904176 | 04/11/19 | 04/12/19 | EPA 8015M | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 99.6 % | 30-150 | | " | " | " | " | |

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------|--------|-----------|-----------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Calcium | 7650 | 11.2 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B | |
| Magnesium | 2310 | 5.61 | " | " | " | " | " | " | |
| Sodium | 22.9 | 5.61 | " | " | " | " | " | " | |

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

South @4'
1904142-04 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Calculated Analysis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------|--------|--------------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | ND | 0.100 | units | 1 | 1904263 | 04/16/19 | 04/17/19 | Calculation | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|--------------------|----------|----------|---------|----------|----------|-------------|-------|
| % Solids | 89.2 | | % | 1 | 1904197 | 04/12/19 | 04/12/19 | Calculation | |
| pH | 8.55 | | pH Units | " | 1904242 | 04/12/19 | 04/12/19 | EPA 9045D | |

Specific Conductance by EPA Method 120.1

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------------------|--------------|--------------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.690 | 0.0100 | mmhos/cm | 1 | 1904243 | 04/16/19 | 04/17/19 | EPA 120.1 | |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Base @5'
1904142-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1904178 | 04/11/19 | 04/12/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 86.0 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.5 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1904176 | 04/11/19 | 04/12/19 | EPA 8015M | |

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 103 % | 30-150 | | " | " | " | " | |

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------|--------|-----------------|-----------|----------|---------|----------|----------|-----------|-------|
| Calcium | 18600 | 13.1 | mg/kg dry | 1 | 1904212 | 04/12/19 | 04/12/19 | EPA 6020B | |
| Magnesium | 5540 | 6.53 | " | " | " | " | " | " | |
| Sodium | 81.0 | 6.53 | " | " | " | " | " | " | |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Base @5'
1904142-05 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Calculated Analysis

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 0.134 | 0.100 | units | 1 | 1904263 | 04/16/19 | 04/17/19 | Calculation | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|--------------------|----------|----------|---------|----------|----------|-------------|-------|
| % Solids | 76.6 | | % | 1 | 1904197 | 04/12/19 | 04/12/19 | Calculation | |
| pH | 8.29 | | pH Units | " | 1904242 | 04/12/19 | 04/12/19 | EPA 9045D | |

Specific Conductance by EPA Method 120.1

Date Sampled: **04/07/19 00:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------------------|--------------|--------------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.528 | 0.0100 | mmhos/cm | 1 | 1904243 | 04/16/19 | 04/17/19 | EPA 120.1 | |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1904178 - EPA 5030 Soil MS

Blank (1904178-BLK1)

Prepared: 04/11/19 Analyzed: 04/12/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0344 | | " | 0.0400 | | 85.9 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0403 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0408 | | " | 0.0400 | | 102 | 21-167 | | | |

LCS (1904178-BS1)

Prepared: 04/11/19 Analyzed: 04/12/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.102 | 0.0020 | mg/kg | 0.100 | | 102 | 70-130 | | | |
| Toluene | 0.109 | 0.0050 | " | 0.100 | | 109 | 70-130 | | | |
| Ethylbenzene | 0.111 | 0.0050 | " | 0.100 | | 111 | 70-130 | | | |
| m,p-Xylene | 0.225 | 0.010 | " | 0.200 | | 112 | 70-130 | | | |
| o-Xylene | 0.114 | 0.0050 | " | 0.100 | | 114 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0315 | | " | 0.0400 | | 78.8 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0409 | | " | 0.0400 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0403 | | " | 0.0400 | | 101 | 21-167 | | | |

Matrix Spike (1904178-MS1)

Source: 1904142-01

Prepared: 04/11/19 Analyzed: 04/12/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene | 0.0789 | 0.0020 | mg/kg | 0.100 | ND | 78.9 | 70-130 | | | |
| Toluene | 0.0842 | 0.0050 | " | 0.100 | ND | 84.2 | 70-130 | | | |
| Ethylbenzene | 0.0808 | 0.0050 | " | 0.100 | ND | 80.8 | 70-130 | | | |
| m,p-Xylene | 0.162 | 0.010 | " | 0.200 | ND | 81.2 | 70-130 | | | |
| o-Xylene | 0.0833 | 0.0050 | " | 0.100 | ND | 83.3 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0334 | | " | 0.0400 | | 83.4 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0410 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0400 | | " | 0.0400 | | 100 | 21-167 | | | |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1904178 - EPA 5030 Soil MS

| Matrix Spike Dup (1904178-MSD1) | | Source: 1904142-01 | | | Prepared: 04/11/19 Analyzed: 04/12/19 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|---------------------------------------|------|--------|------|----|--|
| Benzene | 0.0931 | 0.0020 | mg/kg | 0.100 | ND | 93.1 | 70-130 | 16.4 | 30 | |
| Toluene | 0.0989 | 0.0050 | " | 0.100 | ND | 98.9 | 70-130 | 16.0 | 30 | |
| Ethylbenzene | 0.0944 | 0.0050 | " | 0.100 | ND | 94.4 | 70-130 | 15.5 | 30 | |
| m,p-Xylene | 0.190 | 0.010 | " | 0.200 | ND | 95.0 | 70-130 | 15.6 | 30 | |
| o-Xylene | 0.0970 | 0.0050 | " | 0.100 | ND | 97.0 | 70-130 | 15.1 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0326 | | " | 0.0400 | | 81.4 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0422 | | " | 0.0400 | | 106 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0390 | | " | 0.0400 | | 97.4 | 21-167 | | | |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1904176 - EPA 3550A

