

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 9934

Loc ID 325162

Doc# 200440656

**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.

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No: REM #9934

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

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

OGCC Operator Number: 96705

Name of Operator: WPX Energy Production LLC

Address: PO Box 641/ 721 S Main Street

City: Aztec State: NM Zip: 87410

Contact Name and Telephone:

Deborah Watson

No: 505-386-9693/ 505-333-1880

Fax: 505-333-1805

API Number: 05-067-05489

County: La Plata

Facility Name:

Facility Number:

Well Name: Bondad 33-9

Well Number: 25

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWNW 8, 33N, 9W, N Latitude: 37.12157 Longitude: -107.85496

**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: Falfa clay loam, 3 to 8 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water wells located within 0.25 mile.

(9 water wells within 0.25 mile radius of location according to COGIS database. HughesJ 12/06/16)

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

TBD-below pit tank

How Determined:

Confirmation sample

**REMEDIALATION WORKPLAN**

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

No impact to the environment anticipated since pit tank consisted of a fiberglass tank with a banded 40 mil plastic liner.

Describe how source is to be removed:

Buried pit was removed by excavation of surrounding soils, removal of tank and liner, offsite disposal of tank and liner at permitted landfill, and collection of a confirmation soil sample from deepest point of excavation.

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.:

No visible indication of release.



**REMEDIATION WORKPLAN (Cont.)**

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

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.

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 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 report.

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: 2/26/16 Date Site Investigation Completed: 2/26/16 Date Remediation Plan Submitted: \_\_\_\_\_  
Remediation Start Date: 2/26/16 Anticipated Completion Date: 2/26/16 Actual Completion Date: 2/26/16

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

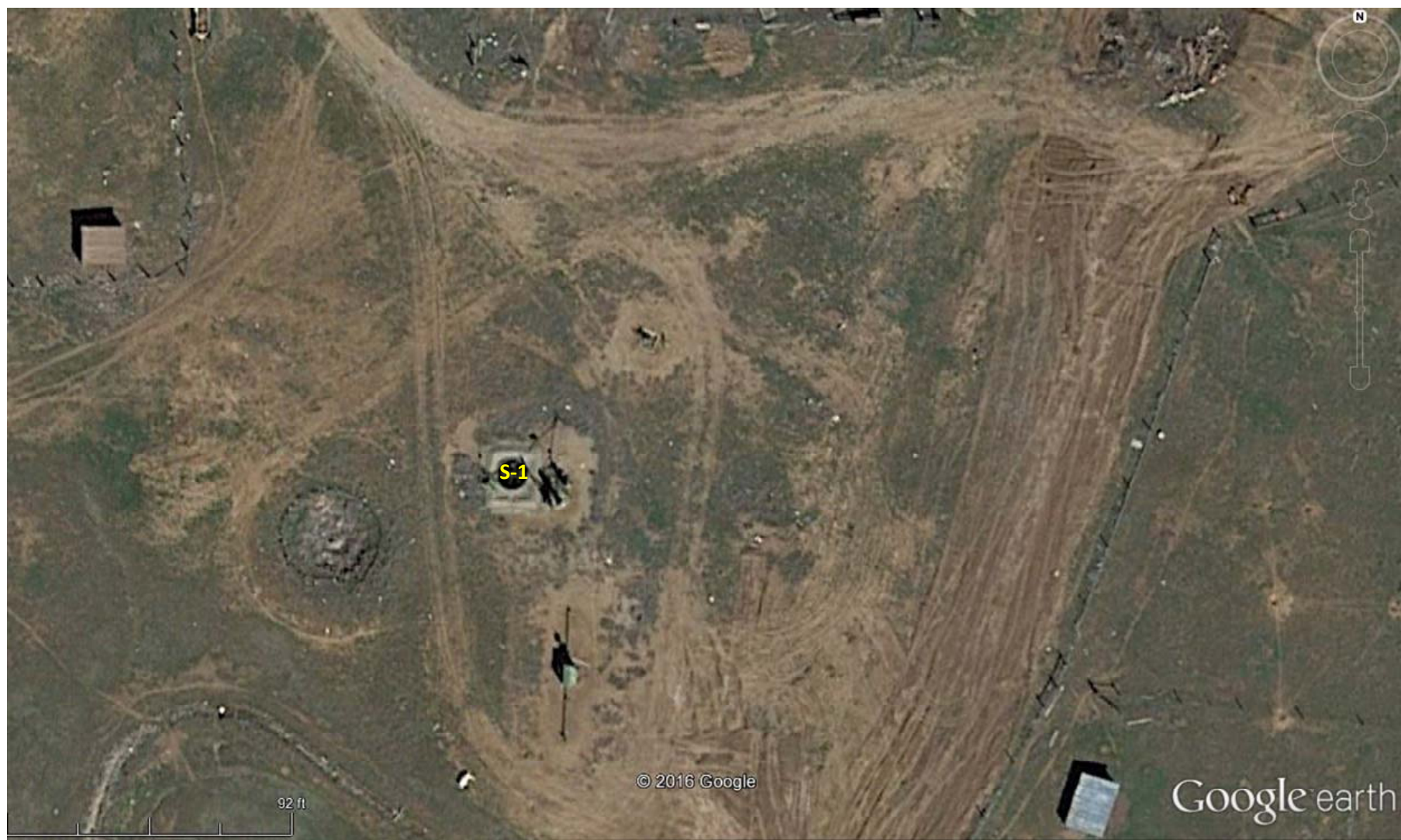
Title: Environmental Specialist

Date: October 4, 2016

OGCC Approved: [Signature]

Title: Environmental Protection Specialist

Date: 12/06/16



**Bondad 33-9 #25**  
Pit Sample Location  
Section 8, Township 33N, Range 09W  
N37.121450, W107.855112  
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](http://www.hallenvironmental.com)

March 28, 2016

Debbie Watson

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

RE: Bondad 33-9 #25

OrderNo.: 1603151

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/3/2016 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](http://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 over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1603151

Date Reported: 3/28/2016

**CLIENT:** WPX Energy

**Client Sample ID:** SC-1

**Project:** Bondad 33-9 #25

**Collection Date:** 2/26/2016 11:00:00 AM

**Lab ID:** 1603151-001

**Matrix:** SOIL

**Received Date:** 3/3/2016 7:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	42	3.4	9.5		mg/Kg	1	3/8/2016 1:26:17 PM	24103
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	3/8/2016 1:26:17 PM	24103
Surr: DNOP	110	0	70-130		%Rec	1	3/8/2016 1:26:17 PM	24103
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>	
Gasoline Range Organics (GRO)	ND	1.0	4.9		mg/Kg	1	3/4/2016 10:36:11 AM	24064
Surr: BFB	107	0	66.2-112		%Rec	1	3/4/2016 10:36:11 AM	24064
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>	
Benzene	ND	0.0056	0.049		mg/Kg	1	3/4/2016 10:36:11 AM	24064
Toluene	ND	0.0050	0.049		mg/Kg	1	3/4/2016 10:36:11 AM	24064
Ethylbenzene	ND	0.0048	0.049		mg/Kg	1	3/4/2016 10:36:11 AM	24064
Xylenes, Total	ND	0.014	0.098		mg/Kg	1	3/4/2016 10:36:11 AM	24064
Surr: 4-Bromofluorobenzene	110	0	80-120		%Rec	1	3/4/2016 10:36:11 AM	24064
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>pmf</b>	
Mercury	1.3	0.0028	0.16		mg/Kg	5	3/9/2016 12:42:59 PM	24153
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>ELS</b>	
Arsenic	4.0	1.4	4.9	J	mg/Kg	2	3/10/2016 11:05:46 AM	24170
Barium	210	0.094	0.19		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Cadmium	0.12	0.12	0.19	J	mg/Kg	2	3/10/2016 11:05:46 AM	24170
Chromium	8.6	0.24	0.58		mg/Kg	2	3/11/2016 11:33:24 AM	24170
Copper	12	0.30	0.58		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Lead	12	0.34	0.49		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Nickel	9.5	0.22	0.97		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Selenium	ND	2.1	4.9		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Silver	ND	0.062	0.49		mg/Kg	2	3/10/2016 11:05:46 AM	24170
Zinc	52	1.1	4.9		mg/Kg	2	3/10/2016 11:05:46 AM	24170
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	0.93	0	0			1	3/21/2016 8:20:00 AM	24300
<b>EPA METHOD 8270C: PAHS</b>							Analyst: <b>DAM</b>	
Naphthalene	0.010	0.0013	0.020	J	mg/Kg	1	3/15/2016 2:01:10 AM	24188
Acenaphthene	ND	0.0020	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Fluorene	ND	0.0016	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Anthracene	ND	0.0018	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Fluoranthene	ND	0.0020	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Pyrene	ND	0.0012	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Benz(a)anthracene	ND	0.0026	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Chrysene	ND	0.0017	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188

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

<b>Qualifiers:</b>	* 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	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1603151

Date Reported: 3/28/2016

**CLIENT:** WPX Energy

**Client Sample ID:** SC-1

**Project:** Bondad 33-9 #25

**Collection Date:** 2/26/2016 11:00:00 AM

**Lab ID:** 1603151-001

**Matrix:** SOIL

**Received Date:** 3/3/2016 7:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8270C: PAHS</b>							Analyst: <b>DAM</b>	
Benzo(b)fluoranthene	ND	0.0088	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Benzo(k)fluoranthene	ND	0.0021	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Benzo(a)pyrene	ND	0.0024	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Dibenz(a,h)anthracene	ND	0.0024	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Indeno(1,2,3-cd)pyrene	ND	0.0023	0.020		mg/Kg	1	3/15/2016 2:01:10 AM	24188
Surr: Benzo(e)pyrene	111	0	30.9-130		%Rec	1	3/15/2016 2:01:10 AM	24188
Surr: N-hexadecane	134	0	44.8-145		%Rec	1	3/15/2016 2:01:10 AM	24188
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	562	1.00	1.00		µmhos/c	1	3/9/2016 2:50:00 PM	24144

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

<b>Qualifiers:</b>	*	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	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	J6 Q1	2.00	1	03/07/2016 11:54	WG854082

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



## Method Blank (MB)

(MB) 03/07/16 11:49

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

## L821609-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/07/16 11:54 • (DUP) 03/07/16 11:54

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium, Hexavalent	ND	ND	1	0.000		20

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

(LCS) 03/07/16 11:52 • (LCSD) 03/07/16 11:52

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	56.9	61.8	62.0	109	109	80.0-120			0.000	20

## L821609-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/07/16 11:54 • (MS) 03/07/16 11:54 • (MSD) 03/07/16 11:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium, Hexavalent	20.0	0.800	11.9	12.0	56.0	56.0	1	75.0-125	J6	J6	0.000	20



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

**Client:** WPX Energy  
**Project:** Bondad 33-9 #25

Sample ID	LCS-24103		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 24103		RunNo: 32636					
Prep Date:	3/7/2016		Analysis Date: 3/8/2016		SeqNo: 998599		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	65.8	136			
Surr: DNOP	4.5		5.000		89.3	70	130			

Sample ID	MB-24103	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 24103			RunNo: 32636					
Prep Date:	3/7/2016	Analysis Date: 3/8/2016			SeqNo: 998601		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	10		10.00		103	70	130			

Sample ID	1603151-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1		Batch ID: 24103		RunNo: 32636					
Prep Date:	3/7/2016		Analysis Date: 3/8/2016		SeqNo: 998918		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	110	9.7	48.54	41.92	147	31.2	162			
Surr: DNOP	4.6		4.854		94.3	70	130			

Sample ID	1603151-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	SC-1		Batch ID:	24103		RunNo:	32636				
Prep Date:	3/7/2016		Analysis Date:	3/8/2016		SeqNo:	998919		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	80	10	50.61	41.92	74.7	31.2	162	34.6	31.7	R	
Surr: DNOP	4.7		5.061		92.9	70	130	0	0		

Sample ID	MB-24133		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 24133		RunNo: 32661					
Prep Date:	3/8/2016		Analysis Date: 3/9/2016		SeqNo: 999356		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		114	70	130			

Sample ID	LCS-24133		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	24133		RunNo:	32661				
Prep Date:	3/8/2016		Analysis Date:	3/9/2016		SeqNo:	999363		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

### 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	LCS-24133		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 24133		RunNo: 32661					
Prep Date:	3/8/2016		Analysis Date: 3/9/2016		SeqNo: 999363		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		101	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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

**Client:** WPX Energy  
**Project:** Bondad 33-9 #25

Sample ID <b>MB-24064</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997239</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	66.2	112			

Sample ID <b>LCS-24064</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997240</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	80	120			
Surr: BFB	1200		1000		115	66.2	112			S

Sample ID <b>1603151-001AMS-B</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997242</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	24.98	0	119	59.3	143			
Surr: BFB	1200		999.0		117	66.2	112			S

Sample ID <b>1603151-001AMSD-</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997243</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.41	0	108	59.3	143	12.0	20	
Surr: BFB	1100		976.6		113	66.2	112	0	0	S

### 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  
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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

**Client:** WPX Energy  
**Project:** Bondad 33-9 #25

Sample ID <b>MB-24064</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997246</b>		Units: <b>mg/Kg</b>					
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: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID <b>LCS-24064</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997247</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Sample ID <b>1603151-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997249</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	0.9990	0	109	71.5	122			
Toluene	1.1	0.050	0.9990	0	108	71.2	123			
Ethylbenzene	1.1	0.050	0.9990	0	110	75.2	130			
Xylenes, Total	3.2	0.10	2.997	0	108	72.4	131			
Surr: 4-Bromofluorobenzene	1.1		0.9990		115	80	120			

Sample ID <b>1603151-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>24064</b>		RunNo: <b>32597</b>							
Prep Date: <b>3/3/2016</b>	Analysis Date: <b>3/4/2016</b>		SeqNo: <b>997250</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.049	0.9766	0	97.4	71.5	122	13.7	20	
Toluene	0.97	0.049	0.9766	0	99.1	71.2	123	10.8	20	
Ethylbenzene	1.0	0.049	0.9766	0	105	75.2	130	6.65	20	
Xylenes, Total	3.0	0.098	2.930	0	104	72.4	131	6.06	20	
Surr: 4-Bromofluorobenzene	1.1		0.9766		110	80	120	0	0	

### 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	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	mb-24188		SampType: MBLK		TestCode: EPA Method 8270C: PAHs					
Client ID:	PBS		Batch ID: 24188		RunNo: 32779					
Prep Date:	3/10/2016		Analysis Date: 3/15/2016		SeqNo: 1004311		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.020								
Acenaphthene	ND	0.020								
Fluorene	ND	0.020								
Anthracene	ND	0.020								
Fluoranthene	ND	0.020								
Pyrene	ND	0.020								
Benz(a)anthracene	ND	0.020								
Chrysene	ND	0.020								
Benzo(b)fluoranthene	ND	0.020								
Benzo(k)fluoranthene	ND	0.020								
Benzo(a)pyrene	ND	0.020								
Dibenz(a,h)anthracene	ND	0.020								
Indeno(1,2,3-cd)pyrene	ND	0.020								
Surr: N-hexadecane	1.7		1.460		117	44.8	145			
Surr: Benzo(e)pyrene	0.45		0.3300		136	30.9	130			S

Sample ID	lcs-24188		SampType: LCS		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS		Batch ID: 24188		RunNo: 32779					
Prep Date:	3/10/2016		Analysis Date: 3/15/2016		SeqNo: 1004312		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	0.28	0.020	0.3300	0	84.3	43	119			
Acenaphthene	0.30	0.020	0.3300	0	89.9	46.7	113			
Fluorene	0.30	0.020	0.3300	0	90.1	46.2	119			
Anthracene	0.26	0.020	0.3300	0	77.4	38.2	130			
Fluoranthene	0.26	0.020	0.3300	0	79.0	48.7	127			
Pyrene	0.31	0.020	0.3300	0	93.0	40.5	125			
Benz(a)anthracene	0.30	0.020	0.3300	0	91.3	38.9	121			
Chrysene	0.30	0.020	0.3300	0	90.4	26.2	125			
Benzo(b)fluoranthene	0.30	0.020	0.3300	0	89.4	38.6	156			
Benzo(k)fluoranthene	0.26	0.020	0.3300	0	78.4	39.8	151			
Benzo(a)pyrene	0.26	0.020	0.3300	0	78.6	22.9	140			
Dibenz(a,h)anthracene	0.28	0.020	0.3300	0	86.2	20.4	153			
Indeno(1,2,3-cd)pyrene	0.30	0.020	0.3300	0	89.9	20.6	152			
Surr: N-hexadecane	1.7		1.460		115	44.8	145			
Surr: Benzo(e)pyrene	0.36		0.3300		110	30.9	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

W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	Icsd-24188		SampType: LCSD		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02		Batch ID: 24188		RunNo: 32779					
Prep Date:	3/10/2016		Analysis Date: 3/15/2016		SeqNo: 1004313		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	0.30	0.020	0.3300	0	89.8	43	119	6.26	20	
Acenaphthene	0.33	0.020	0.3300	0	100	46.7	113	10.9	20	
Fluorene	0.35	0.020	0.3300	0	105	46.2	119	15.5	20	
Anthracene	0.31	0.020	0.3300	0	93.3	38.2	130	18.7	20	
Fluoranthene	0.32	0.020	0.3300	0	98.4	48.7	127	21.9	20	R
Pyrene	0.37	0.020	0.3300	0	114	40.5	125	19.9	20	
Benz(a)anthracene	0.35	0.020	0.3300	0	107	38.9	121	15.4	20	
Chrysene	0.37	0.020	0.3300	0	111	26.2	125	20.2	20	R
Benzo(b)fluoranthene	0.35	0.020	0.3300	0	105	38.6	156	15.8	20	
Benzo(k)fluoranthene	0.32	0.020	0.3300	0	97.3	39.8	151	21.5	20	R
Benzo(a)pyrene	0.30	0.020	0.3300	0	91.7	22.9	140	15.4	20	
Dibenz(a,h)anthracene	0.33	0.020	0.3300	0	99.4	20.4	153	14.3	20	
Indeno(1,2,3-cd)pyrene	0.34	0.020	0.3300	0	103	20.6	152	13.4	20	
Surr: N-hexadecane	1.9		1.460		127	44.8	145	0	0	
Surr: Benzo(e)pyrene	0.40		0.3300		122	30.9	130	0	0	

### 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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	MB-24153		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 24153		RunNo: 32701					
Prep Date:	3/9/2016		Analysis Date: 3/9/2016		SeqNo: 1000869		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	0.0023	0.033								J

Sample ID	LCS-24153		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 24153		RunNo: 32701					
Prep Date:	3/9/2016		Analysis Date: 3/9/2016		SeqNo: 1000870		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.19	0.033	0.1667	0	112	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  
W Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	MB-24170		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 24170		RunNo: 32695					
Prep Date:	3/9/2016		Analysis Date: 3/10/2016		SeqNo: 1000693		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								
Copper	ND	0.30								
Nickel	0.15	0.50								J
Selenium	1.3	2.5								J
Silver	0.11	0.25								J

Sample ID	LCS-24170		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 24170		RunNo: 32695					
Prep Date:	3/9/2016		Analysis Date: 3/10/2016		SeqNo: 1000694		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	2.5	25.00	0	94.0	80	120			
Barium	24	0.10	25.00	0	95.8	80	120			
Cadmium	24	0.10	25.00	0	96.4	80	120			
Copper	26	0.30	25.00	0	104	80	120			
Nickel	24	0.50	25.00	0	94.9	80	120			
Selenium	23	2.5	25.00	0	92.4	80	120			
Silver	5.0	0.25	5.000	0	99.4	80	120			

Sample ID	MB-24170		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	PBS		Batch ID:	24170		RunNo:	32695				
Prep Date:	3/9/2016		Analysis Date:	3/10/2016		SeqNo:	1000715		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	ND	0.25									
Zinc	ND	2.5									

Sample ID	LCS-24170		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 24170		RunNo: 32695					
Prep Date:	3/9/2016		Analysis Date: 3/10/2016		SeqNo: 1000716		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	99.6	80	120			
Zinc	25	2.5	25.00	0	100	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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1603151

28-Mar-16

Client: WPX Energy

Project: Bondad 33-9 #25

Sample ID	MB-24170		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 24170		RunNo: 32742					
Prep Date:	3/9/2016		Analysis Date: 3/11/2016		SeqNo: 1002297		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.30								

Sample ID	LCS-24170		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 24170		RunNo: 32742					
Prep Date:	3/9/2016		Analysis Date: 3/11/2016		SeqNo: 1002298		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	24	0.30	25.00	0	96.1	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  
W Sample container temperature is out of limit as specified



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: 1603151

RcptNo: 1

Received by/date:

3/03/16

Logged By: Anne Thorne

3/3/2016 7:10:00 AM

*Anne Thorne*

Completed By: Anne Thorne

3/3/2016

*Anne Thorne*

Reviewed By:

JU 3-3-16

### 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  $6.0^{\circ}\text{C}$ ? 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	1.0	Good	Yes			

Turn-Around Time:

☒ Standard ☐ Rush

PO Box 640

Azteco, NM 87410

one #: 505-386-9693  
 mail or Fax#: deborah.watson@wpxenergy.com

☐ Level 4 (Full Validation)

**NELAP** ☐ Other ☐

Sample Temperature?  $M = 67.0^\circ\text{C}$ 

<p>  </p>	<p>  </p>
--	--

Sample Request ID

SC-1

3-4 oz glass

cold

# HEALTHY

10235-00

10235-00

Relinquished by: \_\_\_\_\_

Received by:

Time

Remarks:

Relinquished by:

**Relinquished by:**

Received by:

Time

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 notated on the analytical report.