



**TABLE 1**  
**SOIL ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - THOMPSON #3**

| Soil Sample ID        | Date     | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | Naphthalene (mg/kg) |
|-----------------------|----------|-----------------|-----------------|----------------------|-----------------------|-----------------|-----------------|---------------------|
| <b>COGCC Standard</b> |          | <b>0.17</b>     | <b>85</b>       | <b>100</b>           | <b>175</b>            | <b>500</b>      |                 | <b>23</b>           |
| SS01@7'               | 11/27/18 | 1.5             | 7.3             | 1.0                  | 14                    | 350             | 98              | 0.44                |
| SS02@7'               | 11/27/18 | 0.077           | 0.14            | 0.0092               | 0.15                  | <50             | <50             | <0.010              |
| SS03@7'               | 11/27/18 | 10              | 45              | 3.5                  | 53                    | 1,100           | 82              | 0.18                |
| SS04@7'               | 11/28/18 | 0.034           | 0.20            | 0.021                | 0.32                  | <50             | <50             | <0.010              |
| SS05@7'               | 11/28/18 | 0.31            | 2.3             | 0.14                 | 3.7                   | <50             | <50             | 0.025               |

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

< = Analytical result is less than the indicated laboratory reporting limit

Soil standards referenced from COGCC Table 910-1

Highlighted results are equal to or exceed the COGCC Table 910-1 standard

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - THOMPSON #3**

| Monitoring Well ID    | Date     | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) |
|-----------------------|----------|----------------|----------------|---------------------|----------------------|
| <b>COGCC Standard</b> |          | <b>5</b>       | <b>560</b>     | <b>700</b>          | <b>1,400</b>         |
| GW01                  | 11/28/18 | <b>5,400</b>   | <b>10,000</b>  | 600                 | <b>7,100</b>         |

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

< = Analytical result is less than the indicated laboratory reporting limit

Groundwater standards referenced from COGCC Table 910-1

**Highlighted results are equal to or exceed the COGCC Table 910-1 standard**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 28, 2018

Brandon Bruns

Tasman Geosciences

6899 Pecos St, Unit C

Denver, CO 80221

RE: Noble - Thompson #3

Enclosed are the results of analyses for samples received by Summit Scientific on 11/27/18 18:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| SS01@7'   | 1811311-01    | Soil   | 11/27/18 14:30 | 11/27/18 18:15 |
| SS02@7'   | 1811311-02    | Soil   | 11/27/18 14:34 | 11/27/18 18:15 |
| SS03@7'   | 1811311-03    | Soil   | 11/27/18 14:40 | 11/27/18 18:15 |

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

1811311

303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Project Manager: Brandon Bruns, Invoice: Jacob Evans  
E-Mail: Bbruns@tasman-geo.com  
Project Name: Thompson #3  
Project Number: -

[illegible]

# Sample Receipt Checklist

S2 Work Order: 1811311

Client: Noble/Tasman

Client Project ID: Thompson #3

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

Airbill #: \_\_\_\_\_

Matrix (check all that apply):      Air   /   Soil/Solid      Water      Other: \_\_\_\_\_  
(Describe)

|           |            |
|-----------|------------|
| Temp (°C) | <u>3.6</u> |
|-----------|------------|

Thermometer ID: 61857155-K

|  | Yes | No | N/A | Comments (if any) |
|--|-----|----|-----|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?  |     |    |     |                   |
| 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 <sup>(1)</sup> ?  | /   |    |     |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?   | /   |    |     |                   |
| If custody seals are present, are they intact <sup>(1)</sup> ?   |     |    |     |                   |
| Are samples with holding times due within 48 hours sample due within 48 hours present?   |     |    | /   |                   |
| Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?  | /   |    |     |                   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?  | /   |    |     |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?  | /   |    |     |                   |
| Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?  | /   |    |     |                   |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative.                                       |     |    | /   |                   |
| Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?   |     |    | /   |                   |
| 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 <sup>(1)</sup> ? Record the pH in Comments.                                      |     |    | /   |                   |
| If dissolved metals are requested, were samples field filtered?  |     |    | /   |                   |
| Additional Comments (if any):  |     |    |     |                   |
|  |     |    |     |                   |
|  |     |    |     |                   |

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

UP  
Custodian Printed Name or Initials

[Signature]  
Signature or Initials of Custodian

11.27.18 1840  
Date/Time





Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

**SS01@7'**  
**1811311-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/27/18 14:30**

| Analyte                            | Result      | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------------------|-------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                                    |             | Limit     | Units |          |         |          |          |           |       |
| <b>Benzene</b>                     | <b>1.5</b>  | 0.20      | mg/kg | 100      | 1811335 | 11/27/18 | 11/27/18 | EPA 8260B |       |
| <b>Toluene</b>                     | <b>7.3</b>  | 0.50      | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>                | <b>1.0</b>  | 0.50      | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>             | <b>14</b>   | 1.0       | "     | "        | "       | "        | "        | "         |       |
| <b>Naphthalene</b>                 | <b>0.44</b> | 0.010     | "     | 1        | "       | "        | "        | "         |       |
| <b>Gasoline Range Hydrocarbons</b> | <b>350</b>  | 50        | "     | 100      | "       | "        | "        | "         |       |

Date Sampled: **11/27/18 14:30**

| Analyte                                 | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     | Units  |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 104 %     | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 102 %     | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 113 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/27/18 14:30**

| Analyte              | Result    | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|----------------------|-----------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                      |           | Limit     | Units |          |         |          |          |           |       |
| <b>C10-C28 (DRO)</b> | <b>98</b> | 50        | mg/kg | 1        | 1811336 | 11/27/18 | 11/28/18 | EPA 8015M |       |

Date Sampled: **11/27/18 14:30**

| Analyte                       | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     | Units  |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 80.1 %    | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

**SS02@7'**  
**1811311-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/27/18 14:34**

| Analyte                     | Result        | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     | Units |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.077</b>  | 0.0020    | mg/kg | 1        | 1811335 | 11/27/18 | 11/27/18 | EPA 8260B |       |
| <b>Toluene</b>              | <b>0.14</b>   | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.0092</b> | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.15</b>   | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **11/27/18 14:34**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 84.3 %    | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 95.8 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/27/18 14:34**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 1811336 | 11/27/18 | 11/28/18 | EPA 8015M |       |

Date Sampled: **11/27/18 14:34**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 85.9 %    | 30-150 |          | "     | "        | "        | "      |       |

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

**SS03@7'**  
**1811311-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/27/18 14:40**

| Analyte                            | Result      | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------------------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>                     | <b>10</b>   | 0.20            | mg/kg | 100      | 1811335 | 11/27/18 | 11/27/18 | EPA 8260B |       |
| <b>Toluene</b>                     | <b>45</b>   | 0.50            | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>                | <b>3.5</b>  | 0.50            | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>             | <b>53</b>   | 1.0             | "     | "        | "       | "        | "        | "         |       |
| <b>Naphthalene</b>                 | <b>0.18</b> | 0.010           | "     | 1        | "       | "        | "        | "         |       |
| <b>Gasoline Range Hydrocarbons</b> | <b>1100</b> | 50              | "     | 100      | "       | "        | "        | "         |       |

Date Sampled: **11/27/18 14:40**

| Analyte                                 | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 112 %           | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 101 %           | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 122 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/27/18 14:40**

| Analyte              | Result    | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|----------------------|-----------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>C10-C28 (DRO)</b> | <b>82</b> | 50              | mg/kg | 1        | 1811336 | 11/27/18 | 11/28/18 | EPA 8015M |       |

Date Sampled: **11/27/18 14:40**

| Analyte                       | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> |        | 82.7 %          | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
11/28/18 06:18

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 1811335 - EPA 5030 Soil MS

##### Blank (1811335-BLK1)

Prepared: 11/27/18 Analyzed: 11/28/18

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | ND     | 0.0020 | mg/kg |        |  |      |        |  |  |  |
| Toluene                          | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Ethylbenzene                     | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Xylenes (total)                  | ND     | 0.010  | "     |        |  |      |        |  |  |  |
| Naphthalene                      | ND     | 0.010  | "     |        |  |      |        |  |  |  |
| Gasoline Range Hydrocarbons      | ND     | 50     | "     |        |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0375 |        | "     | 0.0396 |  | 94.6 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0393 |        | "     | 0.0400 |  | 98.2 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0397 |        | "     | 0.0400 |  | 99.3 | 21-167 |  |  |  |

##### LCS (1811335-BS1)

Prepared: 11/27/18 Analyzed: 11/28/18

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | 0.0905 | 0.0020 | mg/kg | 0.100  |  | 90.5 | 70-130 |  |  |  |
| Toluene                          | 0.0915 | 0.0050 | "     | 0.100  |  | 91.5 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.0914 | 0.0050 | "     | 0.100  |  | 91.4 | 70-130 |  |  |  |
| m,p-Xylene                       | 0.178  | 0.010  | "     | 0.200  |  | 89.1 | 70-130 |  |  |  |
| o-Xylene                         | 0.0893 | 0.0050 | "     | 0.100  |  | 89.3 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0398 |        | "     | 0.0396 |  | 100  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0402 |        | "     | 0.0400 |  | 100  | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0402 |        | "     | 0.0400 |  | 101  | 21-167 |  |  |  |

##### Matrix Spike (1811335-MS1)

Source: 1811309-02

Prepared: 11/27/18 Analyzed: 11/28/18

|                                  |        |        |       |        |    |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene                          | 0.0882 | 0.0020 | mg/kg | 0.100  | ND | 88.2 | 70-130 |  |  |  |
| Toluene                          | 0.0898 | 0.0050 | "     | 0.100  | ND | 89.8 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.0911 | 0.0050 | "     | 0.100  | ND | 91.1 | 70-130 |  |  |  |
| m,p-Xylene                       | 0.179  | 0.010  | "     | 0.200  | ND | 89.7 | 70-130 |  |  |  |
| o-Xylene                         | 0.0905 | 0.0050 | "     | 0.100  | ND | 90.5 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0393 |        | "     | 0.0396 |    | 99.3 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0396 |        | "     | 0.0400 |    | 99.0 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0394 |        | "     | 0.0400 |    | 98.5 | 21-167 |  |  |  |

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]

Project Manager: Brandon Brunns

**Reported:**

11/28/18 06:18

## 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 1811335 - EPA 5030 Soil MS

##### Matrix Spike Dup (1811335-MSD1)

Source: 1811309-02

Prepared: 11/27/18 Analyzed: 11/28/18

|                                  |        |        |       |        |    |      |        |        |    |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--------|----|--|
| Benzene                          | 0.0875 | 0.0020 | mg/kg | 0.100  | ND | 87.5 | 70-130 | 0.785  | 30 |  |
| Toluene                          | 0.0874 | 0.0050 | "     | 0.100  | ND | 87.4 | 70-130 | 2.61   | 30 |  |
| Ethylbenzene                     | 0.0911 | 0.0050 | "     | 0.100  | ND | 91.1 | 70-130 | 0.0329 | 30 |  |
| m,p-Xylene                       | 0.179  | 0.010  | "     | 0.200  | ND | 89.6 | 70-130 | 0.100  | 30 |  |
| o-Xylene                         | 0.0900 | 0.0050 | "     | 0.100  | ND | 90.0 | 70-130 | 0.565  | 30 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0399 |        | "     | 0.0396 |    | 101  | 23-173 |        |    |  |
| Surrogate: Toluene-d8            | 0.0396 |        | "     | 0.0400 |    | 99.0 | 20-170 |        |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0404 |        | "     | 0.0400 |    | 101  | 21-167 |        |    |  |

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1811336 - EPA 3550A**

**Blank (1811336-BLK1)**

Prepared: 11/27/18 Analyzed: 11/28/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1811336-BS1)**

Prepared: 11/27/18 Analyzed: 11/28/18

C10-C28 (DRO) 444 50 mg/kg 500 88.8 70-130

**Matrix Spike (1811336-MS1)**

**Source: 1811309-02**

Prepared: 11/27/18 Analyzed: 11/28/18

C10-C28 (DRO) 452 50 mg/kg 500 30.7 84.2 70-130

**Matrix Spike Dup (1811336-MSD1)**

**Source: 1811309-02**

Prepared: 11/27/18 Analyzed: 11/28/18

C10-C28 (DRO) 405 50 mg/kg 500 30.7 74.8 70-130 10.9 20

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/28/18 06:18

### 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                          |

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 29, 2018

Brandon Bruns

Tasman Geosciences

6899 Pecos St, Unit C

Denver, CO 80221

RE: Noble - Thompson #3

Enclosed are the results of analyses for samples received by Summit Scientific on 11/28/18 18:26. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

DRAFT REPORT

DATA SUBJECT TO CHANGE





Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]

Project Manager: Brandon Bruns

**Reported:**  
11/29/18 05:58

**ANALYTICAL REPORT FOR SAMPLES**

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| GW01      | 1811327-01    | Water  | 11/28/18 08:35 | 11/28/18 18:26 |
| SS04@7'   | 1811327-02    | Soil   | 11/28/18 15:10 | 11/28/18 18:26 |
| SS05@7'   | 1811327-03    | Soil   | 11/28/18 15:15 | 11/28/18 18:26 |

DRAFT REPORT

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

1811327

303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Project Manager: Brandon Bruns, Invoice: Jacob Evans  
E-Mail: Bbruns@tasman-geo.com  
Project Name: Thompson #3  
Project Number: -

[illegible]

# Sample Receipt Checklist

S2 Work Order: 1811327

Client: Noble/Tasman

Client Project ID: Thompson #3

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

Airbill #: \_\_\_\_\_

Matrix (check all that apply):      Air   /   Soil/Solid   /   Water      Other: \_\_\_\_\_  
(Describe)

|           |            |
|-----------|------------|
| Temp (°C) | <u>2.9</u> |
|-----------|------------|

Thermometer ID: 61857155-K

|  | Yes          | No           | N/A          | Comments (if any) |
|--|--------------|--------------|--------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| 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 <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?   | <u>  /  </u> |              |              |                   |
| If custody seals are present, are they intact <sup>(1)</sup> ?   |              |              | <u>  /  </u> |                   |
| Are samples with holding times due within 48 hours sample due within 48 hours present?   |              |              | <u>  /  </u> |                   |
| Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?  | <u>  /  </u> |              |              |                   |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative.                                       |              | <u>  /  </u> |              |                   |
| Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?   |              |              | <u>  /  </u> |                   |
| 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 <sup>(1)</sup> ?   |              |              | <u>  /  </u> |                   |
| Record the pH in Comments.   |              |              |              |                   |
| If dissolved metals are requested, were samples field filtered?  |              |              | <u>  /  </u> |                   |
| Additional Comments (if any):  |              |              |              |                   |
|  |              |              |              |                   |
|  |              |              |              |                   |

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

CP  
Custodian Printed Name or Initials

[Signature]  
Signature or Initials of Custodian

11.28.18 1830  
Date/Time



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/18 05:58

**GW01**  
**1811327-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/28/18 08:35**

| Analyte                | Result       | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|--------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                        |              | Limit     | Units |          |         |          |          |           |       |
| <b>Benzene</b>         | <b>5400</b>  | 100       | ug/l  | 100      | 1811304 | 11/28/18 | 11/28/18 | EPA 8260B |       |
| <b>Toluene</b>         | <b>10000</b> | 100       | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>600</b>   | 100       | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>7100</b>  | 200       | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **11/28/18 08:35**

| Analyte                                 | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     | Units  |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 140 %     | 23-173 |          | "     | "        | 11/28/18 | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 100 %     | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 116 %     | 21-167 |          | "     | "        | "        | "      |       |

DRAFT REPORT

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]

Project Manager: Brandon Bruns

Reported:

11/29/18 05:58

**SS04@7'**  
**1811327-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/28/18 15:10**

| Analyte                     | Result       | Reporting | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |              | Limit     |       |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.034</b> | 0.0020    | mg/kg | 1        | 1811363 | 11/28/18 | 11/28/18 | EPA 8260B |       |
| <b>Toluene</b>              | <b>0.20</b>  | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.021</b> | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.32</b>  | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND           | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND           | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **11/28/18 15:10**

| Analyte                                 | Result | Reporting | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 106 %     | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 98.1 %    | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 108 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/28/18 15:10**

| Analyte       | Result | Reporting | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     |       |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 1811365 | 11/28/18 | 11/29/18 | EPA 8015M |       |

Date Sampled: **11/28/18 15:10**

| Analyte                       | Result | Reporting | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     |        |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 81.7 %    | 30-150 |          | "     | "        | "        | "      |       |

DRAFT REPORT

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]

Project Manager: Brandon Bruns

**Reported:**  
11/29/18 05:58

**SS05@7'**  
**1811327-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/28/18 15:15**

| Analyte                     | Result       | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |              | Limit     | Units |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.31</b>  | 0.0020    | mg/kg | 1        | 1811363 | 11/28/18 | 11/29/18 | EPA 8260B |       |
| <b>Toluene</b>              | <b>2.3</b>   | 0.050     | "     | 10       | "       | "        | 11/29/18 | "         |       |
| <b>Ethylbenzene</b>         | <b>0.14</b>  | 0.0050    | "     | 1        | "       | "        | 11/29/18 | "         |       |
| <b>Xylenes (total)</b>      | <b>3.7</b>   | 0.10      | "     | 10       | "       | "        | 11/29/18 | "         |       |
| <b>Naphthalene</b>          | <b>0.025</b> | 0.010     | "     | 1        | "       | "        | 11/29/18 | "         |       |
| Gasoline Range Hydrocarbons | ND           | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **11/28/18 15:15**

| Analyte                                 | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     | Units  |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 109 %     | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 98.9 %    | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 114 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/28/18 15:15**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 1811365 | 11/28/18 | 11/29/18 | EPA 8015M |       |

Date Sampled: **11/28/18 15:15**

| Analyte                       | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     | Units  |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 81.2 %    | 30-150 |          | "     | "        | "        | "      |       |

DRAFT REPORT

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]

Project Manager: Brandon Bruns

**Reported:**

11/29/18 05:58

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

DRAFT REPORT

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Thompson #3

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/18 05:58

### 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                          |

---

DRAFT REPORT

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