Blank (1904176-BLK1)

Prepared & Analyzed: 04/11/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1904176-BS1)

Prepared & Analyzed: 04/11/19

C10-C28 (DRO) 530 50 mg/kg 500 106 70-130

Matrix Spike (1904176-MS1)

Source: 1904135-01

Prepared & Analyzed: 04/11/19

C10-C28 (DRO) 694 50 mg/kg 500 68.3 125 70-130

Matrix Spike Dup (1904176-MSD1)

Source: 1904135-01

Prepared & Analyzed: 04/11/19

C10-C28 (DRO) 600 50 mg/kg 500 68.3 106 70-130 14.5 20

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis - Quality Control

Summit Scientific

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

Batch 1904212 - General Preparation

Blank (1904212-BLK1)

Prepared & Analyzed: 04/12/19

| | | | |
|-----------|----|------|-----------|
| Calcium | ND | 10.0 | mg/kg wet |
| Magnesium | ND | 5.00 | " |
| Sodium | ND | 5.00 | " |

LCS (1904212-BS1)

Prepared & Analyzed: 04/12/19

| | | | | | | |
|-----------|-----|------|-----------|-----|------|--------|
| Calcium | 473 | 10.0 | mg/kg wet | 500 | 94.7 | 70-130 |
| Magnesium | 499 | 5.00 | " | 500 | 99.7 | 70-130 |
| Sodium | 493 | 5.00 | " | 500 | 98.6 | 70-130 |

Duplicate (1904212-DUP1)

Source: 1904142-01

Prepared & Analyzed: 04/12/19

| | | | | | | |
|-----------|------|------|-----------|------|------|----|
| Calcium | 4200 | 11.6 | mg/kg dry | 4000 | 4.87 | 20 |
| Magnesium | 2280 | 5.82 | " | 2470 | 7.78 | 20 |
| Sodium | 88.5 | 5.82 | " | 76.9 | 14.0 | 20 |

Matrix Spike (1904212-MS1)

Source: 1904142-01

Prepared & Analyzed: 04/12/19

| | | | | | | | |
|-----------|------|------|-----------|-----|------|------|--------|
| Calcium | 4550 | 11.6 | mg/kg dry | 582 | 4000 | 94.0 | 70-130 |
| Magnesium | 2880 | 5.82 | " | 582 | 2470 | 70.5 | 70-130 |
| Sodium | 594 | 5.82 | " | 582 | 76.9 | 88.8 | 70-130 |

Matrix Spike Dup (1904212-MSD1)

Source: 1904142-01

Prepared & Analyzed: 04/12/19

| | | | | | | | | | |
|-----------|------|------|-----------|-----|------|------|--------|-------|----|
| Calcium | 4580 | 11.6 | mg/kg dry | 582 | 4000 | 99.2 | 70-130 | 0.661 | 25 |
| Magnesium | 2880 | 5.82 | " | 582 | 2470 | 71.6 | 70-130 | 0.220 | 25 |
| Sodium | 601 | 5.82 | " | 582 | 76.9 | 90.0 | 70-130 | 1.17 | 25 |

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch 1904197 - General Preparation

Duplicate (1904197-DUP1)

Source: 1904137-01

Prepared & Analyzed: 04/12/19

| | | | | | | | |
|----------|------|---|--|------|--|------|----|
| % Solids | 88.8 | % | | 88.8 | | 0.00 | 20 |
|----------|------|---|--|------|--|------|----|

Batch 1904242 - General Preparation

LCS (1904242-BS1)

Prepared & Analyzed: 04/12/19

| | | | | | | |
|----|------|----------|--|------|-----|--------|
| pH | 9.37 | pH Units | | 9.23 | 102 | 95-105 |
|----|------|----------|--|------|-----|--------|

Duplicate (1904242-DUP1)

Source: 1904142-01

Prepared & Analyzed: 04/12/19

| | | | | | | | |
|----|------|----------|--|------|--|-------|----|
| pH | 8.89 | pH Units | | 8.84 | | 0.564 | 20 |
|----|------|----------|--|------|--|-------|----|

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]

Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Specific Conductance by EPA Method 120.1 - Quality Control

Summit Scientific

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

Batch 1904243 - General Preparation

Blank (1904243-BLK1)

Prepared: 04/16/19 Analyzed: 04/17/19

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (1904243-BS1)

Prepared: 04/16/19 Analyzed: 04/17/19

Specific Conductance (EC) 0.769 0.0100 mmhos/cm 0.750 103 90-110

Duplicate (1904243-DUP1)

Source: 1904142-01

Prepared: 04/16/19 Analyzed: 04/17/19

Specific Conductance (EC) 0.529 0.0100 mmhos/cm 0.624 16.4 20

Summit Scientific

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Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Federal 31-16

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
04/17/19 15:39

Notes and Definitions

| | |
|-----|--|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |