

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 7285

Doc# 200440609

Date 10/17/2016

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No: REM #7285

## 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: 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: 05-067-06249

County: La Plata

Facility Name:

Facility Number:

Well Name: Docar Gas Unit

Well Number: 2-A

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NENE 26, 33N, 8W, N Latitude: 37.08088 Longitude: -107.680992

## 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: Zyme-Rock outcrop complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water located approximately 200 feet S of the pit tank.

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:

PID, Confirmation sample

## 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 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, 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.



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 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.

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: 9.14.15 Date Site Investigation Completed: 9.14.15 Date Remediation Plan Submitted: August 28, 2015  
Remediation Start Date: 9.14.15 Anticipated Completion Date: 9.14.15 Actual Completion Date: 9.14.15

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: 12/1/16



**Docar Gas Unit #2-A**  
Pit Sample Locations  
Section 26, Township 33N, Range 08W  
N37.081207, W107.680971  
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)

October 14, 2015

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

RE: Docar #2A

OrderNo.: 1509711

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/16/2015 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](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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

## Case Narrative

WO#: 1509711  
Date: 10/14/2015

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**CLIENT:** WPX Energy  
**Project:** Docar #2A

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### Analytical Notes Regarding eC:

All samples were mostly rocks. The lab was not able to make a saturated paste that is standard for the eC determination.

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509711

Date Reported: 10/14/2015

CLIENT: WPX Energy

Client Sample ID: S-1

Project: Docar #2A

Collection Date: 9/14/2015 1:35:00 PM

Lab ID: 1509711-001

Matrix: SOIL

Received Date: 9/16/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	ND	3.5	9.8		mg/Kg	1	9/18/2015 1:42:08 AM	21344
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	9/18/2015 1:42:08 AM	21344
Surr: DNOP	84.3	0	57.9-140		%REC	1	9/18/2015 1:42:08 AM	21344
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>	
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	9/18/2015 2:57:00 PM	21320
Surr: BFB	87.9	0	75.4-113		%REC	1	9/18/2015 2:57:00 PM	21320
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>	
Benzene	ND	0.0051	0.048		mg/Kg	1	9/18/2015 2:57:00 PM	21320
Toluene	ND	0.0049	0.048		mg/Kg	1	9/18/2015 2:57:00 PM	21320
Ethylbenzene	ND	0.0050	0.048		mg/Kg	1	9/18/2015 2:57:00 PM	21320
Xylenes, Total	ND	0.016	0.096		mg/Kg	1	9/18/2015 2:57:00 PM	21320
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	9/18/2015 2:57:00 PM	21320
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>JLF</b>	
Mercury	0.054	0.0028	0.032		mg/Kg	1	9/22/2015 10:23:49 AM	21413
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>MED</b>	
Arsenic	1.3	0.74	2.5	J	mg/Kg	1	9/22/2015 2:50:04 PM	21387
Barium	820	0.25	0.51		mg/Kg	5	9/22/2015 4:09:39 PM	21387
Cadmium	ND	0.064	0.10		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Chromium	4.8	0.13	0.31		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Copper	12	0.16	0.31		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Lead	9.8	0.18	0.25		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Nickel	7.2	0.12	0.51		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Selenium	ND	1.1	2.5		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Silver	ND	0.032	0.25		mg/Kg	1	9/22/2015 2:50:04 PM	21387
Zinc	37	0.58	2.5		mg/Kg	1	9/22/2015 2:50:04 PM	21387
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	8.4	0	0			1	9/25/2015 9:06:00 AM	21371
<b>SM4500-H+B: PH</b>							Analyst: <b>JRR</b>	
pH	9.08	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	661	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.

<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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509711

Date Reported: 10/14/2015

CLIENT: WPX Energy

Client Sample ID: S-2

Project: Docar #2A

Collection Date: 9/14/2015 1:40:00 PM

Lab ID: 1509711-002

Matrix: SOIL

Received Date: 9/16/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	ND	3.5	9.7		mg/Kg	1	9/18/2015 2:03:52 AM	21344
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	9/18/2015 2:03:52 AM	21344
Surr: DNOP	90.7	0	57.9-140		%REC	1	9/18/2015 2:03:52 AM	21344
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>	
Gasoline Range Organics (GRO)	ND	1.4	4.7		mg/Kg	1	9/18/2015 3:22:27 PM	21320
Surr: BFB	83.8	0	75.4-113		%REC	1	9/18/2015 3:22:27 PM	21320
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>	
Benzene	ND	0.0050	0.047		mg/Kg	1	9/18/2015 3:22:27 PM	21320
Toluene	ND	0.0048	0.047		mg/Kg	1	9/18/2015 3:22:27 PM	21320
Ethylbenzene	ND	0.0049	0.047		mg/Kg	1	9/18/2015 3:22:27 PM	21320
Xylenes, Total	ND	0.015	0.093		mg/Kg	1	9/18/2015 3:22:27 PM	21320
Surr: 4-Bromofluorobenzene	97.8	0	80-120		%REC	1	9/18/2015 3:22:27 PM	21320
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>JLF</b>	
Mercury	0.030	0.0027	0.031	J	mg/Kg	1	9/22/2015 10:25:40 AM	21413
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>MED</b>	
Arsenic	ND	1.5	5.1		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Barium	190	0.099	0.20		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Cadmium	ND	0.13	0.20		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Chromium	4.5	0.26	0.61		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Copper	11	0.32	0.61		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Lead	8.3	0.36	0.51		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Nickel	8.3	0.23	1.0		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Selenium	ND	2.2	5.1		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Silver	ND	0.065	0.51		mg/Kg	2	9/22/2015 2:55:46 PM	21387
Zinc	54	1.2	5.1		mg/Kg	2	9/22/2015 2:55:46 PM	21387
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	2.2	0	0			1	9/25/2015 9:06:00 AM	21371
<b>SM4500-H+B: PH</b>							Analyst: <b>JRR</b>	
pH	9.12	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	678	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.

<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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509711

Date Reported: 10/14/2015

CLIENT: WPX Energy

Client Sample ID: S-3

Project: Docar #2A

Collection Date: 9/14/2015 1:43:00 PM

Lab ID: 1509711-003

Matrix: SOIL

Received Date: 9/16/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	ND	3.6	10		mg/Kg	1	9/18/2015 2:25:32 AM	21344
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	9/18/2015 2:25:32 AM	21344
Surr: DNOP	92.3	0	57.9-140		%REC	1	9/18/2015 2:25:32 AM	21344
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>	
Gasoline Range Organics (GRO)	ND	1.4	4.6		mg/Kg	1	9/18/2015 3:47:43 PM	21320
Surr: BFB	84.6	0	75.4-113		%REC	1	9/18/2015 3:47:43 PM	21320
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>	
Benzene	ND	0.0049	0.046		mg/Kg	1	9/18/2015 3:47:43 PM	21320
Toluene	ND	0.0047	0.046		mg/Kg	1	9/18/2015 3:47:43 PM	21320
Ethylbenzene	ND	0.0048	0.046		mg/Kg	1	9/18/2015 3:47:43 PM	21320
Xylenes, Total	ND	0.015	0.092		mg/Kg	1	9/18/2015 3:47:43 PM	21320
Surr: 4-Bromofluorobenzene	96.2	0	80-120		%REC	1	9/18/2015 3:47:43 PM	21320
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>JLF</b>	
Mercury	0.022	0.0029	0.033	J	mg/Kg	1	9/22/2015 10:27:24 AM	21413
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>MED</b>	
Arsenic	ND	0.71	2.4		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Barium	590	0.24	0.49		mg/Kg	5	9/22/2015 4:11:19 PM	21387
Cadmium	ND	0.062	0.097		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Chromium	2.6	0.12	0.29		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Copper	3.8	0.15	0.29		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Lead	4.8	0.17	0.24		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Nickel	6.0	0.11	0.49		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Selenium	ND	1.1	2.4		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Silver	ND	0.031	0.24		mg/Kg	1	9/22/2015 2:57:48 PM	21387
Zinc	45	0.55	2.4		mg/Kg	1	9/22/2015 2:57:48 PM	21387
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	3.4	0	0			1	9/25/2015 9:06:00 AM	21371
<b>SM4500-H+B: PH</b>							Analyst: <b>JRR</b>	
pH	9.01	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	643	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.

<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	



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509711

Date Reported: 10/14/2015

CLIENT: WPX Energy

Client Sample ID: S-4

Project: Docar #2A

Collection Date: 9/14/2015 1:50:00 PM

Lab ID: 1509711-004

Matrix: SOIL

Received Date: 9/16/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	ND	3.4	9.5		mg/Kg	1	9/18/2015 2:47:15 AM	21344
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	9/18/2015 2:47:15 AM	21344
Surr: DNOP	86.4	0	57.9-140		%REC	1	9/18/2015 2:47:15 AM	21344
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>	
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	9/18/2015 4:12:58 PM	21320
Surr: BFB	83.6	0	75.4-113		%REC	1	9/18/2015 4:12:58 PM	21320
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>	
Benzene	ND	0.0051	0.048		mg/Kg	1	9/18/2015 4:12:58 PM	21320
Toluene	ND	0.0049	0.048		mg/Kg	1	9/18/2015 4:12:58 PM	21320
Ethylbenzene	ND	0.0050	0.048		mg/Kg	1	9/18/2015 4:12:58 PM	21320
Xylenes, Total	ND	0.016	0.097		mg/Kg	1	9/18/2015 4:12:58 PM	21320
Surr: 4-Bromofluorobenzene	96.5	0	80-120		%REC	1	9/18/2015 4:12:58 PM	21320
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>JLF</b>	
Mercury	0.023	0.0029	0.033	J	mg/Kg	1	9/22/2015 10:29:09 AM	21413
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>MED</b>	
Arsenic	1.4	0.73	2.5	J	mg/Kg	1	9/22/2015 3:08:45 PM	21387
Barium	300	0.097	0.20		mg/Kg	2	9/22/2015 3:10:31 PM	21387
Cadmium	ND	0.063	0.099		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Chromium	5.4	0.12	0.30		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Copper	9.9	0.16	0.30		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Lead	7.5	0.17	0.25		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Nickel	6.5	0.11	0.50		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Selenium	ND	1.1	2.5		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Silver	ND	0.032	0.25		mg/Kg	1	9/22/2015 3:08:45 PM	21387
Zinc	33	0.57	2.5		mg/Kg	1	9/22/2015 3:08:45 PM	21387
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	3.0	0	0			1	9/25/2015 9:06:00 AM	21371
<b>SM4500-H+B: PH</b>							Analyst: <b>JRR</b>	
pH	9.11	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	885	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.

<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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509711

Date Reported: 10/14/2015

CLIENT: WPX Energy

Client Sample ID: S-5

Project: Docar #2A

Collection Date: 9/14/2015 1:52:00 PM

Lab ID: 1509711-005

Matrix: SOIL

Received Date: 9/16/2015 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>	
Diesel Range Organics (DRO)	ND	3.4	9.5		mg/Kg	1	9/18/2015 3:08:47 AM	21344
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	9/18/2015 3:08:47 AM	21344
Surr: DNOP	91.2	0	57.9-140		%REC	1	9/18/2015 3:08:47 AM	21344
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>	
Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	9/18/2015 4:38:12 PM	21320
Surr: BFB	86.4	0	75.4-113		%REC	1	9/18/2015 4:38:12 PM	21320
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>	
Benzene	ND	0.0053	0.050		mg/Kg	1	9/18/2015 4:38:12 PM	21320
Toluene	ND	0.0051	0.050		mg/Kg	1	9/18/2015 4:38:12 PM	21320
Ethylbenzene	ND	0.0052	0.050		mg/Kg	1	9/18/2015 4:38:12 PM	21320
Xylenes, Total	ND	0.016	0.10		mg/Kg	1	9/18/2015 4:38:12 PM	21320
Surr: 4-Bromofluorobenzene	98.7	0	80-120		%REC	1	9/18/2015 4:38:12 PM	21320
<b>EPA METHOD 7471: MERCURY</b>							Analyst: <b>JLF</b>	
Mercury	0.064	0.0029	0.033		mg/Kg	1	9/22/2015 10:30:53 AM	21413
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>MED</b>	
Arsenic	2.4	1.5	5.0	J	mg/Kg	2	9/22/2015 3:14:17 PM	21387
Barium	370	0.097	0.20		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Cadmium	ND	0.13	0.20		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Chromium	5.6	0.25	0.60		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Copper	10	0.31	0.60		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Lead	8.9	0.35	0.50		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Nickel	7.5	0.23	0.99		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Selenium	ND	2.2	5.0		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Silver	ND	0.063	0.50		mg/Kg	2	9/22/2015 3:14:17 PM	21387
Zinc	40	1.1	5.0		mg/Kg	2	9/22/2015 3:14:17 PM	21387
<b>SAR SOLUBLE CATIONS</b>							Analyst: <b>MED</b>	
Sodium Adsorption Ratio	2.8	0	0			1	9/25/2015 9:06:00 AM	21371
<b>SM4500-H+B: PH</b>							Analyst: <b>JRR</b>	
pH	9.23	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
<b>RESISTIVITY AND EC SOIL</b>							Analyst: <b>JRR</b>	
Conductivity	794	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.

<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	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	MB-21344		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 21344		RunNo: 28881					
Prep Date:	9/16/2015		Analysis Date: 9/17/2015		SeqNo: 876960		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	11		10.00		111	57.9	140			

Sample ID	LCS-21344		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 21344		RunNo: 28881					
Prep Date:	9/16/2015		Analysis Date: 9/17/2015		SeqNo: 876961		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	57.4	139			
Surr: DNOP	5.2		5.000		105	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#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	LCS-21320		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 21320		RunNo: 28951					
Prep Date:	9/15/2015		Analysis Date: 9/18/2015		SeqNo: 878330		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.5	79.6	122			
Surr: BFB	920		1000		92.3	75.4	113			

Sample ID	MB-21320		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 21320		RunNo: 28951					
Prep Date:	9/15/2015		Analysis Date: 9/18/2015		SeqNo: 878332		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	830		1000		82.6	75.4	113			

### 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#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	LCS-21320		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 21320		RunNo: 28951					
Prep Date:	9/15/2015		Analysis Date: 9/18/2015		SeqNo: 878372		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	93.7	80	120			
Toluene	0.94	0.050	1.000	0	94.4	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID	MB-21320		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 21320		RunNo: 28951					
Prep Date:	9/15/2015		Analysis Date: 9/18/2015		SeqNo: 878374		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	0.017	0.050								J
Ethylbenzene	0.018	0.050								J
Xylenes, Total	0.050	0.10								J
Surr: 4-Bromofluorobenzene	0.94		1.000		94.1	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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	MB-21413		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 21413		RunNo: 29017					
Prep Date:	9/21/2015		Analysis Date: 9/22/2015		SeqNo: 880417		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-21413			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	21413		RunNo:	29017			
Prep Date:	9/21/2015			Analysis Date:	9/22/2015		SeqNo:	880418		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	104	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#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	MB-21387		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 21387		RunNo: 29021					
Prep Date:	9/18/2015		Analysis Date: 9/22/2015		SeqNo: 880480		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	0.057	0.10								J
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-21387		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals						
Client ID:	LCSS		Batch ID: 21387		RunNo: 29021						
Prep Date:	9/18/2015		Analysis Date: 9/22/2015		SeqNo: 880481		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	25	2.5	25.00	0	101	80	120				
Barium	26	0.10	25.00	0	104	80	120				
Cadmium	26	0.10	25.00	0	103	80	120				
Chromium	26	0.30	25.00	0	105	80	120				
Copper	27	0.30	25.00	0	110	80	120				
Lead	25	0.25	25.00	0	99.4	80	120				
Nickel	25	0.50	25.00	0	102	80	120				
Selenium	24	2.5	25.00	0	97.7	80	120				
Silver	5.1	0.25	5.000	0	101	80	120				
Zinc	25	2.5	25.00	0	101	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#: 1509711

14-Oct-15

Client: WPX Energy

Project: Docar #2A

Sample ID	1509711-001ADUP	SampType:	DUP	TestCode:	Resistivity and eC Soil					
Client ID:	S-1	Batch ID:	21491	RunNo:	29102					
Prep Date:	9/24/2015	Analysis Date:	9/25/2015	SeqNo:	883422	Units:	µmhos/cm			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	636	1.00						3.86	20	

### 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



# Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1509711

RcptNo: 1

Received by/date:	<i>[Signature]</i>	09/16/15
Logged By:	Lindsay Mangin	9/16/2015 7:00:00 AM
Completed By:	Lindsay Mangin	9/16/2015 7:55:59 AM
Reviewed By:	<i>[Signature]</i>	09/16/15

## Chain of Custody

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

## Log In

- Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
- Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
- Sample(s) in proper container(s)? Yes ☒ No ☐
- Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
- Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
- Was preservative added to bottles? Yes ☐ No ☒ NA ☐
- VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
- Were any sample containers received broken? Yes ☐ No ☒
- Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
- Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
- Is it clear what analyses were requested? Yes ☒ No ☐
- 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)

- 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	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](mailto:deborah.watson@wpxenergy.com)

QA/QC Package:

☒ X Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ X Standard ☐ Rush

Project Name:

Docar #2A

Project #:

Project Manager:

D. Watson

Sampler:

RB/

On Ice:

☒ Yes ☐ No

Sample Temperature: 20

Date Time Matrix Sample Request ID

Container Type and #

Preservative Type

HEAL No.

1509711

-001

-002

-003

-004

-005

2-8 oz glass

2-8 oz glass

2-8 oz glass

2-8 oz glass

2-8 oz glass

soil

soil

soil

soil

soil

S-1

S-2

S-3

S-4

S-5

14-15

14-15

14-15

14-15

14-15

1335

1340

1343

1350

1352

Date: 1/15/15

Time: 1710

Relinquished by: Deborah Watson

Relinquished by: Deborah Watson

Date: 1/15/15

Time: 1710

Received by: Deborah Watson

Received by: Deborah Watson

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Date: 1/15/15

Time: 1710

Remarks: Per Colorado Table 910-1

Remarks: Per Colorado Table 910-1

Remarks: Per Colorado Table 910-1

Remarks: Per Colorado Table 910-1

Remarks: Per Colorado Table 910-1

Remarks: Per Colorado Table 910-1



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Metals (As, Ba, B, Cd, Cr III, Cr VI,

Cu, Pb, Hg, Ni, Se, Ag, Zn)

pH

Sodium Absorption Ratio (SAR)

Electrical Conductivity (EC)

TPH

BTX

Chloride

Air Bubbles (Y or N)