



Crystal Weaver
Environmental Specialist
NMOCD District II

December 23, 2016

Re: RDU 11 workplan for the characterization of impacts – Case # 4001

Dear Ms. Weaver,

The purpose of this letter is to propose a workplan for the characterization of impacts associated with the RDU 11 produced water and oil spill which occurred on November 5, 2016.

The impacted area was sampled on 11/15/2016; two grab samples were collected from the containment berm. The map of the impacted area along with the two sample locations and the laboratory report are included as an attachment. The results are summarized below:

Location	DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)	Chlorides (mg/kg)
RDU 11-S1	5000	110	ND	ND	0.11	0.29	2700
RDU 11-S2	130	ND	ND	ND	ND	ND	3100

The organic compounds and the chloride concentrations are exceeding OCD's cleanup standards. WPX proposes to delineate the salt and hydrocarbon impacts by excavating potholes and screening soil at various depths until salt concentrations screen below 1000 mg/kg for chlorides and below 5000 mg/kg for hydrocarbons. Two potholes will be excavated from the impacted area near the two sampling points to delineate vertical extent of the impacts. Several potholes will be excavated along the perimeter of the SPCC containment berm to delineate the horizontal extent of the impacts. All samples will be screened for chlorides utilizing titration strips and screened for hydrocarbons utilizing a PetroFlag unit. Once the characterization is completed, WPX will submit the results to OCD along with a cleanup plan for prior approval. WPX will start the delineation activities upon the approval of this request.

Please do not hesitate to call me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Karolina Blaney".

Karolina Blaney
WPX Energy
Environmental Specialist
(970) 589-0743
karolina.blaney@wpxenergy.com



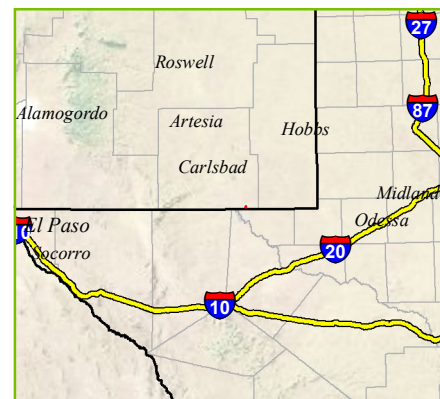
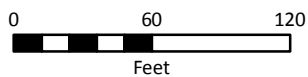
RDU 11
Permian Basin



Date: 11/16/2016
Map Scale (at 8.5" x 11"): 1:1,000
Projection: NAD 1927 UTM Zone 13N
Created By: Jeremy Andarakes
Planning Project Specialist II
3500 One Williams Center
Tulsa, OK 74172

Map Symbology

- WPX Well - Producing
- ★ Point of Interest
- Area of Interest





28-Nov-2016

Karolina Blaney
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **RDU 11**

Work Order: **16111081**

Dear Karolina,

ALS Environmental received 2 samples on 16-Nov-2016 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

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RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: RDU 11
Work Order: 16111081

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
16111081-01	RDU 11 S1	Soil		11/15/2016 12:55	11/16/2016 09:00	☐
16111081-02	RDU 11 S2	Soil		11/16/2016 13:00	11/16/2016 09:00	☐

Client: WPX Energy

Project: RDU 11

WorkOrder: 16111081

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 28-Nov-16

Client: WPX Energy

Project: RDU 11

Sample ID: RDU 11 S1

Collection Date: 11/15/2016 12:55 PM

Work Order: 16111081

Lab ID: 16111081-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/18/16	Analyst: IT
DRO (C10-C28)	5,000		210	mg/Kg-dry	10	11/19/2016 12:54 PM
Surr: 4-Terphenyl-d14	165	S	39-133	%REC	10	11/19/2016 12:54 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/17/16	Analyst: IT
GRO (C6-C10)	110		3.1	mg/Kg-dry	1	11/19/2016 05:05 AM
Surr: Toluene-d8	105		50-150	%REC	1	11/19/2016 05:05 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 11/17/16	Analyst: BG
Benzene	ND		0.037	mg/Kg-dry	1	11/22/2016 09:47 AM
Ethylbenzene	0.094		0.037	mg/Kg-dry	1	11/22/2016 09:47 AM
m,p-Xylene	0.18		0.075	mg/Kg-dry	1	11/22/2016 09:47 AM
o-Xylene	0.11		0.037	mg/Kg-dry	1	11/22/2016 09:47 AM
Toluene	0.11		0.037	mg/Kg-dry	1	11/22/2016 09:47 AM
Xylenes, Total	0.29		0.11	mg/Kg-dry	1	11/22/2016 09:47 AM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	11/22/2016 09:47 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	11/22/2016 09:47 AM
Surr: Dibromofluoromethane	90.0		70-130	%REC	1	11/22/2016 09:47 AM
Surr: Toluene-d8	101		70-130	%REC	1	11/22/2016 09:47 AM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT / 11/21/16	Analyst: ED
Chloride	2,700		45	mg/Kg-dry	4	11/22/2016 11:45 AM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	11		0.050	% of sample	1	11/16/2016 03:04 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 28-Nov-16

Client: WPX Energy

Project: RDU 11

Sample ID: RDU 11 S2

Collection Date: 11/16/2016 01:00 PM

Work Order: 16111081

Lab ID: 16111081-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/18/16	Analyst: IT
DRO (C10-C28)	130		5.4	mg/Kg-dry	1	11/18/2016 11:25 PM
Surr: 4-Terphenyl-d14	47.3		39-133	%REC	1	11/18/2016 11:25 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/17/16	Analyst: IT
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	11/17/2016 09:26 PM
Surr: Toluene-d8	92.4		50-150	%REC	1	11/17/2016 09:26 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 11/17/16	Analyst: EMR
Benzene	ND		0.036	mg/Kg-dry	1	11/20/2016 04:15 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	11/20/2016 04:15 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	11/20/2016 04:15 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	11/20/2016 04:15 AM
Toluene	ND		0.036	mg/Kg-dry	1	11/20/2016 04:15 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/20/2016 04:15 AM
Surr: 1,2-Dichloroethane-d4	95.8		70-130	%REC	1	11/20/2016 04:15 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	11/20/2016 04:15 AM
Surr: Dibromofluoromethane	87.0		70-130	%REC	1	11/20/2016 04:15 AM
Surr: Toluene-d8	99.2		70-130	%REC	1	11/20/2016 04:15 AM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT / 11/21/16	Analyst: ED
Chloride	3,100		44	mg/Kg-dry	4	11/22/2016 11:45 AM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	9.7		0.050	% of sample	1	11/16/2016 03:04 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: WPX Energy
Work Order: 16111081
Project: RDU 11

QC BATCH REPORT

Batch ID: **94788** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-94788-94788				Units: mg/Kg		Analysis Date: 11/18/2016 05:31 PM		
Client ID:		Run ID: GC8_161118A				SeqNo: 4164673		Prep Date: 11/18/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.959	0	3.33	0	58.8	39-133		0		

LCS		Sample ID: DLCSS1-94788-94788				Units: mg/Kg		Analysis Date: 11/18/2016 06:01 PM		
Client ID:		Run ID: GC8_161118A				SeqNo: 4164674		Prep Date: 11/18/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	205.6	5.0	333	0	61.7	61-109		0		
Surr: 4-Terphenyl-d14	1.475	0	3.33	0	44.3	39-133		0		

MS		Sample ID: 16111179-01B MS				Units: mg/Kg		Analysis Date: 11/18/2016 06:30 PM		
Client ID:		Run ID: GC8_161118A				SeqNo: 4164675		Prep Date: 11/18/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	212.2	5.0	330.8	0	64.1	48-110		0		
Surr: 4-Terphenyl-d14	1.401	0	3.308	0	42.4	39-133		0		

MSD		Sample ID: 16111179-01B MSD				Units: mg/Kg		Analysis Date: 11/18/2016 07:00 PM		
Client ID:		Run ID: GC8_161118A				SeqNo: 4164676		Prep Date: 11/18/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	209.1	4.9	329.1	0	63.6	48-110	212.2	1.44	30	
Surr: 4-Terphenyl-d14	1.351	0	3.291	0	41.1	39-133	1.401	3.65	30	

The following samples were analyzed in this batch:

16111081-01A	16111081-02A
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Client: WPX Energy
 Work Order: 16111081
 Project: RDU 11

QC BATCH REPORT

Batch ID: 94718 Instrument ID GC9 Method: SW8015D

MBLK		Sample ID: MBLK-94718-94718				Units: µg/Kg-dry		Analysis Date: 11/17/2016 09:01 PM		
Client ID:		Run ID: GC9_161117B				SeqNo: 4160951		Prep Date: 11/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500	0	0	0		0			
Surr: Toluene-d8	4414	0	5000	0	88.3	50-150	0			

LCS		Sample ID: LCS-94718-94718				Units: µg/Kg-dry		Analysis Date: 11/17/2016 08:36 PM		
Client ID:		Run ID: GC9_161117B				SeqNo: 4160950		Prep Date: 11/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	493000	2,500	500000	0	98.6	70-130	0			
Surr: Toluene-d8	5165	0	5000	0	103	50-150	0			

MS		Sample ID: 16111081-02A MS				Units: µg/Kg-dry		Analysis Date: 11/17/2016 11:36 PM		
Client ID: RDU 11 S2		Run ID: GC9_161117B				SeqNo: 4160957		Prep Date: 11/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	717400	3,000	607400	0	118	70-130	0			
Surr: Toluene-d8	6666	0	6074	0	110	50-150	0			

MSD		Sample ID: 16111081-02A MSD				Units: µg/Kg-dry		Analysis Date: 11/18/2016 12:01 PM		
Client ID: RDU 11 S2		Run ID: GC9_161117B				SeqNo: 4160958		Prep Date: 11/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	696700	3,000	607400	0	115	70-130	717400	2.93	30	
Surr: Toluene-d8	7094	0	6074	0	117	50-150	6666	6.22	30	

The following samples were analyzed in this batch:

16111081-01A	16111081-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 16111081
 Project: RDU 11

QC BATCH REPORT

Batch ID: 94715 Instrument ID VMS7 Method: SW8260B

MBLK Sample ID: MBLK-94715-94715				Units: µg/Kg-dry			Analysis Date: 11/17/2016 11:00 A			
Client ID:		Run ID: VMS7_161117A		SeqNo: 4159282		Prep Date: 11/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30	0	0	0	0-0	0			
Ethylbenzene	ND	30	0	0	0	0-0	0			
m,p-Xylene	ND	60	0	0	0	0-0	0			
o-Xylene	ND	30	0	0	0	0-0	0			
Toluene	ND	30	0	0	0	0-0	0			
Xylenes, Total	ND	90	0	0	0	0-0	0			
Surr: 1,2-Dichloroethane-d4	992	0	1000	0	99.2	70-130	0			
Surr: 4-Bromofluorobenzene	962	0	1000	0	96.2	70-130	0			
Surr: Dibromofluoromethane	918	0	1000	0	91.8	70-130	0			
Surr: Toluene-d8	988.5	0	1000	0	98.8	70-130	0			

LCS Sample ID: LCS-94715-94715				Units: µg/Kg-dry			Analysis Date: 11/17/2016 09:58 A			
Client ID:		Run ID: VMS7_161117A		SeqNo: 4159279		Prep Date: 11/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1094	30	1000	0	109	75-125	0			
Ethylbenzene	1060	30	1000	0	106	75-125	0			
m,p-Xylene	2144	60	2000	0	107	80-125	0			
o-Xylene	1054	30	1000	0	105	75-125	0			
Toluene	1050	30	1000	0	105	70-125	0			
Xylenes, Total	3198	90	3000	0	107	75-125	0			
Surr: 1,2-Dichloroethane-d4	988	0	1000	0	98.8	70-130	0			
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0			
Surr: Dibromofluoromethane	993	0	1000	0	99.3	70-130	0			
Surr: Toluene-d8	989.5	0	1000	0	99	70-130	0			

MS Sample ID: 16111081-02A MS				Units: µg/Kg-dry			Analysis Date: 11/20/2016 05:38 A			
Client ID: RDU 11 S2		Run ID: VMS7_161119B		SeqNo: 4163503		Prep Date: 11/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1378	36	1215	0	113	75-125	0			
Ethylbenzene	1350	36	1215	0	111	75-125	0			
m,p-Xylene	2702	73	2430	0	111	80-125	0			
o-Xylene	1328	36	1215	0	109	75-125	0			
Toluene	1351	36	1215	0	111	70-125	0			
Xylenes, Total	4030	110	3645	0	111	75-125	0			
Surr: 1,2-Dichloroethane-d4	1158	0	1215	0	95.3	70-130	0			
Surr: 4-Bromofluorobenzene	1246	0	1215	0	103	70-130	0			
Surr: Dibromofluoromethane	1130	0	1215	0	93	70-130	0			
Surr: Toluene-d8	1239	0	1215	0	102	70-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 16111081
 Project: RDU 11

QC BATCH REPORT

Batch ID: 94715 Instrument ID VMS7 Method: SW8260B

MSD					Sample ID: 16111081-02A MSD			Units: µg/Kg-dry		Analysis Date: 11/20/2016 05:59 A	
Client ID: RDU 11 S2				Run ID: VMS7_161119B			SeqNo: 4163504		Prep Date: 11/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1325	36	1215	0	109	75-125	1378	3.91	30		
Ethylbenzene	1328	36	1215	0	109	75-125	1350	1.59	30		
m,p-Xylene	2629	73	2430	0	108	80-125	2702	2.76	30		
o-Xylene	1300	36	1215	0	107	75-125	1328	2.13	30		
Toluene	1290	36	1215	0	106	70-125	1351	4.6	30		
Xylenes, Total	3929	110	3645	0	108	75-125	4030	2.55	30		
Surr: 1,2-Dichloroethane-d4	1164	0	1215	0	95.8	70-130	1158	0.523	30		
Surr: 4-Bromofluorobenzene	1256	0	1215	0	103	70-130	1246	0.777	30		
Surr: Dibromofluoromethane	1144	0	1215	0	94.2	70-130	1130	1.23	30		
Surr: Toluene-d8	1237	0	1215	0	102	70-130	1239	0.147	30		

The following samples were analyzed in this batch:

16111081-01A	16111081-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 16111081
 Project: RDU 11

QC BATCH REPORT

Batch ID: **94901** Instrument ID **GALLERY** Method: **A4500-CI E-97**

MBLK		Sample ID: MBLK-94901-94901				Units: mg/Kg		Analysis Date: 11/22/2016 11:45 A		
Client ID:		Run ID: GALLERY_161122A		SeqNo: 4167192		Prep Date: 11/21/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 16111080-03A MS				Units: mg/Kg		Analysis Date: 11/22/2016 11:45 A		
Client ID:		Run ID: GALLERY_161122A		SeqNo: 4167201		Prep Date: 11/21/2016		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 930.8 40 495 492.3 88.6 75-125 0

MSD		Sample ID: 16111080-03A MSD				Units: mg/Kg		Analysis Date: 11/22/2016 11:45 A		
Client ID:		Run ID: GALLERY_161122A		SeqNo: 4167202		Prep Date: 11/21/2016		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 907.4 40 497 492.3 83.5 75-125 930.8 2.55 25

LCS1		Sample ID: LCS1-94901-94901				Units: mg/Kg		Analysis Date: 11/22/2016 11:45 A		
Client ID:		Run ID: GALLERY_161122A		SeqNo: 4167193		Prep Date: 11/21/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 96.84 10 100 0 96.8 80-120 0

LCS2		Sample ID: LCS2-94901-94901				Units: mg/Kg		Analysis Date: 11/22/2016 11:45 A		
Client ID:		Run ID: GALLERY_161122A		SeqNo: 4167194		Prep Date: 11/21/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 486.4 10 500 0 97.3 80-120 0

The following samples were analyzed in this batch:

16111081-01A	16111081-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 16111081
Project: RDU 11

QC BATCH REPORT

Batch ID: **R200799** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R200799				Units: % of sample		Analysis Date: 11/16/2016 03:04 PM		
Client ID:		Run ID: MOIST_161116A				SeqNo: 4158155		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS				Sample ID: LCS-R200799				Units: % of sample			Analysis Date: 11/16/2016 03:04 PM		
Client ID:				Run ID: MOIST_161116A				SeqNo: 4158154		Prep Date:		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP				Sample ID: 16111080-02A DUP				Units: % of sample			Analysis Date: 11/16/2016 03:04 PM			
Client ID:				Run ID: MOIST_161116A				SeqNo: 4158149			Prep Date:		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 17.62 0.050 0 0 0 18.44 4.55 20

DUP				Sample ID: 16111080-03A DUP				Units: % of sample			Analysis Date: 11/16/2016 03:04 PM			
Client ID:				Run ID: MOIST_161116A				SeqNo: 4158151			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 14 0.050 0 0 0 14.19 1.35 20

The following samples were analyzed in this batch:

16111081-01A	16111081-02A
--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Laboratory Group

HOLLAND, Michigan 48424

Chain-of-Custody

Form 202r8

WORKORDER #

16111081

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME

RDU 11

SAMPLER

SITE ID

RDU 11

DATE

11/15/2016

TURNAROUND

5 day

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

WPX Energy

BILL TO COMPANY

WPX Energy

SEND REPORT TO

Blaney

INVOICE ATTN TO

Karolina Blaney

ADDRESS

ADDRESS

5315 Buena Vista Dr

CITY / STATE / ZIP

CITY / STATE / ZIP

Carlsbad, NM 88220

PHONE

PHONE

970 589 0743

FAX

FAX

E-MAIL

Karolina.blaney@wpxenergy.com

E-MAIL

Karolina.blaney@wpxenergy.com

TPH (DRO + GRO)

BTEX

Chloride

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

1

RDU 11 S1

S

11/15/2016

12:55

1

8

x

x

x

x

2

RDU 11 S2

S

11/16/2016

13:00

1

9

x

x

x

x

*Time Zone (Circle): EST CST MST PST Matrix: O=oil S=soil NS=non-soil solid W=water L=liquid E=extract F=filter

For metals or anions, please detail analytes below.

Comments:

QC PACKAGE (check below)

X

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

3.4.c

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

Karolina Blaney

Karolina Blaney

11/15/2016

16:00

Diane F. Shaw

11/16/16

0900

08120

00252

FedEx Package
Express US Airbill
FedEx
Tracking
Number

8108 0927 4937

1 From

Date 11/15/16

Sender's
Name

KAROLINA BLANEY

Phone

770 589 0743

Company

LDPX ENERGY

Address

5315 BUENA VISTA DR

City

CARLEAD

State

TN

ZIP

88220

2 Your Internal Billing Reference

3 To
Recipient's
Name

SAMPLE RECEIVING

Phone

616 399-6070

Company

ALS ENVIRONMENTAL HOLLAND LAB

Address

3352 128TH AVE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Days/Time/Place/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

HOLLAND

State

MI

ZIP

49424-9263

FedEx

TRK#
0215

8108 0927 4937

WED - 16 NOV 10:30A
PRIORITY OVERNIGHT

49424

MI-US
GRR

XX HLMA

Form
ID No.

0215

Receiver's Copy

4 Express Package Service

To meet deadline.

Packages up to 150 lbs.
 Per package over 100 lbs., use the
 FedEx Express Freight IR Airbill

Next Business Day

- ☐ FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☒ FedEx Priority Overnight
Next business morning. * Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Standard Overnight
Next business afternoon. * Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M.
Second business morning. * Saturday Delivery NOT available.
- ☐ FedEx 2Day
Second business afternoon. * Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Express Saver
Third business day. * Saturday Delivery NOT available.

5 Packaging

* Declared value limit \$500.

- ☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

Fees vary apply. See the FedEx Service Guide.

- ☐ Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- ☒ No Signature Required
Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature
Someone at recipient's address may sign for delivery.
- ☐ Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.
- Does this shipment contain dangerous goods?
 One box must be checked:
☒ No ☐ Yes
 As per attached Shipper's Declaration. ☐ Yes
 Shipper's Declaration not required. ☐ Dry Ice
 Dry Ice, 6 UN 1845 ☐ Cargo Aircraft Only!

7 Payment

Enter FedEx Acct. No. or Credit Card No. below.

Obtain rec'd.

- ☐ Sender
Acct. No. in Section 1 will be billed. ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages Total Weight lbs.

Credit Card Acct.

The liability is limited to US\$500 unless you declare a higher value. See the FedEx Service Guide for details.

New Date 5/15 • Post #123124 • ©1994-2015 FedEx • PRINTED IN U.S.A. 1234

LLI

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **16-Nov-16 09:00**

Work Order: **16111081**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	16-Nov-16	Reviewed by: <u>Chad Whelton</u>	16-Nov-16
eSignature	Date	eSignature	Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.4/3.4 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/16/2016 12:37:50 PM</u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: