Olivia Yu
Environmental Specialist
NMOCD District I

November 5, 2017

Re: Toro 22-3 workplan for the characterization of impacts – Case # 1RP-4838

Dear Ms. Yu,

The purpose of this letter is to summarize the characterization of impacts and remedial actions associated with the Toro 22-3 produced water spill which occurred on September 21, 2017. See attached C-141 for details.

Immediately after the spill discovery, the impacted area was mapped with a Trimble to delineate the horizontal extent of the impacts. On September 28, 2017, two surface samples were collected from the impacted area and tested for TPH, BTEX and Chlorides. All tanks needed to be removed and replaced due to deterioration which allowed to excavate impacted soil and complete remediation. The area inside the secondary containment was excavated to 1'. At that depth, an impermeable layer (i.e. caliche or bedrock) was encountered making further excavation impossible. On October 2, 2017, two additional samples were collected from the bottom of the excavation. The excavated area was backfilled with gravel and new tanks were reset. At that time, the well was turned back to production. The sampling results are summarized in the table below. The raw laboratory report and the sample location map are included as an attachment.

Location	DRO (mg/kg)	GRO (mg/kg)	ORO (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)	Chlorides (mg/kg)
Toro 22-3 S1 0'	ND	ND	ND	ND	ND	ND	ND	2700
Toro 22-3 S1 1'	7.9	ND	ND	ND	ND	ND	ND	1900
Toro 22-3 S2 0'	ND	ND	ND	ND	ND	ND	ND	4500
Toro 22-3 S2 1'	11	ND	ND	ND	ND	ND	ND	2000

Based on the information obtained from the NMOSE web site, the closest surface water feature is located 4656' west of the spill site defined by OSE as "intermittent". Based on the OSE ground water data, the Trend Map and the site elevation, depth do groundwater is less than 50'. There are no private domestic water sources within 1000' of the site. Therefore, the ranking for this site is 20.
See attached OSE reports for wells located within 3000 m and 5000m from the pad site.

In accordance with the Guidelines for Remediation of Leaks, Spills and Releases VI.A.1.b), unsaturated contaminated soils were excavated to the maximum depth and horizontal extent practicable. The maximum practicable depth was reached at 1' where an impermeable layer was encountered making further excavation impossible. All contaminants of concern were removed and the excavated material was disposed of at a commercial facility.
WPX has completed all remedial actions, as required by the NMOCD remediation guidelines, and is respectfully asking for the closure of this incident.

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

Sincerely,

Karolina Blaney

Karolina Blaney
WPX Energy
Environmental Specialist
(970) 589-0743

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: RKI Exploration / WPX Energy	Contact: Karolina Blaney
Address: 5315 Buena Vista Dr.	Telephone No. 970 589 0743
Facility Name: Toro 22-3	Facility Type: Well Pad

Surface Owner: Private	Mineral Owner: Private	API No. 30- 025-35253

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	22	19S	35E	2130	FSL	1650	FWL	Lea

Latitude: 32.64457955_ **Longitude** -103.44839217 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 120 bbls	Volume Recovered 110 bbls
Source of Release: flowline	Date and Hour of Occurrence 9/21/17	Date and Hour of Discovery 9/21/2017 at 8:30 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD Olivia Yu	
By Whom? Karolina Blaney	Date and Hour 9/21/17 at 12:23 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The cause of this spill is equipment failure; corroded tank. Approximately 120 bbls of produced water were spilled inside dirt SPCC containment. 110 bbls were recovered with a vac truck. See attached cover letter for details.

Describe Area Affected and Cleanup Action Taken.*

See attached cover letter for details.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Karolina Blaney	OIL CONSERVATION DIVISION	
Printed Name: Karolina Blaney	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval:	Attached ☐
Date: 11/5/17 Phone: 970 589 0743		

* Attach Additional Sheets If Necessary

Toro 22-3
Permian Basin

WPXENERGY

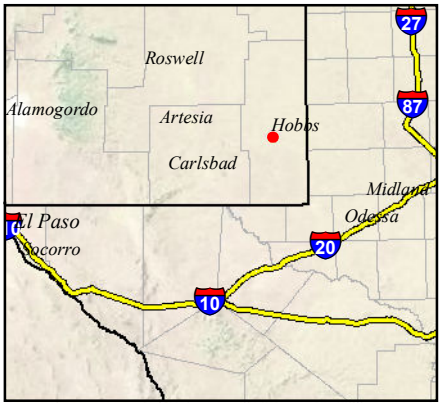
Date: 10/31/2017
Map Scale (at 8.5" x 11"): 1:706
Projection: NAD 1927 UTM Zone 13N
Created By: Sarah Harrison
Geospatial Data Tech II
3800 One Williams Center
Tulsa, OK 74172

0 40 80
Feet

Map Symbology

★ Point of Interest

Area of Interest



P:\PERMIAN\MAPS\EHS\TORO 22-3 - Permian - 8x11 P - KBlaney - 20171031.mxd

New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Code	Subbasin	County	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
L 04290		L	LE	Shallow	3	4	1	22	19S	35E	645528	3613198*	263	09/22/1959	09/22/1959	10/09/1959	45	18		111
L 03844		L	LE	Shallow		1	3	22	19S	35E	645232	3612891*	350	04/23/1958	04/23/1958	04/30/1958	71	27		111
L 02250		L	LE	Shallow	1	3	3	22	19S	35E	645137	3612586*	565	04/01/1954	04/01/1954	04/13/1954	50	20	QUARLES, O.L.	144
L 03843		L	LE	Shallow		3	3	22	19S	35E	645238	3612487*	566	04/22/1958	04/22/1958	04/30/1958	73	27		111
L 04101		L	LE	Shallow		3	3	22	19S	35E	645238	3612487*	566	12/10/1959	12/11/1959	12/18/1959	50	35		205
L 04583		L	LE	Shallow		4	3	15	19S	35E	645617	3614107*	1168	01/15/1961	01/16/1961	01/19/1961	55	18		111
L 09468		L	LE	Shallow		3	3	15	19S	35E	645214	3614102*	1218	04/27/1984	04/28/1984	05/17/1984	52	28	ABBOTT, MURRELL	46
L 12473 POD1		L	LE	Shallow	2	1	2	27	19S	38E	643913	3612109	1861	10/01/2009	10/05/2009	10/21/2009	105	60	DURAN, LUIS (LD)	1607
L 12746 POD1		L	LE	Shallow	4	2	4	27	19S	38E	643913	3612109	1861	04/06/1977	04/08/2011	05/02/2011	128	58	TAYLOR, ROY ALLEN	1626
L 06801		L	LE				3	14	19S	35E	647027	3614322*	2002	06/06/1971	06/10/1971	06/21/1971	92			14
L 04763		L	LE	Shallow	4	1	1	15	19S	35E	645295	3615211*	2289	05/04/1962	05/05/1962	05/11/1962	75	20		208
L 08793		L	LE	Shallow		1	2	15	19S	35E	646002	3615322*	2420	05/13/1982	05/17/1982	05/21/1982	50	40	BUFORD, O.C. "ROCKY"	897
L 09700		L	LE	Shallow		1	1	14	19S	35E	646808	3615332*	2689	06/21/1985	06/21/1985	06/27/1985	140	27	GLENN, CLARK A."CORKY" (LD)	421
L 04808		L	LE	Shallow	3	3	4	10	19S	35E	645895	3615624*	2703	02/12/1962	02/12/1962	02/15/1962	80	53	BURKE, EDWARD B.	111

