

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

Document 2526576

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Pit closure/tank upgrade

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No: **7298**

OGCC Operator Number: 96705

Name of Operator: WPX Energy Production, LLC

Address: PO Box 640/ 721 S Main Street

City: Aztec State: NM Zip: 87410

Contact Name and Telephone:

Deborah Watson

No: 505.333.1880/505.386.9693

Fax: 505.333.1805

API Number: 05-067-05511

County: La Plata

Facility Name: Pit

Facility Number: 105405

Well Name: Ignacio 33-8

Well Number: 003

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSE 2 T33N R8W, NMPM Latitude: 37.13008 Longitude: -107.68519

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Irrigated

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Bodot Clay 3-10%

Potential receptors (water wells within 1/4 mi, surface waters, etc.): 3 water wells ~ 150 ft. Dry unnamed arroyo ~300 ft south

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

☐

Soils

☐

Vegetation

☐

Groundwater

☐

Surface Water

Extent of Impact:

How Determined:

TBD-not anticipated

N/A

TBD-not likely

TBD-not likely

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Assessment of former pit associated with COGCC. Currently buried vessel in proximity of former pit. Soil sampling to be done around perimeter of tank using hand auger or similar sampling method +/- 8 feet below ground surface.

Describe how source is to be removed:

Submit soils for Table 910-1 analysis.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

If soil impact found based on soil sampling, COGCC will be notified and assessment plan/reclamation plan will be developed. If no soil impact is found pit recored will be closed.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

No impact to groundwater, see laboratory results

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

No seeding or surface restoration is planned until site abandonment

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

See attached analytical laboratory report.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

IMPLEMENTATION SCHEDULE

| | | |
|---|---|--|
| Date Site Investigation Began: <u>7/31/14</u> | Date Site Investigation Completed: <u>7/31/14</u> | Date Remediation Plan Submitted: _____ |
| Remediation Start Date: <u>6/10/16</u> | Anticipated Completion Date: <u>5/2/16</u> | Actual Completion Date: <u>7/12/14</u> |

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Deborah Watson Signed: Deborah Watson

Title: Environmental Specialist Date: July 11, 2016

OGCC Approved: [Signature] Title: Environmental Protection Specialist Date: 7/15/16



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 31, 2014

Buddy Shaw
WPX Energy
721 S Main Ave
Aztec, NM 87410
TEL: (505) 333-1880
FAX

RE: Ignacio 33-8 #003

OrderNo.: 1407567

Dear Buddy Shaw:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/12/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: North Wall 1A & 1B 37.13007N ✓

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-001

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 7/15/2014 10:34:05 PM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 7/15/2014 10:34:05 PM | 14199 |
| Surr: DNOP | 89.8 | 57.9-140 | | %REC | 1 | 7/15/2014 10:34:05 PM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Surr: BFB | 92.7 | 80-120 | | %REC | 1 | 7/15/2014 6:09:48 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.095 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Benzene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 7/15/2014 6:09:48 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 100 | 80-120 | | %REC | 1 | 7/15/2014 6:09:48 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 3:58:46 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | ND | 0.033 | | mg/Kg | 1 | 7/22/2014 12:52:35 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 5.0 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Barium | 220 | 0.20 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Cadmium | ND | 0.20 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Chromium | 4.5 | 0.60 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Copper | 7.8 | 0.60 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Lead | 6.9 | 0.50 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Nickel | 7.4 | 0.99 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Selenium | ND | 5.0 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Silver | ND | 0.50 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| Zinc | 35 | 5.0 | | mg/Kg | 2 | 7/18/2014 11:08:50 AM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 2.8 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 610 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 8.29 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | | | | |
|-------------|---|---|----|--|--------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank | Page 1 of 12 |
| | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded | |
| | J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | |
| | O | RSD is greater than RSDlimit | P | Sample pH greater than 2. | |
| | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit | |
| | S | Spike Recovery outside accepted recovery limits | | | |

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: West Wall 2A & 2B

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-002

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 7/15/2014 11:04:51 PM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 7/15/2014 11:04:51 PM | 14199 |
| Surr: DNOP | 87.9 | 57.9-140 | | %REC | 1 | 7/15/2014 11:04:51 PM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Surr: BFB | 92.5 | 80-120 | | %REC | 1 | 7/15/2014 6:38:28 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.098 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Benzene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 7/15/2014 6:38:28 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 101 | 80-120 | | %REC | 1 | 7/15/2014 6:38:28 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 4:11:11 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | 0.046 | 0.031 | | mg/Kg | 1 | 7/22/2014 12:54:25 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Barium | 180 | 0.20 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Cadmium | ND | 0.20 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Chromium | 4.4 | 0.59 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Copper | 11 | 0.59 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Lead | 7.2 | 0.49 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Nickel | 7.8 | 0.99 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Selenium | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Silver | ND | 0.49 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| Zinc | 35 | 4.9 | | mg/Kg | 2 | 7/18/2014 11:10:13 AM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 1.8 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 580 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 8.19 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample-login checklist for flagged QC data and preservation information.

| | | |
|-------------|---|---|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. |
| | E | Value above quantitation range |
| | J | Analyte detected below quantitation limits |
| | O | RSD is greater than RSDlimit |
| | R | RPD outside accepted recovery limits |
| | S | Spike Recovery outside accepted recovery limits |

| | |
|----|--|
| B | Analyte detected in the associated Method Blank |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2. |
| RL | Reporting Detection Limit |

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: East Wall 3A & 3B

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-003

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | 54 | 9.9 | | mg/Kg | 1 | 7/15/2014 11:35:39 PM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 7/15/2014 11:35:39 PM | 14199 |
| Surr: DNOP | 88.6 | 57.9-140 | | %REC | 1 | 7/15/2014 11:35:39 PM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Surr: BFB | 90.8 | 80-120 | | %REC | 1 | 7/15/2014 9:01:29 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.095 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Benzene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 7/15/2014 9:01:29 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 98.9 | 80-120 | | %REC | 1 | 7/15/2014 9:01:29 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 4:48:25 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | ND | 0.031 | | mg/Kg | 1 | 7/22/2014 12:56:16 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Barium | 260 | 0.20 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Cadmium | ND | 0.20 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Chromium | 4.1 | 0.59 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Copper | 6.7 | 0.59 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Lead | 5.7 | 0.49 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Nickel | 7.2 | 0.98 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Selenium | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Silver | ND | 0.49 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| Zinc | 34 | 4.9 | | mg/Kg | 2 | 7/18/2014 11:11:33 AM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 1.9 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 540 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 8.24 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | | |
|-------------|---|--|--------------|
| Qualifiers: | * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank | |
| | E Value above quantitation range | H Holding times for preparation or analysis exceeded | |
| | J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit | Page 3 of 12 |
| | O RSD is greater than RSDlimit | P Sample pH greater than 2. | |
| | R RPD outside accepted recovery limits | RL Reporting Detection Limit | |
| | S Spike Recovery outside accepted recovery limits | | |

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: South Wall 4A & 4B

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-004

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 7/16/2014 12:06:25 AM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 7/16/2014 12:06:25 AM | 14199 |
| Surr: DNOP | 88.9 | 57.9-140 | | %REC | 1 | 7/16/2014 12:06:25 AM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Surr: BFB | 89.1 | 80-120 | | %REC | 1 | 7/15/2014 9:30:09 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.097 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Benzene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 7/15/2014 9:30:09 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 96.3 | 80-120 | | %REC | 1 | 7/15/2014 9:30:09 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 5:00:50 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | ND | 0.031 | | mg/Kg | 1 | 7/22/2014 12:58:07 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 4.9 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Barium | 410 | 0.19 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Cadmium | ND | 0.19 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Chromium | 3.3 | 0.58 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Copper | 7.5 | 0.58 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Lead | 6.4 | 0.49 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Nickel | 6.0 | 0.97 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Selenium | ND | 4.9 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Silver | ND | 0.49 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| Zinc | 30 | 4.9 | | mg/Kg | 2 | 7/19/2014 3:02:38 PM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 0.76 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 580 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 8.44 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | |
|-------------|---|--|
| Qualifiers: | * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| | J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| | O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| | R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| | S Spike Recovery outside accepted recovery limits | |

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: Center of Pit 5A & 5B ✓

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-005

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 7/16/2014 12:37:10 AM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 7/16/2014 12:37:10 AM | 14199 |
| Surr: DNOP | 88.6 | 57.9-140 | | %REC | 1 | 7/16/2014 12:37:10 AM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Surr: BFB | 90.1 | 80-120 | | %REC | 1 | 7/15/2014 9:58:50 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.097 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Benzene | ND | 0.048 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 7/15/2014 9:58:50 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 97.0 | 80-120 | | %REC | 1 | 7/15/2014 9:58:50 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 5:13:16 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | ND | 0.032 | | mg/Kg | 1 | 7/22/2014 12:59:51 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Barium | 1200 | 0.97 | | mg/Kg | 10 | 7/19/2014 3:05:24 PM | 14259 |
| Cadmium | ND | 0.19 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Chromium | 4.3 | 0.58 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Copper | 8.7 | 0.58 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Lead | 8.2 | 0.49 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Nickel | 7.3 | 0.97 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Selenium | ND | 4.9 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Silver | ND | 0.49 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| Zinc | 35 | 4.9 | | mg/Kg | 2 | 7/18/2014 11:14:17 AM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 2.1 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 640 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 8.17 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | | | | |
|-------------|---|---|----|--|--------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank | Page 5 of 12 |
| | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded | |
| | J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit | |
| | O | RSD is greater than RSDlimit | P | Sample pH greater than 2. | |
| | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit | |
| | S | Spike Recovery outside accepted recovery limits | | | |

Analytical Report

Lab Order 1407567

Date Reported: 7/31/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: Perm of Site 6A & 6B

Project: Ignacio 33-8 #003

Collection Date: 7/9/2014 12:30:00 PM

Lab ID: 1407567-006

Matrix: SOIL

Received Date: 7/12/2014 10:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--|--------|----------|------|----------|----|-----------------------|--------------|
| EPA METHOD 8015D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BCN |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 7/16/2014 1:07:51 AM | 14199 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 7/16/2014 1:07:51 AM | 14199 |
| Surr: DNOP | 81.7 | 57.9-140 | | %REC | 1 | 7/16/2014 1:07:51 AM | 14199 |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Surr: BFB | 91.0 | 80-120 | | %REC | 1 | 7/15/2014 10:27:26 PM | 14206 |
| EPA METHOD 8021B: VOLATILES | | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.093 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Benzene | ND | 0.046 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 7/15/2014 10:27:26 PM | 14206 |
| Surr: 4-Bromofluorobenzene | 98.6 | 80-120 | | %REC | 1 | 7/15/2014 10:27:26 PM | 14206 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JRR |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/17/2014 5:25:41 PM | 14278 |
| EPA METHOD 7471: MERCURY | | | | | | | Analyst: JLF |
| Mercury | 0.31 | 0.032 | | mg/Kg | 1 | 7/22/2014 1:01:35 PM | 14338 |
| EPA METHOD 6010B: SOIL METALS | | | | | | | Analyst: ELS |
| Arsenic | ND | 4.8 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Barium | 420 | 0.19 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Cadmium | ND | 0.19 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Chromium | 5.9 | 0.57 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Copper | 9.1 | 0.57 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Lead | 15 | 0.48 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Nickel | 7.7 | 0.95 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Selenium | ND | 4.8 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Silver | ND | 0.48 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| Zinc | 53 | 4.8 | | mg/Kg | 2 | 7/18/2014 11:19:48 AM | 14259 |
| SAR SOLUBLE CATIONS | | | | | | | Analyst: ELS |
| Sodium Adsorption Ratio | 0.13 | 0 | | | 1 | 7/19/2014 12:19:00 PM | 14248 |
| CONDUCTANCE | | | | | | | Analyst: IDC |
| Specific Conductance | 750 | 1.0 | | µmhos/cm | 1 | 7/18/2014 11:53:00 AM | R19988 |
| SM4500-H+B: PH | | | | | | | Analyst: TMG |
| pH | 7.60 | 1.68 | | pH Units | 1 | 7/23/2014 11:45:00 AM | R20089 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| | | | | |
|-------------|---|---|----|--|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| | J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| | O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| | R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | MB-14278 | SampType: | MBLK | TestCode: | EPA Method 300.0: Anions | | | | | |
| Client ID: | PBS | Batch ID: | 14278 | RunNo: | 19973 | | | | | |
| Prep Date: | 7/17/2014 | Analysis Date: | 7/17/2014 | SeqNo: | 580401 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-14278 | SampType: | LCS | TestCode: | EPA Method 300.0: Anions | | | | | |
| Client ID: | LCSS | Batch ID: | 14278 | RunNo: | 19973 | | | | | |
| Prep Date: | 7/17/2014 | Analysis Date: | 7/17/2014 | SeqNo: | 580402 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 92.7 | 90 | 110 | | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|--------------------------------|-----------|----------------|-----------|-------------|---|----------|-----------|------|----------|------|
| Sample ID | MB-14199 | SampType: | MBLK | TestCode: | EPA Method 8015D: Diesel Range Organics | | | | | |
| Client ID: | PBS | Batch ID: | 14199 | RunNo: | 19860 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/14/2014 | SeqNo: | 577270 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 7.4 | | 10.00 | | 74.4 | 57.9 | 140 | | | |

| | | | | | | | | | | |
|-----------------------------|-----------|----------------|-----------|-------------|---|----------|-----------|------|----------|------|
| Sample ID | LCS-14199 | SampType: | LCS | TestCode: | EPA Method 8015D: Diesel Range Organics | | | | | |
| Client ID: | LCSS | Batch ID: | 14199 | RunNo: | 19860 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/14/2014 | SeqNo: | 577271 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 52 | 10 | 50.00 | 0 | 103 | 68.6 | 130 | | | |
| Surr: DNOP | 3.8 | | 5.000 | | 75.1 | 57.9 | 140 | | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID | MB-14206 | SampType: | MBLK | TestCode: | EPA Method 8015D: Gasoline Range | | | | | |
| Client ID: | PBS | Batch ID: | 14206 | RunNo: | 19892 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/15/2014 | SeqNo: | 578279 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 880 | | 1000 | | 87.9 | 80 | 120 | | | |

| | | | | | | | | | | |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-14206 | SampType: | LCS | TestCode: | EPA Method 8015D: Gasoline Range | | | | | |
| Client ID: | LCSS | Batch ID: | 14206 | RunNo: | 19892 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/15/2014 | SeqNo: | 578280 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 27 | 5.0 | 25.00 | 0 | 107 | 71.7 | 134 | | | |
| Surr: BFB | 960 | | 1000 | | 95.6 | 80 | 120 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|--------------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID | MB-14206 | SampType: | MBLK | TestCode: | EPA Method 8021B: Volatiles | | | | | |
| Client ID: | PBS | Batch ID: | 14206 | RunNo: | 19892 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/15/2014 | SeqNo: | 578328 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | ND | 0.10 | | | | | | | | |
| Benzene | ND | 0.050 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.97 | | 1.000 | | 96.8 | 80 | 120 | | | |

| | | | | | | | | | | |
|--------------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-14206 | SampType: | LCS | TestCode: | EPA Method 8021B: Volatiles | | | | | |
| Client ID: | LCSS | Batch ID: | 14206 | RunNo: | 19892 | | | | | |
| Prep Date: | 7/14/2014 | Analysis Date: | 7/15/2014 | SeqNo: | 578329 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | 1.2 | 0.10 | 1.000 | 0 | 116 | 80 | 120 | | | |
| Benzene | 1.1 | 0.050 | 1.000 | 0 | 109 | 80 | 120 | | | |
| Toluene | 1.1 | 0.050 | 1.000 | 0 | 107 | 80 | 120 | | | |
| Ethylbenzene | 1.1 | 0.050 | 1.000 | 0 | 108 | 80 | 120 | | | |
| Xylenes, Total | 3.2 | 0.10 | 3.000 | 0 | 107 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 106 | 80 | 120 | | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | MB-14338 | SampType: | MBLK | TestCode: | EPA Method 7471: Mercury | | | | | |
| Client ID: | PBS | Batch ID: | 14338 | RunNo: | 20060 | | | | | |
| Prep Date: | 7/21/2014 | Analysis Date: | 7/22/2014 | SeqNo: | 583010 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury | ND | 0.033 | | | | | | | | |

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-14338 | SampType: | LCS | TestCode: | EPA Method 7471: Mercury | | | | | |
| Client ID: | LCSS | Batch ID: | 14338 | RunNo: | 20060 | | | | | |
| Prep Date: | 7/21/2014 | Analysis Date: | 7/22/2014 | SeqNo: | 583011 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury | 0.16 | 0.033 | 0.1667 | 0 | 98.8 | 80 | 120 | | | |

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407567

31-Jul-14

Client: WPX Energy
Project: Ignacio 33-8 #003

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|-------------------------------|--------------|-----------|------|----------|------|
| Sample ID | MB-14259 | SampType: | MBLK | TestCode: | EPA Method 6010B: Soil Metals | | | | | |
| Client ID: | PBS | Batch ID: | 14259 | RunNo: | 19979 | | | | | |
| Prep Date: | 7/16/2014 | Analysis Date: | 7/18/2014 | SeqNo: | 580588 | Units: mg/Kg | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

| | | | | | | | | | | |
|----------|----|------|--|--|--|--|--|--|--|--|
| Arsenic | ND | 2.5 | | | | | | | | |
| Barium | ND | 0.10 | | | | | | | | |
| Cadmium | ND | 0.10 | | | | | | | | |
| Chromium | ND | 0.30 | | | | | | | | |
| Copper | ND | 0.30 | | | | | | | | |
| Lead | ND | 0.25 | | | | | | | | |
| Nickel | ND | 0.50 | | | | | | | | |
| Selenium | ND | 2.5 | | | | | | | | |
| Silver | ND | 0.25 | | | | | | | | |
| Zinc | ND | 2.5 | | | | | | | | |

| | | | | | | | | | | |
|------------|-----------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID | LCS-14259 | SampType: | LCS | TestCode: | EPA Method 6010B: Soil Metals | | | | | |
| Client ID: | LCSS | Batch ID: | 14259 | RunNo: | 19979 | | | | | |
| Prep Date: | 7/16/2014 | Analysis Date: | 7/18/2014 | SeqNo: | 580589 | Units: | mg/Kg | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

| | | | | | | | | | | |
|----------|-----|------|-------|---|------|----|-----|--|--|--|
| Arsenic | 24 | 2.5 | 25.00 | 0 | 97.5 | 80 | 120 | | | |
| Barium | 25 | 0.10 | 25.00 | 0 | 99.3 | 80 | 120 | | | |
| Cadmium | 25 | 0.10 | 25.00 | 0 | 98.8 | 80 | 120 | | | |
| Chromium | 25 | 0.30 | 25.00 | 0 | 99.8 | 80 | 120 | | | |
| Copper | 26 | 0.30 | 25.00 | 0 | 103 | 80 | 120 | | | |
| Lead | 24 | 0.25 | 25.00 | 0 | 94.3 | 80 | 120 | | | |
| Nickel | 24 | 0.50 | 25.00 | 0 | 95.8 | 80 | 120 | | | |
| Selenium | 24 | 2.5 | 25.00 | 0 | 94.1 | 80 | 120 | | | |
| Silver | 5.0 | 0.25 | 5.000 | 0 | 100 | 80 | 120 | | | |
| Zinc | 25 | 2.5 | 25.00 | 0 | 101 | 80 | 120 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1407567

ReptNo: 1

Received by/date: AF 07/12/14

Logged By: Celina Sessa 7/12/2014 10:40:00 AM

Celina Sessa

Completed By: Celina Sessa 7/14/2014 8:56:40 AM

Celina Sessa

Reviewed By: mg 07/14/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

| | | | |
|----------------------|-------|-------|---|
| Person Notified: | _____ | Date: | _____ |
| By Whom: | _____ | Via: | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding: | _____ | | |
| Client Instructions: | _____ | | |

17. Additional remarks:

18. Cooler Information

| Cooler No. | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|------------|---------|-----------|-------------|---------|-----------|-----------|
| 1 | 3.1 | Good | Yes | | | |

Chain-of-Custody Record

Client: WPA Energy

Mailing Address: 7213 Main

Phone #: 505-333-1880

email or Fax#: Verossa Fields

QA/QC Package: Buddy Shores

☐ Standard ☐ Level 4 (Full Validation)

Accreditation ☐ NELAP ☐ Other

Sampler: Verossa Fields

Project Manager: Buddy Shores

Project #: 333-1880

Project Name: Verossa Fields

Turn-Around Time: ☒ Standard ☐ Rush

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | Sample Temperature | HEALING |
|---------|-------|--------|-------------------|----------------------|-------------------|--------------------|---------|
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -001 | 1407567 |
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -002 | 1407567 |
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -003 | 1407567 |
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -004 | 1407567 |
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -005 | 1407567 |
| 7/12/14 | 12:30 | soil | 37.12007N | 2402 | Cool | -006 | 1407567 |

Date: 7/11/14 Time: 1021

Date: 7/11/14 Time: 1049

Relinquished by: Verossa Fields

Relinquished by: Verossa Fields

Received by: Verossa Fields

Received by: Verossa Fields



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

| BTEX + MTBE + TMB's (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals See Attachment | Anions (F ⁻ , Cl ⁻ , NO ₃ ⁻ , PO ₄ ⁻ , SO ₄ ⁻) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Chloride | Fluoride | Air Bubbles (Y N) |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks: Test For Co Metals
Chromium, Nickel, Arsenic, Copper
Selenium, Barium, Lead, Silver
Cadmium, Mercury, Zinc

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly indicated on the analytical report.



Ignacio 33-8 #003
Pit Sample Location
Section 2, Township 33N, Range 08W
N37.13008, W107.68519
La Plata County, CO