

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: <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 641/ 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>05-067-06249</u>	County: <u>La Plata</u>
Facility Name: _____	Facility Number: _____
Well Name: <u>Docar Gas Unit</u>	Well Number: <u>2-A</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NENE 26, 33N, 8W, N</u>	Latitude: <u>37.08088</u> Longitude: <u>-107.680992</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: 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):	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 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.

[Click here to reset form](#)

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(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.

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

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

Case Narrative

WO#: 1509711
Date: 10/14/2015

CLIENT: WPX Energy
Project: Docar #2A

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.

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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA	
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
EPA METHOD 8021B: VOLATILES							Analyst: RAA	
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
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.054	0.0028	0.032		mg/Kg	1	9/22/2015 10:23:49 AM	21413
EPA METHOD 6010B: SOIL METALS							Analyst: MED	
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
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	8.4	0	0			1	9/25/2015 9:06:00 AM	21371
SM4500-H+B: PH							Analyst: JRR	
pH	9.08	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
RESISTIVITY AND EC SOIL							Analyst: JRR	
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.

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:** 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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA	
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
EPA METHOD 8021B: VOLATILES							Analyst: RAA	
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
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.030	0.0027	0.031	J	mg/Kg	1	9/22/2015 10:25:40 AM	21413
EPA METHOD 6010B: SOIL METALS							Analyst: MED	
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
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	2.2	0	0			1	9/25/2015 9:06:00 AM	21371
SM4500-H+B: PH							Analyst: JRR	
pH	9.12	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
RESISTIVITY AND EC SOIL							Analyst: JRR	
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.

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-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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA	
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
EPA METHOD 8021B: VOLATILES							Analyst: RAA	
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
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.022	0.0029	0.033	J	mg/Kg	1	9/22/2015 10:27:24 AM	21413
EPA METHOD 6010B: SOIL METALS							Analyst: MED	
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
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	3.4	0	0			1	9/25/2015 9:06:00 AM	21371
SM4500-H+B: PH							Analyst: JRR	
pH	9.01	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
RESISTIVITY AND EC SOIL							Analyst: JRR	
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.

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: 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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA	
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
EPA METHOD 8021B: VOLATILES							Analyst: RAA	
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
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.023	0.0029	0.033	J	mg/Kg	1	9/22/2015 10:29:09 AM	21413
EPA METHOD 6010B: SOIL METALS							Analyst: MED	
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
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	3.0	0	0			1	9/25/2015 9:06:00 AM	21371
SM4500-H+B: PH							Analyst: JRR	
pH	9.11	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
RESISTIVITY AND EC SOIL							Analyst: JRR	
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.

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 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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH	
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA	
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
EPA METHOD 8021B: VOLATILES							Analyst: RAA	
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
EPA METHOD 7471: MERCURY							Analyst: JLF	
Mercury	0.064	0.0029	0.033		mg/Kg	1	9/22/2015 10:30:53 AM	21413
EPA METHOD 6010B: SOIL METALS							Analyst: MED	
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
SAR SOLUBLE CATIONS							Analyst: MED	
Sodium Adsorption Ratio	2.8	0	0			1	9/25/2015 9:06:00 AM	21371
SM4500-H+B: PH							Analyst: JRR	
pH	9.23	0.100	1.68		pH Units	1	9/18/2015 1:56:00 PM	R28963
RESISTIVITY AND EC SOIL							Analyst: JRR	
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.

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#: 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: AM 09/16/15

Logged By: Lindsay Mangin 9/16/2015 7:00:00 AM Judy Mangin

Completed By: Lindsay Mangin 9/16/2015 7:55:59 AM Judy Mangin

Reviewed By: AM 09/16/15

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? Yes No
(Note discrepancies on chain of custody)
- 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? Yes No
(If no, notify customer for authorization.)

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	2.0	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

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation:

NELAP Other

EDD (Type)

Turn-Around Time:

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.
1-14-15	1335	soil	S-1	2-8 oz glass	cold	-001
1-14-15	1340	soil	S-2	2-8oz glass	cold	-002
1-14-15	1343	soil	S-3	2-8oz glass	cold	-003
1-14-15	1350	soil	S-4	2-8oz glass	cold	-004
1-14-15	1352	soil	S-5	2-8oz glass	cold	-005

Container Type and #

Preservative Type

HEAL No.

1509711

2-8 oz glass

cold

-001

2-8oz glass

cold

-002

2-8oz glass

cold

-003

2-8oz glass

cold

-004

2-8oz glass

cold

-005

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX	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)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						

Remarks: Per Colorado Table 910-1

Received by: *Christina Walker* Date: *1/15/15* Time: *1710*

Received by: *[Signature]* Date: *01/16/15* Time: *0700*

Date: *1/15/15* Time: *1710*

Date: *1/15/15* Time: *1955*

Relinquished by: *Christina Walker*

Relinquished by: *Deborah Watson*