

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
REM 9244
Location ID 333503
Doc# 200440621

OGCC Employee:

Spill Complaint
 Inspection NOAV

Tracking No: REM #9244

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 tank removal for upgrade

OGCC Operator Number: <u>96705</u>	Contact Name and Telephone: <u>Deborah Watson</u>
Name of Operator: <u>WPX Energy Production LLC</u>	No: <u>505-386-9693/ 505-333-1880</u>
Address: <u>PO Box 640/ 721 S Main Street</u>	Fax: <u>505-333-1805</u>
City: <u>Aztec</u> State: <u>NM</u> Zip: <u>87410</u>	

API Number: <u>05-067-08118</u>	County: <u>La Plata</u>
Facility Name: _____	Facility Number: _____
Well Name: <u>Ignacio 33-8</u>	Well Number: <u>17A</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SESW 11, 33N, 8W, N</u> Latitude: <u>37.113969</u> Longitude: <u>-107.690663</u>	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): If there is a release, produced water and minimal hydrocarbons

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.): non-cropland

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water located approximately 530 feet NW of the pit tank.

Residence located 0.25 miles from location.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>TBD-below pit tank</u>	<u>PID, Confirmation sample</u>
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

REMEDIATION WORKPLAN

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

No impact to the environment anticipated since current pit tank consists of a fiberglass tank with a banded 40 mil plastic liner. Current pit tank will be replaced with a double-wall and bottom steel API tank.

Describe how source is to be removed:

Existing buried pit to be removed by excavation of surrounding soils, removal of tank and liner, offsite disposal of tank and liner at permitted landfill, collection of confirmation samples from excavation bottom and sidewalls (focus on any apparent soil discoloration or indications of possible leaks), and submittal of samples to lab for analysis of BTEX, TPH, EC, SAR, ph, Cl, and Colorado metals.

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 a release has occurred below the pit tank, impacted soils will be excavated until contamination is below regulatory limits. Impacted soils will be transported offsite to a permitted landfarm or landfill. If extent of contamination indicates impacts beyond site boundaries and/or water resources, a revised Remediation Workplan will be submitted for approval.

[Click here to reset form](#)

State of Colorado
Oil and Gas Conservation Commission
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(303)894-2100 Fax:(303)894-2109



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 groundwater impact.

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.

Facility/pit tank still in operation. Reclamation including recontouring, seeding, and surface restoration will occur during 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 laboratory results.

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

Tank and liner transported to Bondad landfill for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 9/21/15 Date Site Investigation Completed: 9/21/15 Date Remediation Plan Submitted: August 28, 2015
Remediation Start Date: 9/21/15 Anticipated Completion Date: 9/21/15 Actual Completion Date: 9/21/15

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: October 4, 2016

OGCC Approved: [Signature] Title: Environmental Protection Specialist Date: 12/2/16



Ignacio 33-8 #17A
Pit Sample Locations
Section 11, Township 33N, Range 08W
N37.113891, W107.690585
La Plata County, CO



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

October 27, 2015

Debbie Watson

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

RE: Ignacio 33-8 #17A

OrderNo.: 1509A58

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/23/2015 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: S-1

Project: Ignacio 33-8 #17A

Collection Date: 9/21/2015 8:00:00 AM

Lab ID: 1509A58-001

Matrix: SOIL

Received Date: 9/23/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
Diesel Range Organics (DRO)	ND	3.4	9.5		mg/Kg	1	9/25/2015 4:25:03 PM	21429
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	9/25/2015 4:25:03 PM	21429
Surr: DNOP	112	0	57.9-140		%REC	1	9/25/2015 4:25:03 PM	21429
EPA METHOD 300.0: ANIONS							Analyst: LGT	
Chloride	7.0	3.0	30	J	mg/Kg	20	10/2/2015 11:27:31 AM	21623
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.0038	0.0029	0.033	J	mg/Kg	1	9/24/2015 2:17:55 PM	21477
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	1.5	5.0		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Barium	270	0.098	0.20		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Boron	ND	0.50	4.0		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Cadmium	ND	0.13	0.20		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Chromium	0.71	0.25	0.61		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Copper	2.4	0.32	0.61		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Lead	3.5	0.35	0.50		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Nickel	4.4	0.23	1.0		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Selenium	ND	2.2	5.0		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Silver	ND	0.064	0.50		mg/Kg	2	10/2/2015 3:37:43 PM	21597
Zinc	27	1.2	5.0		mg/Kg	2	10/2/2015 3:37:43 PM	21597
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	3.5	0	0			1	10/26/2015 12:13:00 PM	21753
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF	
Benzene	ND	0.0070	0.048		mg/Kg	1	9/24/2015 8:07:52 PM	21469
Toluene	ND	0.0057	0.048		mg/Kg	1	9/24/2015 8:07:52 PM	21469
Ethylbenzene	ND	0.0044	0.048		mg/Kg	1	9/24/2015 8:07:52 PM	21469
Xylenes, Total	ND	0.013	0.095		mg/Kg	1	9/24/2015 8:07:52 PM	21469
Surr: 1,2-Dichloroethane-d4	102		70-130		%REC	1	9/24/2015 8:07:52 PM	21469
Surr: 4-Bromofluorobenzene	96.6		70-130		%REC	1	9/24/2015 8:07:52 PM	21469
Surr: Dibromofluoromethane	113		70-130		%REC	1	9/24/2015 8:07:52 PM	21469
Surr: Toluene-d8	97.4		70-130		%REC	1	9/24/2015 8:07:52 PM	21469
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF	
Gasoline Range Organics (GRO)	ND	1.2	4.8		mg/Kg	1	9/24/2015 8:07:52 PM	21469
Surr: BFB	99.4	0	70-130		%REC	1	9/24/2015 8:07:52 PM	21469
RESISTIVITY AND EC SOIL							Analyst: JRR	
Conductivity	781	1.00	1.00		µmhos/c	1	9/25/2015 9:48:00 AM	21491

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
	D Sample Diluted Due to Matrix	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	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: S-2

Project: Ignacio 33-8 #17A

Collection Date: 9/21/2015 8:05:00 AM

Lab ID: 1509A58-002

Matrix: SOIL

Received Date: 9/23/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
Diesel Range Organics (DRO)	ND	3.6	9.9		mg/Kg	1	9/25/2015 4:52:11 PM	21429
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	9/25/2015 4:52:11 PM	21429
Surr: DNOP	105	0	57.9-140		%REC	1	9/25/2015 4:52:11 PM	21429
EPA METHOD 300.0: ANIONS							Analyst: LGT	
Chloride	6.7	3.0	30	J	mg/Kg	20	10/2/2015 11:39:56 AM	21623
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.0030	0.0029	0.033	J	mg/Kg	1	9/24/2015 2:37:52 PM	21477
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	0.70	2.4		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Barium	870	0.23	0.48		mg/Kg	5	10/2/2015 3:41:58 PM	21597
Boron	ND	0.24	1.9		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Cadmium	ND	0.061	0.096		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Chromium	0.86	0.12	0.29		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Copper	3.0	0.15	0.29		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Lead	2.0	0.17	0.24		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Nickel	2.2	0.11	0.48		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Selenium	ND	1.1	2.4		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Silver	ND	0.031	0.24		mg/Kg	1	10/2/2015 2:59:09 PM	21597
Zinc	13	0.55	2.4		mg/Kg	1	10/2/2015 2:59:09 PM	21597
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	5.6	0	0			1	10/26/2015 12:13:00 PM	21753
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF	
Benzene	ND	0.0073	0.049		mg/Kg	1	9/24/2015 8:35:17 PM	21469
Toluene	ND	0.0059	0.049		mg/Kg	1	9/24/2015 8:35:17 PM	21469
Ethylbenzene	ND	0.0045	0.049		mg/Kg	1	9/24/2015 8:35:17 PM	21469
Xylenes, Total	ND	0.014	0.099		mg/Kg	1	9/24/2015 8:35:17 PM	21469
Surr: 1,2-Dichloroethane-d4	99.3		70-130		%REC	1	9/24/2015 8:35:17 PM	21469
Surr: 4-Bromofluorobenzene	102		70-130		%REC	1	9/24/2015 8:35:17 PM	21469
Surr: Dibromofluoromethane	104		70-130		%REC	1	9/24/2015 8:35:17 PM	21469
Surr: Toluene-d8	94.9		70-130		%REC	1	9/24/2015 8:35:17 PM	21469
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF	
Gasoline Range Organics (GRO)	ND	1.2	4.9		mg/Kg	1	9/24/2015 8:35:17 PM	21469
Surr: BFB	101	0	70-130		%REC	1	9/24/2015 8:35:17 PM	21469
RESISTIVITY AND EC SOIL							Analyst: JRR	
Conductivity	484	1.00	1.00		µmhos/c	1	9/25/2015 9:48:00 AM	21491

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
	D Sample Diluted Due to Matrix	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	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509A58

Date Reported: 10/27/2015

CLIENT: WPX Energy

Client Sample ID: S-3

Project: Ignacio 33-8 #17A

Collection Date: 9/21/2015 8:10:00 AM

Lab ID: 1509A58-003

Matrix: SOIL

Received Date: 9/23/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
Diesel Range Organics (DRO)	ND	3.5	9.7		mg/Kg	1	9/25/2015 5:19:06 PM	21429
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	9/25/2015 5:19:06 PM	21429
Surr: DNOP	106	0	57.9-140		%REC	1	9/25/2015 5:19:06 PM	21429
EPA METHOD 300.0: ANIONS							Analyst: LGT	
Chloride	7.0	3.0	30	J	mg/Kg	20	10/2/2015 12:41:58 PM	21623
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.0098	0.0027	0.031	J	mg/Kg	1	9/24/2015 2:26:57 PM	21477
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	0.75	2.6		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Barium	240	0.050	0.10		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Boron	ND	0.26	2.1		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Cadmium	ND	0.065	0.10		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Chromium	1.5	0.13	0.31		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Copper	3.9	0.16	0.31		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Lead	5.0	0.18	0.26		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Nickel	6.0	0.12	0.52		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Selenium	ND	1.1	2.6		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Silver	ND	0.033	0.26		mg/Kg	1	10/2/2015 3:07:10 PM	21597
Zinc	36	0.59	2.6		mg/Kg	1	10/2/2015 3:07:10 PM	21597
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	2.4	0	0			1	10/26/2015 12:13:00 PM	21753
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF	
Benzene	ND	0.0072	0.048		mg/Kg	1	9/24/2015 9:02:47 PM	21469
Toluene	ND	0.0057	0.048		mg/Kg	1	9/24/2015 9:02:47 PM	21469
Ethylbenzene	ND	0.0044	0.048		mg/Kg	1	9/24/2015 9:02:47 PM	21469
Xylenes, Total	ND	0.013	0.096		mg/Kg	1	9/24/2015 9:02:47 PM	21469
Surr: 1,2-Dichloroethane-d4	93.8		70-130		%REC	1	9/24/2015 9:02:47 PM	21469
Surr: 4-Bromofluorobenzene	101		70-130		%REC	1	9/24/2015 9:02:47 PM	21469
Surr: Dibromofluoromethane	107		70-130		%REC	1	9/24/2015 9:02:47 PM	21469
Surr: Toluene-d8	97.7		70-130		%REC	1	9/24/2015 9:02:47 PM	21469
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF	
Gasoline Range Organics (GRO)	ND	1.2	4.8		mg/Kg	1	9/24/2015 9:02:47 PM	21469
Surr: BFB	104	0	70-130		%REC	1	9/24/2015 9:02:47 PM	21469
RESISTIVITY AND EC SOIL							Analyst: JRR	
Conductivity	715	1.00	1.00		µmhos/c	1	9/25/2015 9:48:00 AM	21491

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
	D Sample Diluted Due to Matrix	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	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: S-4

Project: Ignacio 33-8 #17A

Collection Date: 9/21/2015 8:15:00 AM

Lab ID: 1509A58-004

Matrix: SOIL

Received Date: 9/23/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
Diesel Range Organics (DRO)	ND	3.5	9.7		mg/Kg	1	9/25/2015 5:46:10 PM	21429
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	9/25/2015 5:46:10 PM	21429
Surr: DNOP	107	0	57.9-140		%REC	1	9/25/2015 5:46:10 PM	21429
EPA METHOD 300.0: ANIONS							Analyst: LGT	
Chloride	6.5	3.1	30	J	mg/Kg	20	10/2/2015 12:54:22 PM	21623
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.0047	0.0029	0.033	J	mg/Kg	1	9/24/2015 2:28:45 PM	21477
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	0.76	2.6		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Barium	520	0.25	0.52		mg/Kg	5	10/2/2015 3:44:00 PM	21597
Boron	ND	0.26	2.1		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Cadmium	ND	0.066	0.10		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Chromium	0.62	0.13	0.31		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Copper	1.1	0.16	0.31		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Lead	3.5	0.18	0.26		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Nickel	5.4	0.12	0.52		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Selenium	ND	1.1	2.6		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Silver	ND	0.033	0.26		mg/Kg	1	10/2/2015 3:09:05 PM	21597
Zinc	34	0.59	2.6		mg/Kg	1	10/2/2015 3:09:05 PM	21597
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	3.5	0	0			1	10/26/2015 12:13:00 PM	21753
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF	
Benzene	ND	0.0070	0.047		mg/Kg	1	9/24/2015 9:30:18 PM	21469
Toluene	ND	0.0056	0.047		mg/Kg	1	9/24/2015 9:30:18 PM	21469
Ethylbenzene	ND	0.0043	0.047		mg/Kg	1	9/24/2015 9:30:18 PM	21469
Xylenes, Total	ND	0.013	0.094		mg/Kg	1	9/24/2015 9:30:18 PM	21469
Surr: 1,2-Dichloroethane-d4	94.1		70-130		%REC	1	9/24/2015 9:30:18 PM	21469
Surr: 4-Bromofluorobenzene	100		70-130		%REC	1	9/24/2015 9:30:18 PM	21469
Surr: Dibromofluoromethane	105		70-130		%REC	1	9/24/2015 9:30:18 PM	21469
Surr: Toluene-d8	98.7		70-130		%REC	1	9/24/2015 9:30:18 PM	21469
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF	
Gasoline Range Organics (GRO)	ND	1.2	4.7		mg/Kg	1	9/24/2015 9:30:18 PM	21469
Surr: BFB	103	0	70-130		%REC	1	9/24/2015 9:30:18 PM	21469
RESISTIVITY AND EC SOIL							Analyst: JRR	
Conductivity	675	1.00	1.00		µmhos/c	1	9/25/2015 9:48:00 AM	21491

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
	D Sample Diluted Due to Matrix	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	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: S-5

Project: Ignacio 33-8 #17A

Collection Date: 9/21/2015 8:20:00 AM

Lab ID: 1509A58-005

Matrix: SOIL

Received Date: 9/23/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
Diesel Range Organics (DRO)	ND	3.5	9.9		mg/Kg	1	9/25/2015 6:13:11 PM	21429
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	9/25/2015 6:13:11 PM	21429
Surr: DNOP	106	0	57.9-140		%REC	1	9/25/2015 6:13:11 PM	21429
EPA METHOD 300.0: ANIONS							Analyst: LGT	
Chloride	6.9	3.0	30	J	mg/Kg	20	10/2/2015 1:06:47 PM	21623
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.019	0.0028	0.032	J	mg/Kg	1	9/24/2015 2:30:33 PM	21477
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	0.76	2.6		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Barium	470	0.25	0.52		mg/Kg	5	10/2/2015 3:45:51 PM	21597
Boron	ND	0.26	2.1		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Cadmium	ND	0.066	0.10		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Chromium	1.5	0.13	0.31		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Copper	4.9	0.16	0.31		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Lead	4.9	0.18	0.26		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Nickel	5.9	0.12	0.52		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Selenium	ND	1.1	2.6		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Silver	ND	0.033	0.26		mg/Kg	1	10/2/2015 3:10:57 PM	21597
Zinc	31	0.60	2.6		mg/Kg	1	10/2/2015 3:10:57 PM	21597
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	4.1	0	0			1	10/26/2015 12:13:00 PM	21753
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF	
Benzene	ND	0.0073	0.049		mg/Kg	1	9/25/2015 12:14:41 AM	21469
Toluene	ND	0.0059	0.049		mg/Kg	1	9/25/2015 12:14:41 AM	21469
Ethylbenzene	ND	0.0045	0.049		mg/Kg	1	9/25/2015 12:14:41 AM	21469
Xylenes, Total	ND	0.014	0.099		mg/Kg	1	9/25/2015 12:14:41 AM	21469
Surr: 1,2-Dichloroethane-d4	102		70-130		%REC	1	9/25/2015 12:14:41 AM	21469
Surr: 4-Bromofluorobenzene	105		70-130		%REC	1	9/25/2015 12:14:41 AM	21469
Surr: Dibromofluoromethane	108		70-130		%REC	1	9/25/2015 12:14:41 AM	21469
Surr: Toluene-d8	97.3		70-130		%REC	1	9/25/2015 12:14:41 AM	21469
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF	
Gasoline Range Organics (GRO)	ND	1.2	4.9		mg/Kg	1	9/25/2015 12:14:41 AM	21469
Surr: BFB	99.8	0	70-130		%REC	1	9/25/2015 12:14:41 AM	21469
RESISTIVITY AND EC SOIL							Analyst: JRR	
Conductivity	602	1.00	1.00		µmhos/c	1	9/25/2015 9:48:00 AM	21491

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
	D Sample Diluted Due to Matrix	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	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	



Collected date/time: 09/21/15 08:00

L790485

Wet Chemistry by Method 2580 B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	mV			date / time	
ORP	39		1	09/28/2015 16:11	<u>WG817912</u>



2 Tc

Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chromium,Hexavalent	ND		2.00	1	09/28/2015 15:20	<u>WG817723</u>

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.70		1	09/26/2015 08:45	<u>WG817724</u>

5 Sr

6 Qc

Sample Narrative:

9045D L790485-01 WG817724: 9.70 at 22.1 C

7 Gl

8 Al

9 Sc



Collected date/time: 09/21/15 08:05

L790485

Wet Chemistry by Method 2580 B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	mV			date / time	
ORP	38		1	09/28/2015 16:11	<u>WG817912</u>

Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chromium,Hexavalent	ND		2.00	1	09/28/2015 15:21	<u>WG817723</u>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.44		1	09/26/2015 08:45	<u>WG817724</u>

Sample Narrative:

9045D L790485-02 WG817724: 9.44 at 21.7 C

- 1
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2580 B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
ORP	33		1	09/28/2015 16:11	<u>WG817912</u>

1 Cr

2 Tc

Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Chromium,Hexavalent	ND		2.00	1	09/28/2015 15:21	<u>WG817723</u>

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
pH	9.28		1	09/26/2015 08:45	<u>WG817724</u>

5 Sr

6 Qc

Sample Narrative:

9045D L790485-03 WG817724: 9.28 at 21.6 C

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2580 B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
ORP	35		1	09/28/2015 16:11	<u>WG817912</u>

Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Chromium,Hexavalent	ND		2.00	1	09/28/2015 15:21	<u>WG817723</u>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
pH	9.20		1	09/26/2015 08:45	<u>WG817724</u>

Sample Narrative:

9045D L790485-04 WG817724: 9.20 at 21.8 C

Co

Tc

Ss

Cr

Sr

Qc

Gl

Al

Sc



Wet Chemistry by Method 2580 B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
ORP	44		1	09/28/2015 16:11	<u>WG817912</u>

Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Chromium,Hexavalent	ND		2.00	1	09/28/2015 15:22	<u>WG817723</u>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
pH	8.82		1	09/26/2015 08:45	<u>WG817724</u>

Sample Narrative:

9045D L790485-05 WG817724: 8.82 at 21.8 C

1 Cr

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L789969-01 Original Sample (OS) • Duplicate (DUP)

(OS) 09/28/15 16:11 • (DUP) 09/28/15 16:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
ORP	82.0	84	1	2.41		20

L790807-01 Original Sample (OS) • Duplicate (DUP)

(OS) 09/28/15 16:11 • (DUP) 09/28/15 16:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
ORP	55.0	56	1	1.80		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 09/28/15 16:11 • (LCSD) 09/28/15 16:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
ORP	100	100	101	100	101	90.0-110			0.995	20

1 TC
 2 SS
 3 Cn
 4 Sr
 5 Qc
 6 GI
 7 Al
 8 Sc

Method Blank (MB)

(MB) 09/28/15 15:17

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Chromium, Hexavalent	ND		2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 09/28/15 15:18 • (LCSD) 09/28/15 15:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chromium, Hexavalent	59.8	55.4	55.6	92.6	93.0	80.0-120			0.360	20

L790713-05 Original Sample (OS) • Matrix Spike (MS)

(OS) 09/28/15 15:24 • (MS) 09/28/15 15:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium, Hexavalent	20.0	0.520	19.3	96.5	1	75.0-125	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

L790485-01 Original Sample (OS) • Duplicate (DUP)

(OS) 09/26/15 08:45 • (DUP) 09/26/15 08:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	9.70	9.64	1	0.620	%	1

L790747-02 Original Sample (OS) • Duplicate (DUP)

(OS) 09/26/15 08:45 • (DUP) 09/26/15 08:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.82	8.82	1	0.000	%	1

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 09/26/15 08:45 • (LCSD) 09/26/15 08:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
pH	6.37	6.39	6.40	100	100	98.2-102	%	%	0.156	%

1 Tc
2 Sr
3 Ss
4 Cr
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID	MB-21623	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	21623	RunNo:	29286					
Prep Date:	10/1/2015	Analysis Date:	10/2/2015	SeqNo:	890050	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-21623	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	21623	RunNo:	29286					
Prep Date:	10/1/2015	Analysis Date:	10/2/2015	SeqNo:	890051	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID MB-21429	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 21429		RunNo: 29101							
Prep Date: 9/22/2015	Analysis Date: 9/25/2015		SeqNo: 883408		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	12		10.00		118	57.9	140			

Sample ID LCS-21429	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 21429		RunNo: 29101							
Prep Date: 9/22/2015	Analysis Date: 9/25/2015		SeqNo: 883433		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	113	57.4	139			
Surr: DNOP	6.2		5.000		124	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID	mb-21469	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	21469	RunNo:	29088					
Prep Date:	9/23/2015	Analysis Date:	9/24/2015	SeqNo:	883193	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.6	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: Toluene-d8	0.48		0.5000		96.7	70	130			

Sample ID	ics-21469	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	21469	RunNo:	29088					
Prep Date:	9/23/2015	Analysis Date:	9/24/2015	SeqNo:	883194	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	97.4	70	130			
Toluene	0.99	0.050	1.000	0	98.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		109	70	130			
Surr: Toluene-d8	0.49		0.5000		97.3	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID	LCS-21477	SampType:	LCS	TestCode:	EPA Method 7471: Mercury					
Client ID:	LCSS	Batch ID:	21477	RunNo:	29082					
Prep Date:	9/24/2015	Analysis Date:	9/24/2015	SeqNo:	882750	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	99.8	80	120			

Sample ID	MB-21477	SampType:	MBLK	TestCode:	EPA Method 7471: Mercury					
Client ID:	PBS	Batch ID:	21477	RunNo:	29082					
Prep Date:	9/24/2015	Analysis Date:	9/24/2015	SeqNo:	882751	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID	MB-21597	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	21597	RunNo:	29277					
Prep Date:	9/30/2015	Analysis Date:	10/2/2015	SeqNo:	889797	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								
Boron	ND	2.0								
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-21597	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	21597	RunNo:	29277					
Prep Date:	9/30/2015	Analysis Date:	10/2/2015	SeqNo:	889798	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	102	80	120			
Barium	25	0.10	25.00	0	99.2	80	120			
Boron	26	2.0	25.00	0	103	80	120			
Cadmium	25	0.10	25.00	0	101	80	120			
Chromium	25	0.30	25.00	0	101	80	120			
Copper	27	0.30	25.00	0	107	80	120			
Lead	24	0.25	25.00	0	97.3	80	120			
Nickel	25	0.50	25.00	0	98.3	80	120			
Selenium	25	2.5	25.00	0	100	80	120			
Silver	5.0	0.25	5.000	0	100	80	120			
Zinc	25	2.5	25.00	0	99.0	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509A58

27-Oct-15

Client: WPX Energy
Project: Ignacio 33-8 #17A

Sample ID mb-21469	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: 21469		RunNo: 29088							
Prep Date: 9/23/2015	Analysis Date: 9/24/2015		SeqNo: 883224		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	520		500.0		105	70	130			

Sample ID ics-21469	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: 21469		RunNo: 29088							
Prep Date: 9/23/2015	Analysis Date: 9/24/2015		SeqNo: 883225		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.4	70	123			
Surr: BFB	500		500.0		99.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Client Name: WPX ENERGY

Work Order Number: 1509A58

RcptNo: 1

Received by/date: [Signature] 09/23/15

Logged By: Lindsay Mangin 9/23/2015 7:00:00 AM [Signature]

Completed By: Lindsay Mangin 9/23/2015 8:21:17 AM [Signature]

Reviewed By: [Signature] 09/23/15

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° 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: eMail Phone Fax 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	2.5	Good	Yes			

Chain-of-Custody Record

Client: WPX Energy

Mailing Address: PO Box 640

Aztec, NM 87410

Phone: 505-386-9693

email or Fax#: deborah.watson@wpxenergy.com

QA/QC Package: -

Standard Level 4 (Full Validation)

Accreditation:

NELAP Other

EDD (Type)

Turn-Around Time:

Standard Rush

Project Name:

Ignacio 33-8 # 17A

Project #:

Project Manager:

D. Watson

Sampler:

On Ice Yes No

Sample Temperature: 25

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
9-21-15	0800	soil	S-1	2-8 oz glass	cold	-001
9-21-15	0805	soil	S-2			-002
9-21-15	0810	soil	S-3			-003
9-21-15	0815	soil	S-4			-004
9-21-15	0820	soil	S-5			-005

Container Type and #

Preservative Type

HEAL No.

15091458

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTX	TPH	Electrical Conductivity (EC)	Sodium Absorption Ration (SAR)	pH	Metals (As, Ba, B, Cd, Cr III, Cr VI, Cu, Pb, Hg, Ni, Se, Ag, Zn)	Chloride	Air Bubbles (Y or N)
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	

Remarks: Per Colorado Table 910-1

Date:	Time:	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
9/22/15	1645	Deborah Watson	9/22/15	1645	Christine Watson	9/22/15	1645
9/22/15	1800	Christine Watson	09/23/15	0700	Christine Watson	09/23/15	0700