Record Count: 14

UTMNAD83 Radius Search (in meters):

Easting (X): 645579.2 **Northing (Y):** 3612939.1 **Radius:** 3000

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	Code	POD Subbasin	County	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
L 04290		L	LE	Shallow	3	4	1	22	19S	35E	645528	3613198*	263	09/22/1959	09/22/1959	10/09/1959	45	18		111
L 03844		L	LE	Shallow		1	3	22	19S	35E	645232	3612891*	350	04/23/1958	04/23/1958	04/30/1958	71	27		111
L 02250		L	LE	Shallow	1	3	3	22	19S	35E	645137	3612586*	565	04/01/1954	04/01/1954	04/13/1954	50	20	QUARLES, O.L.	144
L 03843		L	LE	Shallow		3	3	22	19S	35E	645238	3612487*	566	04/22/1958	04/22/1958	04/30/1958	73	27		111
L 04101		L	LE	Shallow		3	3	22	19S	35E	645238	3612487*	566	12/10/1959	12/11/1959	12/18/1959	50	35		205
L 04583		L	LE	Shallow		4	3	15	19S	35E	645617	3614107*	1168	01/15/1961	01/16/1961	01/19/1961	55	18		111
L 09468		L	LE	Shallow		3	3	15	19S	35E	645214	3614102*	1218	04/27/1984	04/28/1984	05/17/1984	52	28	ABBOTT, MURRELL	46
L 12473 POD1		L	LE	Shallow	2	1	2	27	19S	38E	643913	3612109	1861	10/01/2009	10/05/2009	10/21/2009	105	60	DURAN, LUIS (LD)	1607
L 12746 POD1		L	LE	Shallow	4	2	4	27	19S	38E	643913	3612109	1861	04/06/1977	04/08/2011	05/02/2011	128	58	TAYLOR, ROY ALLEN	1626
L 06801		L	LE				3	14	19S	35E	647027	3614322*	2002	06/06/1971	06/10/1971	06/21/1971	92			14
L 04763		L	LE	Shallow	4	1	1	15	19S	35E	645295	3615211*	2289	05/04/1962	05/05/1962	05/11/1962	75	20		208
L 08793		L	LE	Shallow		1	2	15	19S	35E	646002	3615322*	2420	05/13/1982	05/17/1982	05/21/1982	50	40	BUFORD, O.C. "ROCKY"	897
L 09700		L	LE	Shallow		1	1	14	19S	35E	646808	3615332*	2689	06/21/1985	06/21/1985	06/27/1985	140	27	GLENN, CLARK A."CORKY" (LD)	421
L 04808		L	LE	Shallow	3	3	4	10	19S	35E	645895	3615624*	2703	02/12/1962	02/12/1962	02/15/1962	80	53	BURKE, EDWARD B.	111
L 09569		L	LE	Shallow		4	3	17	19S	35E	642394	3614063*	3377	10/01/1984	10/06/1984	02/22/1985	80	30	ABBOTT, MURRELL	46
L 08234		L	LE	Shallow	2	2	3	17	19S	35E	642487	3614566*	3494	03/18/1980	03/20/1980	03/26/1980	120	90	ABBOTT, MURRELL	46
L 08234 S2		L	LE	Shallow			3	17	19S	35E	642192	3614259*	3635	11/01/1982	11/02/1982	11/29/1982	126	80	ABBOTT, MURRELL	46
L 01756		L	LE	Shallow	1	3	4	13	19S	35E	649145	3614253*	3800	05/19/1953	05/24/1953	06/22/1953	56	28		136
L 04276		L	LE	Shallow		2	4	08	19S	35E	643168	3616092*	3969	09/23/1959	09/23/1959	10/02/1959	57	18		111
L 14182 POD1		L	LE	Shallow	3	3	1	09	19S	35E	643392	3616347	4049	09/07/2016	09/09/2016	09/19/2016	78	25	TAYLOR, ROY A.	1626
L 04596		L	LE	Shallow		2	4	24	19S	35E	649667	3612949*	4087	08/29/1961	08/29/1961	02/13/1963	56	26	BARTON, J E	14
L 01755 POD2		L	LE	Shallow	4	2	4	24	19S	35E	649766	3612848*	4187	02/27/1960	02/27/1960	03/09/1960	55	20	BARTON J. E.	14
L 04604 S3		L	LE	Shallow	4	2	4	24	19S	35E	649766	3612848*	4187	03/11/1971	03/12/1971	03/24/1971	56	22	O.R. MUSSELWHITE	99
L 04604 S4		L	LE	Shallow	4	2	4	24	19S	35E	649766	3612848*	4187	03/13/1971	03/14/1971	03/26/1971	57	22	O.R. MUSSELWHITE	99
L 01755	R	L	LE	Shallow	2	2	4	24	19S	35E	649766	3613048*	4188	05/15/1953	05/19/1953	06/22/1953	56	20	SHELTON, G.L.	136
L 04604		L	LE	Shallow	2	2	4	24	19S	35E	649766	3613048*	4188	03/07/1971	03/08/1971	03/24/1971	55	22	O.R. MUSSELWHITE	99
L 04604 S		L	LE	Shallow	2	2	4	24	19S	35E	649766	3613048*	4188	03/08/1971	03/09/1971	03/24/1971	56	22	O.R. MUSSELWHITE	99
L 04604 S2		L	LE	Shallow	2	2	4	24	19S	35E	649766	3613048*	4188	03/10/1971	03/11/1971	03/24/1971	56	22	O.R. MUSSELWHITE	99
L 04604 S6		L	LE	Shallow	2	2	4	24	19S	35E	649766	3613048*	4188	03/22/1971	03/23/1971	03/26/1971	57	22	O.R. MUSSELWHITE	99
L 04604 S5		L	LE	Shallow	2	4	4	24	19S	35E	649772	3612645*	4203	03/15/1971	03/16/1971	03/26/1971	55	22	O.R. MUSSELWHITE	99
L 11560		L	LE	Shallow		4	4	13	19S	35E	649650	3614160*	4249	12/02/2003	12/03/2003	12/12/2003	39	27	THOMPSON, KAREN (LD)	1414
L 01879		L	LE	Shallow	3	1	1	19	19S	36E	649958	3613660*	4437	05/10/1953	05/15/1953	05/25/1953	58		J.E. BARTON	14
L 04563		L	LE	Shallow	2	2	4	13	19S	35E	649743	3614662*	4506	08/25/1961	08/25/1961	02/13/1963	56	24	J E BARTON	14
L 05339		L	LE	Shallow		3	4	04	19S	35E	644358	3617317*	4545	01/27/1964	02/01/1964	02/13/1964	128	83	HOLLAND, CASS	385
L 09103		L	LE	Shallow		3	4	04	19S	35E	644358	3617317*	4545	02/22/1983	02/22/1983	03/09/1983	140	70	GLENN, CLARK A."CORKY" (LD)	421
L 09294		L	LE	Shallow	1	4	4	04	19S	35E	644661	3617420*	4574	08/04/1983	08/04/1983	08/16/1983	150		GLENN, CLARK A."CORKY" (LD)	421
L 04116 S		L	LE	Shallow		1	2	02	20S	35E	647710	3608881*	4583	06/24/1963	06/24/1963	07/05/1963	55	50	MURRELL ABBOTT	46
L 09077		L	LE	Shallow	2	3	4	04	19S	35E	644457	3617416*	4615	02/05/1983	02/05/1983	02/15/1983	144	95	GLENN, CLARK A."CORKY" (LD)	421
L 14208 POD1		L	LE	Shallow	2	2	2	18	19S	35E	641685	3615464	4641	10/05/2016	10/05/2016	10/14/2016	78		TAYLOR, ROY A.	1626
L 08973		L	LE	Shallow	1	3	4	04	19S	35E	644257	3617416*	4668	09/29/1982	10/01/1982	10/07/1982	140	95	GLENN, CLARK A."CORKY" (LD)	421
L 08124		L	LE	Shallow	4	4	4	25	19S	35E	649795	3610833*	4712	08/02/1979	08/03/1979	08/13/1979	125	58		46
L 02185		L	LE	Shallow	3	2	1	19	19S	36E	650299	3613667	4775	11/04/1958	11/24/1958	12/02/1958	58	16	W.L. VAN NOY	208
L 01757		L	LE	Shallow	1	2	1	30	19S	36E	650362	3612254*	4831	04/16/1953	04/18/1953	04/30/1953	55	18	J.E. BARTON	14
L 13115 POD1		L	LE	Shallow	2	2	1	19	19S	36E	650457	3613934	4978	08/06/2012	08/08/2012	08/16/2012	47	17		1698

Record Count: 44

UTMNAD83 Radius Search (in meters):

Easting (X): 645579.2 **Northing (Y):** 3612939.1 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

02-Oct-2017

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

Re: **Toro 22-3** Work Order: **17091785**

Dear Karolina,

ALS Environmental received 2 samples on 29-Sep-2017 09:30 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,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group, USA

Date: 02-Oct-17

Client: WPX Energy
Project: Toro 22-3
Work Order: **17091785**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
17091785-01	Toro 22-3 S1 0'	Soil		9/28/2017 10:00	9/29/2017 09:30	☐
17091785-02	Toro 22-3 S2 0'	Soil		9/28/2017 10:15	9/29/2017 09:30	☐

ALS Group, USA

Date: 02-Oct-17

Client: WPX Energy
Project: Toro 22-3
WorkOrder: **17091785**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
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.

Acronym	Description
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

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

ALS Group, USA

Date: *02-Oct-17*

Client: WPX Energy
Project: Toro 22-3
Sample ID: Toro 22-3 S1 0'
Collection Date: 9/28/2017 10:00 AM

Work Order: 17091785
Lab ID: 17091785-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 9/29/17 13:03		Analyst: **KB**
DRO (C10-C28)	ND		5.9	mg/Kg-dry	1	9/30/2017 04:39 AM
ORO (C28-C40)	ND		5.9	mg/Kg-dry	1	9/30/2017 04:39 AM
Surr: 4-Terphenyl-d14	*53.1*		*34-130*	*%REC*	1	9/30/2017 04:39 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 9/29/17 12:26		Analyst: **KB**
GRO (C6-C10)	ND		6.8	mg/Kg-dry	1	9/30/2017 03:22 AM
Surr: Toluene-d8	*94.4*		*71-123*	*%REC*	1	9/30/2017 03:22 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 9/29/17 12:22		Analyst: **EMR**
Benzene	ND		0.041	mg/Kg-dry	1	9/29/2017 04:40 PM
Ethylbenzene	ND		0.041	mg/Kg-dry	1	9/29/2017 04:40 PM
m,p-Xylene	ND		0.081	mg/Kg-dry	1	9/29/2017 04:40 PM
o-Xylene	ND		0.041	mg/Kg-dry	1	9/29/2017 04:40 PM
Toluene	ND		0.041	mg/Kg-dry	1	9/29/2017 04:40 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	9/29/2017 04:40 PM
Surr: 1,2-Dichloroethane-d4	*104*		*70-130*	*%REC*	1	9/29/2017 04:40 PM
Surr: 4-Bromofluorobenzene	*97.6*		*70-130*	*%REC*	1	9/29/2017 04:40 PM
Surr: Dibromofluoromethane	*94.1*		*70-130*	*%REC*	1	9/29/2017 04:40 PM
Surr: Toluene-d8	*102*		*70-130*	*%REC*	1	9/29/2017 04:40 PM
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 10/2/17 14:15		Analyst: **ED**
Chloride	**2,700**		**46**	**mg/Kg-dry**	4	10/2/2017 02:20 PM
MOISTURE			**SW3550C**			Analyst: **NW**
Moisture	**15**		**0.050**	**% of sample**	1	9/29/2017 08:07 PM

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

ALS Group, USA

Date: *02-Oct-17*

Client: WPX Energy
Project: Toro 22-3
Sample ID: Toro 22-3 S2 0'
Collection Date: 9/28/2017 10:15 AM

Work Order: 17091785
Lab ID: 17091785-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 9/29/17 13:03		Analyst: **KB**
DRO (C10-C28)	ND		5.6	mg/Kg-dry	1	9/30/2017 05:08 AM
ORO (C28-C40)	ND		5.6	mg/Kg-dry	1	9/30/2017 05:08 AM
Surr: 4-Terphenyl-d14	*51.6*		*34-130*	*%REC*	1	9/30/2017 05:08 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 9/29/17 12:26		Analyst: **KB**
GRO (C6-C10)	ND		6.5	mg/Kg-dry	1	9/30/2017 03:51 AM
Surr: Toluene-d8	*94.1*		*71-123*	*%REC*	1	9/30/2017 03:51 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 9/29/17 12:22		Analyst: **EMR**
Benzene	ND		0.039	mg/Kg-dry	1	9/29/2017 04:56 PM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	9/29/2017 04:56 PM
m,p-Xylene	ND		0.078	mg/Kg-dry	1	9/29/2017 04:56 PM
o-Xylene	ND		0.039	mg/Kg-dry	1	9/29/2017 04:56 PM
Toluene	ND		0.039	mg/Kg-dry	1	9/29/2017 04:56 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	9/29/2017 04:56 PM
Surr: 1,2-Dichloroethane-d4	*104*		*70-130*	*%REC*	1	9/29/2017 04:56 PM
Surr: 4-Bromofluorobenzene	*99.0*		*70-130*	*%REC*	1	9/29/2017 04:56 PM
Surr: Dibromofluoromethane	*89.3*		*70-130*	*%REC*	1	9/29/2017 04:56 PM
Surr: Toluene-d8	*103*		*70-130*	*%REC*	1	9/29/2017 04:56 PM
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 10/2/17 14:15		Analyst: **ED**
Chloride	**4,500**		**46**	**mg/Kg-dry**	4	10/2/2017 02:20 PM
MOISTURE			**SW3550C**			Analyst: **NW**
Moisture	**13**		**0.050**	**% of sample**	1	9/30/2017 05:45 PM

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

ALS Group, USA

Date: 02-Oct-17

Client: WPX Energy

QC BATCH REPORT

Work Order: 17091785

Project: Toro 22-3

Batch ID: **108228** Instrument ID **GC8** Method: **SW8015C**

MBLK	Sample ID: **DBLKS1-108228-108228**			Units: **mg/Kg**			Analysis Date: **9/29/2017 10:23 PM**			
Client ID:	Run ID: **GC8_170929A**			SeqNo: **4668508**			Prep Date: **9/29/2017**		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								
ORO (C28-C40)	ND	5.0								
Surr: 4-Terphenyl-d14	*2.317*	0	*3.33*	0	*69.6*	*34-130*	0			

LCS	Sample ID: **DLCSS1-108228-108228**			Units: **mg/Kg**			Analysis Date: **9/29/2017 10:52 PM**			
Client ID:	Run ID: **GC8_170929A**			SeqNo: **4668509**			Prep Date: **9/29/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	307.8	5.0	333	0	92.4	65-122	0			
ORO (C28-C40)	292.8	5.0	333	0	87.9	81-116	0			
Surr: 4-Terphenyl-d14	*2.55*	0	*3.33*	0	*76.6*	*34-130*	0			

MS	Sample ID: **17091780-05A MS**			Units: **mg/Kg**			Analysis Date: **9/29/2017 11:50 PM**			
Client ID:	Run ID: **GC8_170929A**			SeqNo: **4668511**			Prep Date: **9/29/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	307.9	5.0	332.3	1.92	92.1	65-122	0			
ORO (C28-C40)	301.8	5.0	332.3	0	90.8	81-116	0			
Surr: 4-Terphenyl-d14	*2.644*	0	*3.323*	0	*79.6*	*34-130*	0			

MSD	Sample ID: **17091780-05A MSD**			Units: **mg/Kg**			Analysis Date: **9/30/2017 12:19 PM**			
Client ID:	Run ID: **GC8_170929A**			SeqNo: **4668521**			Prep Date: **9/29/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	318.1	5.0	329.8	1.92	95.9	65-122	307.9	3.26	30	
ORO (C28-C40)	302.2	5.0	329.8	0	91.6	81-116	301.8	0.136	30	
Surr: 4-Terphenyl-d14	*2.542*	0	*3.298*	0	*77.1*	*34-130*	2.644	*3.94*	*30*	

The following samples were analyzed in this batch:

17091785-01A	17091785-02A

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108242** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-108242-108242** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 09:57 PM**
Client ID: Run ID: **GC9_170929A** SeqNo: **4668534** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	*4702*	0	*5000*	0	*94*	*71-123*	0			

LCS Sample ID: **LCS-108242-108242** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 08:58 PM**
Client ID: Run ID: **GC9_170929A** SeqNo: **4668533** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	415600	5,000	500000	0	83.1	71-123	0			
Surr: Toluene-d8	*5550*	0	*5000*	0	*111*	*71-123*	0			

MS Sample ID: **17091780-05A MS** Units: **µg/Kg-dry** Analysis Date: **9/30/2017 05:20 AM**
Client ID: Run ID: **GC9_170929A** SeqNo: **4668545** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	540700	5,600	565000	0	95.7	71-123	0			
Surr: Toluene-d8	*6379*	0	*5650*	0	*113*	*71-123*	0			

MSD Sample ID: **17091780-05A MSD** Units: **µg/Kg-dry** Analysis Date: **9/30/2017 05:49 AM**
Client ID: Run ID: **GC9_170929A** SeqNo: **4668546** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	521500	5,600	565000	0	92.3	71-123	540700	3.61	30	
Surr: Toluene-d8	*6392*	0	*5650*	0	*113*	*71-123*	6379	*0.203*	*30*	

The following samples were analyzed in this batch: 17091785-01A 17091785-02A

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108241** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **MBLK-108241-108241** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 10:14 AM**
Client ID: Run ID: **VMS8_170929A** SeqNo: **4667441** Prep Date: **9/29/2017** 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	*1022*	0	*1000*	0	*102*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*964.5*	0	*1000*	0	*96.4*	*70-130*	0			
Surr: Dibromofluoromethane	*1006*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*1010*	0	*1000*	0	*101*	*70-130*	0			

LCS Sample ID: **LCS-108241-108241** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 09:26 AM**
Client ID: Run ID: **VMS8_170929A** SeqNo: **4667439** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	945.5	30	1000	0	94.6	75-125	0			
Ethylbenzene	1000	30	1000	0	100	75-125	0			
m,p-Xylene	2064	60	2000	0	103	80-125	0			
o-Xylene	1042	30	1000	0	104	75-125	0			
Toluene	984.5	30	1000	0	98.4	70-125	0			
Xylenes, Total	3106	90	3000	0	104	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1015*	0	*1000*	0	*102*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1026*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*1001*	0	*1000*	0	*100*	*70-130*	0			
Surr: Toluene-d8	*1029*	0	*1000*	0	*103*	*70-130*	0			

MS Sample ID: **17091780-05A MS** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 05:12 PM**
Client ID: Run ID: **VMS8_170929A** SeqNo: **4669858** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1129	34	1130	0	99.9	75-125	0			
Ethylbenzene	1156	34	1130	0	102	75-125	0			
m,p-Xylene	2320	68	2260	0	103	80-125	0			
o-Xylene	1164	34	1130	0	103	75-125	0			
Toluene	1147	34	1130	0	102	70-125	0			
Xylenes, Total	3485	100	3390	0	103	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1177*	0	*1130*	0	*104*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1152*	0	*1130*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*1039*	0	*1130*	0	*92*	*70-130*	0			
Surr: Toluene-d8	*1146*	0	*1130*	0	*101*	*70-130*	0			

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108241** Instrument ID **VMS8** Method: **SW8260B**

MSD Sample ID: **17091780-05A MSD** Units: **µg/Kg-dry** Analysis Date: **9/29/2017 05:28 PM**

Client ID: Run ID: **VMS8_170929A** SeqNo: **4669859** Prep Date: **9/29/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1043	30	1000	0	104	75-125	1129	7.9	30	
Ethylbenzene	1067	30	1000	0	107	75-125	1156	8.05	30	
m,p-Xylene	2154	60	2000	0	108	80-125	2320	7.43	30	
o-Xylene	1068	30	1000	0	107	75-125	1164	8.64	30	
Toluene	1062	30	1000	0	106	70-125	1147	7.78	30	
Xylenes, Total	3222	90	3000	0	107	75-125	3485	7.83	30	
Surr: 1,2-Dichloroethane-d4	*1053*	0	*1000*	0	*105*	*70-130*	1177	*11.1*	*30*	
Surr: 4-Bromofluorobenzene	*993*	0	*1000*	0	*99.3*	*70-130*	1152	*14.8*	*30*	
Surr: Dibromofluoromethane	*956.5*	0	*1000*	0	*95.6*	*70-130*	1039	*8.27*	*30*	
Surr: Toluene-d8	*1002*	0	*1000*	0	*100*	*70-130*	1146	*13.4*	*30*	

The following samples were analyzed in this batch: 17091785-01A 17091785-02A

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108336** Instrument ID **GALLERY** Method: **A4500-Cl E-97**

MBLK Sample ID: **MBLK-108336-108336** Units: **mg/Kg** Analysis Date: **10/2/2017 02:20 PM**
Client ID: Run ID: **GALLERY_171002A** SeqNo: **4671957** Prep Date: **10/2/2017** 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: **17091780-05A MS** Units: **mg/Kg** Analysis Date: **10/2/2017 02:20 PM**
Client ID: Run ID: **GALLERY_171002A** SeqNo: **4672033** Prep Date: **10/2/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	500.1	10	498	3.115	99.8	75-125	0			

MSD Sample ID: **17091780-05A MSD** Units: **mg/Kg** Analysis Date: **10/2/2017 02:20 PM**
Client ID: Run ID: **GALLERY_171002A** SeqNo: **4672034** Prep Date: **10/2/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	503.6	10	499	3.115	100	75-125	500.1	0.696	25	

LCS1 Sample ID: **LCS1-108336-108336** Units: **mg/Kg** Analysis Date: **10/2/2017 02:20 PM**
Client ID: Run ID: **GALLERY_171002A** SeqNo: **4671958** Prep Date: **10/2/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	97.52	10	100	0	97.5	80-120	0			

LCS2 Sample ID: **LCS2-108336-108336** Units: **mg/Kg** Analysis Date: **10/2/2017 02:20 PM**
Client ID: Run ID: **GALLERY_171002A** SeqNo: **4672009** Prep Date: **10/2/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	498	10	500	0	99.6	80-120	0			

The following samples were analyzed in this batch:

17091785-01A	17091785-02A

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **R221169** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R221169** Units: **% of sample** Analysis Date: **9/29/2017 08:07 PM**
Client ID: Run ID: **MOIST_170929A** SeqNo: **4668596** 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-R221169** Units: **% of sample** Analysis Date: **9/29/2017 08:07 PM**
Client ID: Run ID: **MOIST_170929A** SeqNo: **4668595** 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: **17091527-08C DUP** Units: **% of sample** Analysis Date: **9/29/2017 08:07 PM**
Client ID: Run ID: **MOIST_170929A** SeqNo: **4668588** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.73	0.050	0	0	0	0-0	19.9	0.858	5	

DUP Sample ID: **17091527-09C DUP** Units: **% of sample** Analysis Date: **9/29/2017 08:07 PM**
Client ID: Run ID: **MOIST_170929A** SeqNo: **4668590** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	20.9	0.050	0	0	0	0-0	21.12	1.05	5	

The following samples were analyzed in this batch: 17091785-01A

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

Client: WPX Energy
Work Order: 17091785
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **R221202** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R221202** Units: **% of sample** Analysis Date: **9/30/2017 05:45 PM**
Client ID: Run ID: **MOIST_170930B** SeqNo: **4670086** 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-R221202** Units: **% of sample** Analysis Date: **9/30/2017 05:45 PM**
Client ID: Run ID: **MOIST_170930B** SeqNo: **4670085** 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: **17091624-01B DUP** Units: **% of sample** Analysis Date: **9/30/2017 05:45 PM**
Client ID: Run ID: **MOIST_170930B** SeqNo: **4670081** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	11.15	0.050	0	0	0	0-0	11.56	3.61	5	

DUP Sample ID: **17091624-02B DUP** Units: **% of sample** Analysis Date: **9/30/2017 05:45 PM**
Client ID: Run ID: **MOIST_170930B** SeqNo: **4670083** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	9.86	0.050	0	0	0	0-0	10.32	4.56	5	

The following samples were analyzed in this batch: 17091785-02A

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

ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r6

WORKORDER #	17091785				
PAGE	1 of 1				
DISPOSAL	By Lab or Return to Client				

PROJECT NAME	Toro 22-3	SAMPLER		DATE	9/28/2017
PROJECT No.		SITE ID	Toro 22-3	TURNAROUND	24 hrs
		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; james.raley@wpxenergy.com	E-MAIL	Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com		

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO + GRO + ORO	BTEX	Chloride	
1	Toro 22-3 S1 0'	S	9/28/2017	10:00	1	8	x	x	x	x	
2	Toro 22-3 S2 0'	S	9/28/2017	10:15	1	8	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:

SR2 2.4°C @

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

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	Karolina Blaney	Karolina Blaney	9/28/2017	15:00
RECEIVED BY		Keith Wereska	9/29/17	0930
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM** Date/Time Received: **29-Sep-17 09:30**

Work Order: **17091785** Received by: **KRW**

Checklist completed by Keith Wierenga eSignature 29-Sep-17 Date Reviewed by: Chad Whelton eSignature 29-Sep-17 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):	2.4/2.4 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/29/2017 10:30:16 AM		
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:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

16-Oct-2017

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

Re: **Toro 22-3** Work Order: **1710205**

Dear Karolina,

ALS Environmental received 2 samples on 04-Oct-2017 09:45 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 13.

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

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group, USA

Date: 16-Oct-17

Client: WPX Energy
Project: Toro 22-3
Work Order: **1710205**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1710205-01	Toro 22-3 S1 1'	Soil		10/3/2017 08:30	10/4/2017 09:45	☐
1710205-02	Toro 22-3 S2 1'	Soil		10/3/2017 08:00	10/4/2017 09:45	☐

ALS Group, USA

Date: 16-Oct-17

Client: WPX Energy
Project: Toro 22-3
WorkOrder: **1710205**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
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.

Acronym	Description
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

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

ALS Group, USA

Date: *16-Oct-17*

Client: WPX Energy
Project: Toro 22-3
Sample ID: Toro 22-3 S1 1'
Collection Date: 10/3/2017 08:30 AM

Work Order: 1710205
Lab ID: 1710205-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 10/6/17 14:43		Analyst: **KB**
DRO (C10-C28)	**7.6**		**5.2**	**mg/Kg-dry**	1	10/8/2017 10:49 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	10/8/2017 10:49 PM
Surr: 4-Terphenyl-d14	*59.6*		*34-130*	*%REC*	1	10/8/2017 10:49 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 10/5/17 12:48		Analyst: **KB**
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	10/10/2017 01:06 PM
Surr: Toluene-d8	*96.7*		*71-123*	*%REC*	1	10/10/2017 01:06 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 10/5/17 12:48		Analyst: **EMR**
Benzene	ND		0.035	mg/Kg-dry	1	10/9/2017 07:46 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	10/9/2017 07:46 PM
m,p-Xylene	ND		0.069	mg/Kg-dry	1	10/9/2017 07:46 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	10/9/2017 07:46 PM
Toluene	ND		0.035	mg/Kg-dry	1	10/9/2017 07:46 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/9/2017 07:46 PM
Surr: 1,2-Dichloroethane-d4	*97.2*		*70-130*	*%REC*	1	10/9/2017 07:46 PM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	10/9/2017 07:46 PM
Surr: Dibromofluoromethane	*93.5*		*70-130*	*%REC*	1	10/9/2017 07:46 PM
Surr: Toluene-d8	*100*		*70-130*	*%REC*	1	10/9/2017 07:46 PM
CHLORIDE			**A4500-CL E-11**	Prep: EXTRACT 10/12/17 00:30		Analyst: **ED**
Chloride	**1,900**		**43**	**mg/Kg-dry**	4	10/12/2017 03:30 PM
MOISTURE			**SW3550C**			Analyst: **NW**
Moisture	**7.2**		**0.050**	**% of sample**	1	10/7/2017 06:00 PM

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

ALS Group, USA

Date: *16-Oct-17*

Client: WPX Energy
Project: Toro 22-3
Sample ID: Toro 22-3 S2 1'
Collection Date: 10/3/2017 08:00 AM

Work Order: 1710205
Lab ID: 1710205-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 10/6/17 14:43		Analyst: **KB**
DRO (C10-C28)	**11**		**5.4**	**mg/Kg-dry**	1	10/8/2017 11:18 PM
ORO (C28-C40)	ND		5.4	mg/Kg-dry	1	10/8/2017 11:18 PM
Surr: 4-Terphenyl-d14	*44.0*		*34-130*	*%REC*	1	10/8/2017 11:18 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 10/5/17 12:48		Analyst: **KB**
GRO (C6-C10)	ND		6.0	mg/Kg-dry	1	10/10/2017 01:35 PM
Surr: Toluene-d8	*95.6*		*71-123*	*%REC*	1	10/10/2017 01:35 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 10/5/17 12:48		Analyst: **EMR**
Benzene	ND		0.036	mg/Kg-dry	1	10/9/2017 08:01 PM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	10/9/2017 08:01 PM
m,p-Xylene	ND		0.072	mg/Kg-dry	1	10/9/2017 08:01 PM
o-Xylene	ND		0.036	mg/Kg-dry	1	10/9/2017 08:01 PM
Toluene	ND		0.036	mg/Kg-dry	1	10/9/2017 08:01 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	10/9/2017 08:01 PM
Surr: 1,2-Dichloroethane-d4	*96.2*		*70-130*	*%REC*	1	10/9/2017 08:01 PM
Surr: 4-Bromofluorobenzene	*98.8*		*70-130*	*%REC*	1	10/9/2017 08:01 PM
Surr: Dibromofluoromethane	*90.7*		*70-130*	*%REC*	1	10/9/2017 08:01 PM
Surr: Toluene-d8	*98.2*		*70-130*	*%REC*	1	10/9/2017 08:01 PM
CHLORIDE			**A4500-CL E-11**	Prep: EXTRACT 10/12/17 00:30		Analyst: **ED**
Chloride	**2,000**		**43**	**mg/Kg-dry**	4	10/12/2017 03:30 PM
MOISTURE			**SW3550C**			Analyst: **NW**
Moisture	**9.0**		**0.050**	**% of sample**	1	10/7/2017 06:00 PM

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

ALS Group, USA

Date: 16-Oct-17

Client: WPX Energy

Work Order: 1710205

Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108594** Instrument ID **GC8** Method: **SW8015C**

MBLK	Sample ID: **DBLKS1-108594-108594**			Units: **mg/Kg**			Analysis Date: **10/8/2017 05:58 PM**			
Client ID:	Run ID: **GC8_171008A**			SeqNo: **4685818**			Prep Date: **10/6/2017**		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								
ORO (C28-C40)	ND	5.0								
Surr: 4-Terphenyl-d14	*2.75*	0	*3.33*	0	*82.6*	*34-130*	0			

LCS	Sample ID: **DLCSS1-108594-108594**			Units: **mg/Kg**			Analysis Date: **10/8/2017 06:27 PM**			
Client ID:	Run ID: **GC8_171008A**			SeqNo: **4685819**			Prep Date: **10/6/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	303	5.0	333	0	91	65-122	0			
ORO (C28-C40)	323.4	5.0	333	0	97.1	81-116	0			
Surr: 4-Terphenyl-d14	*3.017*	0	*3.33*	0	*90.6*	*34-130*	0			

MS	Sample ID: **1710329-18A MS**			Units: **mg/Kg**			Analysis Date: **10/8/2017 07:54 PM**			
Client ID:	Run ID: **GC8_171008A**			SeqNo: **4685821**			Prep Date: **10/6/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	342.5	4.8	321.1	30.03	97.3	65-122	0			
ORO (C28-C40)	352.9	4.8	321.1	40.39	97.3	81-116	0			
Surr: 4-Terphenyl-d14	*2.892*	0	*3.211*	0	*90.1*	*34-130*	0			

MSD	Sample ID: **1710329-18A MSD**			Units: **mg/Kg**			Analysis Date: **10/8/2017 08:23 PM**			
Client ID:	Run ID: **GC8_171008A**			SeqNo: **4685822**			Prep Date: **10/6/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	321.7	4.9	326	30.03	89.5	65-122	342.5	6.26	30	
ORO (C28-C40)	357.6	4.9	326	40.39	97.3	81-116	352.9	1.33	30	
Surr: 4-Terphenyl-d14	*2.708*	0	*3.26*	0	*83.1*	*34-130*	2.892	*6.57*	*30*	

The following samples were analyzed in this batch: 1710205-01A 1710205-02A

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

Client: WPX Energy
Work Order: 1710205
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108550** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-108550-108550** Units: **µg/Kg-dry** Analysis Date: **10/10/2017 09:11 A**
Client ID: Run ID: **GC9_171009B** SeqNo: **4690737** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	*4689*	0	*5000*	0	*93.8*	*71-123*	0			

LCS Sample ID: **LCS-108550-108550** Units: **µg/Kg-dry** Analysis Date: **10/10/2017 07:13 A**
Client ID: Run ID: **GC9_171009B** SeqNo: **4690732** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	419200	5,000	500000	0	83.8	71-123	0			
Surr: Toluene-d8	*5639*	0	*5000*	0	*113*	*71-123*	0			

MS Sample ID: **1710205-01A MS** Units: **µg/Kg-dry** Analysis Date: **10/10/2017 10:39 A**
Client ID: **Toro 22-3 S1 1'** Run ID: **GC9_171009B** SeqNo: **4690741** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	580200	5,800	577600	2267	100	71-123	0			
Surr: Toluene-d8	*6690*	0	*5776*	0	*116*	*71-123*	0			

MSD Sample ID: **1710205-01A MSD** Units: **µg/Kg-dry** Analysis Date: **10/10/2017 11:08 A**
Client ID: **Toro 22-3 S1 1'** Run ID: **GC9_171009B** SeqNo: **4690742** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	569000	5,800	577600	2267	98.1	71-123	580200	1.96	30	
Surr: Toluene-d8	*6572*	0	*5776*	0	*114*	*71-123*	6690	*1.77*	*30*	

The following samples were analyzed in this batch: 1710205-01A 1710205-02A

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

Client: WPX Energy
Work Order: 1710205
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108548** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **MBLK-108548-108548** Units: **µg/Kg-dry** Analysis Date: **10/9/2017 05:38 PM**
Client ID: Run ID: **VMS8_171009A** SeqNo: **4688391** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*964*	0	*1000*	0	*96.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*958.5*	0	*1000*	0	*95.8*	*70-130*	0			
Surr: Dibromofluoromethane	*970.5*	0	*1000*	0	*97*	*70-130*	0			
Surr: Toluene-d8	*981*	0	*1000*	0	*98.1*	*70-130*	0			

LCS Sample ID: **LCS-108548-108548** Units: **µg/Kg-dry** Analysis Date: **10/9/2017 04:50 PM**
Client ID: Run ID: **VMS8_171009A** SeqNo: **4688389** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	870	30	1000	0	87	75-125	0			
Ethylbenzene	880	30	1000	0	88	75-125	0			
m,p-Xylene	1854	60	2000	0	92.7	80-125	0			
o-Xylene	920	30	1000	0	92	75-125	0			
Toluene	888	30	1000	0	88.8	70-125	0			
Xylenes, Total	2774	90	3000	0	92.5	75-125	0			
Surr: 1,2-Dichloroethane-d4	*978.5*	0	*1000*	0	*97.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1005*	0	*1000*	0	*100*	*70-130*	0			
Surr: Dibromofluoromethane	*960.5*	0	*1000*	0	*96*	*70-130*	0			
Surr: Toluene-d8	*977.5*	0	*1000*	0	*97.8*	*70-130*	0			

MS Sample ID: **1710205-01A MS** Units: **µg/Kg-dry** Analysis Date: **10/9/2017 11:28 PM**
Client ID: **Toro 22-3 S1 1'** Run ID: **VMS8_171009A** SeqNo: **4688406** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	970.3	35	1155	0	84	75-125	0			
Ethylbenzene	1009	35	1155	0	87.4	75-125	0			
m,p-Xylene	2068	69	2310	0	89.5	80-125	0			
o-Xylene	1037	35	1155	0	89.8	75-125	0			
Toluene	1010	35	1155	0	87.4	70-125	0			
Xylenes, Total	3105	100	3466	0	89.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1106*	0	*1155*	0	*95.7*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1152*	0	*1155*	0	*99.7*	*70-130*	0			
Surr: Dibromofluoromethane	*1090*	0	*1155*	0	*94.4*	*70-130*	0			
Surr: Toluene-d8	*1151*	0	*1155*	0	*99.6*	*70-130*	0			

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

Client: WPX Energy
Work Order: 1710205
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108548** Instrument ID **VMS8** Method: **SW8260B**

MSD Sample ID: **1710205-01A MSD** Units: **µg/Kg-dry** Analysis Date: **10/9/2017 11:44 PM**

Client ID: **Toro 22-3 S1 1'** Run ID: **VMS8_171009A** SeqNo: **4688407** Prep Date: **10/5/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1013	35	1155	0	87.7	75-125	970.3	4.31	30	
Ethylbenzene	1081	35	1155	0	93.6	75-125	1009	6.85	30	
m,p-Xylene	2174	69	2310	0	94.1	80-125	2068	4.98	30	
o-Xylene	1123	35	1155	0	97.2	75-125	1037	8.02	30	
Toluene	1064	35	1155	0	92.1	70-125	1010	5.18	30	
Xylenes, Total	3297	100	3466	0	95.2	75-125	3105	6.01	30	
Surr: 1,2-Dichloroethane-d4	*1070*	0	*1155*	0	*92.6*	*70-130*	1106	*3.24*	*30*	
Surr: 4-Bromofluorobenzene	*1178*	0	*1155*	0	*102*	*70-130*	1152	*2.28*	*30*	
Surr: Dibromofluoromethane	*1085*	0	*1155*	0	*93.9*	*70-130*	1090	*0.478*	*30*	
Surr: Toluene-d8	*1165*	0	*1155*	0	*101*	*70-130*	1151	*1.2*	*30*	

The following samples were analyzed in this batch: 1710205-01A 1710205-02A

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

Client: WPX Energy
Work Order: 1710205
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **108891** Instrument ID **GALLERY** Method: **A4500-Cl E-11**

MBLK	Sample ID: **MBLK-108891-108891**			Units: **mg/Kg**			Analysis Date: **10/12/2017 03:30 PM**			
Client ID:	Run ID: **GALLERY_171012A**			SeqNo: **4699060**			Prep Date: **10/12/2017**		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: **1710348-01A MS**			Units: **mg/Kg**			Analysis Date: **10/12/2017 03:30 PM**			
Client ID:	Run ID: **GALLERY_171012A**			SeqNo: **4699091**			Prep Date: **10/12/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	817.7	9.9	493.1	380.4	88.7	75-125	0			

MSD	Sample ID: **1710348-01A MSD**			Units: **mg/Kg**			Analysis Date: **10/12/2017 03:30 PM**			
Client ID:	Run ID: **GALLERY_171012A**			SeqNo: **4699092**			Prep Date: **10/12/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	803.4	9.8	492.1	380.4	86	75-125	817.7	1.75	25	

LCS1	Sample ID: **LCS1-108891-108891**			Units: **mg/Kg**			Analysis Date: **10/12/2017 03:30 PM**			
Client ID:	Run ID: **GALLERY_171012A**			SeqNo: **4699061**			Prep Date: **10/12/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	100.1	10	100	0	100	80-120	0			

LCS2	Sample ID: **LCS2-108891-108891**			Units: **mg/Kg**			Analysis Date: **10/12/2017 03:30 PM**			
Client ID:	Run ID: **GALLERY_171012A**			SeqNo: **4699085**			Prep Date: **10/12/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	491.7	10	500	0	98.3	80-120	0			

The following samples were analyzed in this batch: 1710205-01A 1710205-02A

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

Client: WPX Energy
Work Order: 1710205
Project: Toro 22-3

QC BATCH REPORT

Batch ID: **R221733** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R221733** Units: **% of sample** Analysis Date: **10/7/2017 06:00 PM**
Client ID: Run ID: **MOIST_171007B** SeqNo: **4685577** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS Sample ID: **LCS-R221733** Units: **% of sample** Analysis Date: **10/7/2017 06:00 PM**
Client ID: Run ID: **MOIST_171007B** SeqNo: **4685576** 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: **1710118-06C DUP** Units: **% of sample** Analysis Date: **10/7/2017 06:00 PM**
Client ID: Run ID: **MOIST_171007B** SeqNo: **4685555** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.25	0.050	0	0	0	0-0	6.11	2.27	5	

DUP Sample ID: **1710118-07C DUP** Units: **% of sample** Analysis Date: **10/7/2017 06:00 PM**
Client ID: Run ID: **MOIST_171007B** SeqNo: **4685557** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.27	0.050	0	0	0	0-0	3.95	28.6	5	R

The following samples were analyzed in this batch: 1710205-01A 1710205-02A

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

ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER # 1710205

		SAMPLER		DATE	10/3/2017	PAGE	1 of 1
PROJECT NAME	Toro 22-3	SITE ID	Toro 22-3	TURNAROUND	5 day TAT	DISPOSAL	By Lab or Return to Client
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; james.raley@wpxenergy.com	E-MAIL	Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com				

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO + GRO + ORO	BTEX	Chloride
1	Toro 22-3 S1 1'	S	10/3/2017	8:30	1	8	x	x	x	x
2	Toro 22-3 S2 1'	S	10/3/2017	8:00	1	8	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)

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	Karolina Blaney	Karolina Blaney	10/3/2017	15:00
RECEIVED BY	Nicole Frederick	Nicole Frederick	10-4-17	0945
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM** Date/Time Received: **04-Oct-17 09:45**

Work Order: **1710205** Received by: **NCF**

Checklist completed by Nicole Fredericks (eSignature) 04-Oct-17 (Date) Reviewed by: Chad Whelton (eSignature) 04-Oct-17 (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):	5.0/5.0	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/4/2017 1:44:52 PM		
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:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: