

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 11, 2018

Blake Ford

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Rinn Valley Pipeline-KPK

Enclosed are the results of analyses for samples received by Summit Scientific on 12/10/18 18:00. 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



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/11/18 06:04

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| GW01@4' | 1812108-01 | Water | 12/10/18 08:35 | 12/10/18 18:00 |

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.

1812108

Page 1 of 1

| | |
|------------------|--|
| Project Manager: | Blake Ford |
| E-Mail: | bford@extractionog.com; bgibson@extractionog.com |
| Project Name: | Rinn Valley Pipeline - KPK |
| Project Number: | |

[illegible]

Sample Receipt Checklist

S2 Work Order: 1812108

Client: XOG Client Project ID: Rinn Valley Pipeline - KPK

Shipped Via: H.O. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

| | |
|-----------|-----|
| Temp (°C) | 8.9 |
|-----------|-----|

Thermometer ID: 61857155-K

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

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 or Initials of Custodian

12.10.18 1642
Date/Time



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/11/18 06:04

GW01@4'
1812108-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/10/18 08:35**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|-----------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | | |
| Benzene | ND | 1.0 | | ug/l | 1 | 1812136 | 12/10/18 | 12/10/18 | EPA 8260B | |
| Toluene | ND | 1.0 | | " | " | " | " | " | " | |
| Ethylbenzene | 18 | 1.0 | | " | " | " | " | " | " | |
| Xylenes (total) | 70 | 2.0 | | " | " | " | " | " | " | |

Date Sampled: **12/10/18 08:35**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 100 % | | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 103 % | | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 105 % | | 21-167 | | " | " | " | " | |

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370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/11/18 06:04

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 1812136 - EPA 5030 Water MS

Blank (1812136-BLK1)

Prepared & Analyzed: 12/10/18

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 2.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 11.9 | | " | 13.2 | | 90.1 | 23-173 | | | |
| Surrogate: Toluene-d8 | 15.6 | | " | 13.3 | | 117 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.5 | | " | 13.3 | | 93.6 | 21-167 | | | |

LCS (1812136-BS1)

Prepared & Analyzed: 12/10/18

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | 31.2 | 1.0 | ug/l | 33.3 | | 93.5 | 70-130 | | | |
| Toluene | 30.8 | 1.0 | " | 33.3 | | 92.3 | 70-130 | | | |
| Ethylbenzene | 30.2 | 1.0 | " | 33.3 | | 90.6 | 70-130 | | | |
| m,p-Xylene | 59.2 | 2.0 | " | 66.7 | | 88.8 | 70-130 | | | |
| o-Xylene | 29.4 | 1.0 | " | 33.3 | | 88.3 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.1 | | " | 13.2 | | 91.7 | 23-173 | | | |
| Surrogate: Toluene-d8 | 14.0 | | " | 13.3 | | 105 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.6 | | " | 13.3 | | 94.2 | 21-167 | | | |

Matrix Spike (1812136-MS1)

Source: 1812102-01

Prepared & Analyzed: 12/10/18

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|------|--------|--|--|--|
| Benzene | 42.4 | 1.0 | ug/l | 33.3 | 11.4 | 92.9 | 70-130 | | | |
| Toluene | 30.9 | 1.0 | " | 33.3 | ND | 92.6 | 70-130 | | | |
| Ethylbenzene | 31.1 | 1.0 | " | 33.3 | ND | 93.3 | 70-130 | | | |
| m,p-Xylene | 59.2 | 2.0 | " | 66.7 | ND | 88.8 | 70-130 | | | |
| o-Xylene | 30.2 | 1.0 | " | 33.3 | ND | 90.7 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.4 | | " | 13.2 | | 101 | 23-173 | | | |
| Surrogate: Toluene-d8 | 13.6 | | " | 13.3 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.5 | | " | 13.3 | | 101 | 21-167 | | | |

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Project: Rinn Valley Pipeline-KPK

Project Number: [none]

Project Manager: Blake Ford

Reported:

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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 1812136 - EPA 5030 Water MS

| Matrix Spike Dup (1812136-MSD1) | | Source: 1812102-01 | | | Prepared & Analyzed: 12/10/18 | | | | | |
|----------------------------------|------|--------------------|------|------|-------------------------------|------|--------|-------|----|--|
| Benzene | 42.5 | 1.0 | ug/l | 33.3 | 11.4 | 93.3 | 70-130 | 0.259 | 30 | |
| Toluene | 31.1 | 1.0 | " | 33.3 | ND | 93.2 | 70-130 | 0.646 | 30 | |
| Ethylbenzene | 32.0 | 1.0 | " | 33.3 | ND | 96.1 | 70-130 | 2.91 | 30 | |
| m,p-Xylene | 61.5 | 2.0 | " | 66.7 | ND | 92.2 | 70-130 | 3.71 | 30 | |
| o-Xylene | 30.5 | 1.0 | " | 33.3 | ND | 91.5 | 70-130 | 0.889 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.8 | | " | 13.2 | | 97.3 | 23-173 | | | |
| Surrogate: Toluene-d8 | 13.6 | | " | 13.3 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 101 | 21-167 | | | |

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12/11/18 06:04

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 |