Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

October 18, 2015

Karolina Blaney
Environmental Specialist II
WPX Energy Inc.

SUBJECT: REPORT OF THE CLOSURE OF INCIDENT 2RP- 3684 NEAR THE NORTH BRUSHY DRAW 35-12, EDDY COUNTY, NEW MEXICO,

Dear Ms. Blaney:

On behalf of KO Construction, LLC (KO), responsible party, Souder Miller & Associates (SMA) is pleased to submit the attached soil remediation and closure report for the release site located near the North Brushy Draw 35-12, located on land managed by the New Mexico State Land Office (NMSLO), 12 miles southeast of Malaga in Eddy County, New Mexico. The site is located in Section 36, T 25S, R 29 E NMPM, Eddy County, New Mexico, on land owned by the State of New Mexico. Figure 1 illustrates the vicinity and location of the site.

WPX Energy Inc., the operator, (WPX) previously contracted Enviro Clean Services (ECS) to oversee the delineation and assessment of the release, which was presented to the New Mexico Oil Conservation Division (NMOCD) and the NMSLO in the Work Plan subsequently approved by NMOCD District 2 on July 21st 2016. SMA was tasked by KO Construction to guide excavation and to perform final site soil remediation closure sampling to ensure all activities were performed in accordance with NMOCD guidelines.

Table 1 below summarizes information regarding the release. Documentation of the remediation and closure follows in the attached report.

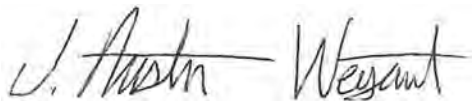
Table 1: Release information and Site Ranking					
Name	Near North Brushy Draw 35-12 Gathering Line				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-3684	N/A	Unit A	Section 1	T 26S, R 29E NMPM
Estimated Date of Release	May 8, 2016				
Date Reported to NMOCD	May 8, 2016				
Reported by	Lucas Smith				
Land Owner	NM State Land Office				
Reported To	NM Oil Conservation Division (NMOCD) District 2				
Source of Release	Connection on header manifold				
Released Material	Produced Water				
Released Volume	200 bbls Produced Water				

Net Release	130 bbls Produced Water
Nearest Waterway	Brushy Draw, 1.65 miles
Depth to Groundwater	Estimated to be > 140 feet
Nearest Domestic Water Source	Approximately 2.25 miles
NMOCD Ranking	0
SMA Response Dates	Initial: August 9, 2016 Mitigation Activities: August 9, 2016
Subcontractors	KO Construction, Enviro Clean Services
Disposal Facility	NM OCD Approved
Estimated Yd^3 Contaminated Soil Excavated and Disposed	1,100 Yd3

A copy of the C-141 Initial is located in Appendix A. For questions or comments pertaining to the release or the attached Closure Report, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

CLOSURE REPORT FOR INCIDENT 2RP-3684

KO CONSTRUCTION/WPX ENERGY

NEAR NORTH BRUSHY DRAW 35-12
UNIT A SECTION 1, T26S R29E, NMPM
EDDY COUNTY, NM

Prepared for:
WPX Energy Inc.
5315 Buena Vista
Carlsbad, NM 88220

and

KO Construction, LLC
P. O. Box 68
Bridgeport, TX 76426

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

October 18, 2016
SMA Reference
5B25390

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1.0 Introduction

At the request of KO Construction (KO), SMA has prepared this report that describes soil remediation activities performed near the North Brushy Draw 35-12, located on New Mexico State Land (NMSLO) 12 miles southeast of Malaga in Eddy County, New Mexico. The site is located in Section 36, T 25S, R 29 E NMPM, Eddy County, New Mexico, on land owned by the State of New Mexico. Figure 1 illustrates the vicinity and location of the site.

WPX Energy Inc. (WPX) contracted Enviro Clean Services (ECS) to perform the initial delineation and assessment of the release which was presented to the NMOCD and State Land Office in the Work Plan submitted on July 20, 2016 to NMOCD Division 2. The Work Plan was approved by NMOCD on July 21, 2016 and given the tracking number 2RP-3684. SMA was tasked by KO Construction to guide the excavation and document the final site soil remediation to ensure all activities were performed within NMOCD guidelines.

2.0 Assessment and Amendments to Original Work Plan

The release occurred when a valve malfunctioned at a water header, releasing approximately 200 bbl of produced water. Approximately 70 bbls of produced water were recovered. The runoff path of the spill is to the north, paralleling three pipelines, downslope approximately 10 vertical feet, and impacting approximately 1.25 acres as reported in the ECS-provided Work Plan attached in Appendix B.

On August 9, 2016, after receiving 811 clearance, SMA field personnel assessed the impacts to the Pipeline Right of Way (ROW) and adjacent pasture using an excavator, Photo Ionization Detector (PID), and a mobile chlorides titration kit. The pasture area exhibited three fingered flow paths approximately 350 feet long and 3 feet wide. Bottom Hole (BH) samples were taken at approximate depths of four feet below ground surface (bgs). Using field screening, all of the bottom hole samples were found to have results below the NMOCD action levels for Total Petroleum Hydrocarbons (TPH), an NMOCD contaminant of concern. Sample locations are noted on Figure 3 Site Details and Sample Location Map. All samples collected at 4 feet bgs exhibited low or background chloride levels and are not expected to inhibit site re-vegetation efforts. Further the chloride levels found are not anticipated to be seen as a potential risk to groundwater by the NMOCD.

A sample map and initial field results were shown to NMOCD District 2 personnel on August 10th 2016. SMA requested approval to amend the Work Plan submitted by ECS. The bottom hole samples collected by SMA in the NMSLO owned pasture exhibited only background concentrations of chlorides, indicating that the addition of a cap or intrusion barrier was not necessary.

A large portion of the upper flow path could not be completely delineated or excavated because of the restrictions by the area utility owners related to the 811requests. Anadarko and RKI specified only a two-foot excavation within their 50ft ROW and no excavating could be performed within 4 feet of the utility owners' pipeline as depicted in Figure 2.

This release location has been assigned an NMOCD ranking of 0 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene,

ethyl-benzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Soil Remediation Work Performed

After an 811 follow-up clearance, KO, SMA and their sub-contractor began excavation on the spill starting with the pasture and lower area. SMA guided the excavation by collecting discrete bottom hole samples and composite side wall samples. The pasture's three contaminated finger flow paths were excavated to a depth of 4 feet bgs. Approximately 1100 cubic yards of affected soil were hauled from the pasture to an NMOCD approved disposal facility.

Following the excavation, samples were taken in the bottom and from the sidewalls to complete the vertical delineation and document horizontal mitigation of the impacted areas of the release for the final incident closure with the NMOCD. These samples confirmed that all contaminated soils from the release have been removed within the pasture area as shown in Figures 2 and 3. The field screening sampling results are summarized in Table 2 and the laboratory analytical results are detailed in Table 3.

On the upper portion of the release, a 4 foot wide path between both pipelines was excavated to a depth of 2.5 feet (bgs) within the ROW up to the release source, as shown in Figures 2 and 3. SMA continuously guided the excavation activities by collecting composite soil samples for field screening with a mobile chloride titration unit (EPA 4500) and a calibrated PID. Excavation occurred within the spill area at depths of 2 to 4 feet below grade surface. All excavation in the vicinity of the pipelines was overseen by Anadarko Damage Prevention Group on site. After excavation, clean backfill material was used to bring the contours to surface grade to improve vegetation growth in the ROW. Any excavation performed outside the ROW and not limited by the utility owners was excavated to a depth of 4 feet bgs, effectively removing the affected soils.

4.0 Conclusions and Recommendations

This Closure Report documenting the remedial activities and including the laboratory analytical results has been prepared for submission to the NMOCD District 2 office in order to close the release of record on the North Brushy Draw ROW. Based on the laboratory analytical results of the closure samples, SMA recommends that Incident 2RP-3684 be considered for closure. Re-contouring of the remainder of the site and the access road was performed and the area will be reseeded with an appropriate approved seed mix to allow return of the area to the New Mexico State Land Office specifications as defined in the initial Work Plan.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES

Austin Weyant
Project Scientist

Reviewed by:

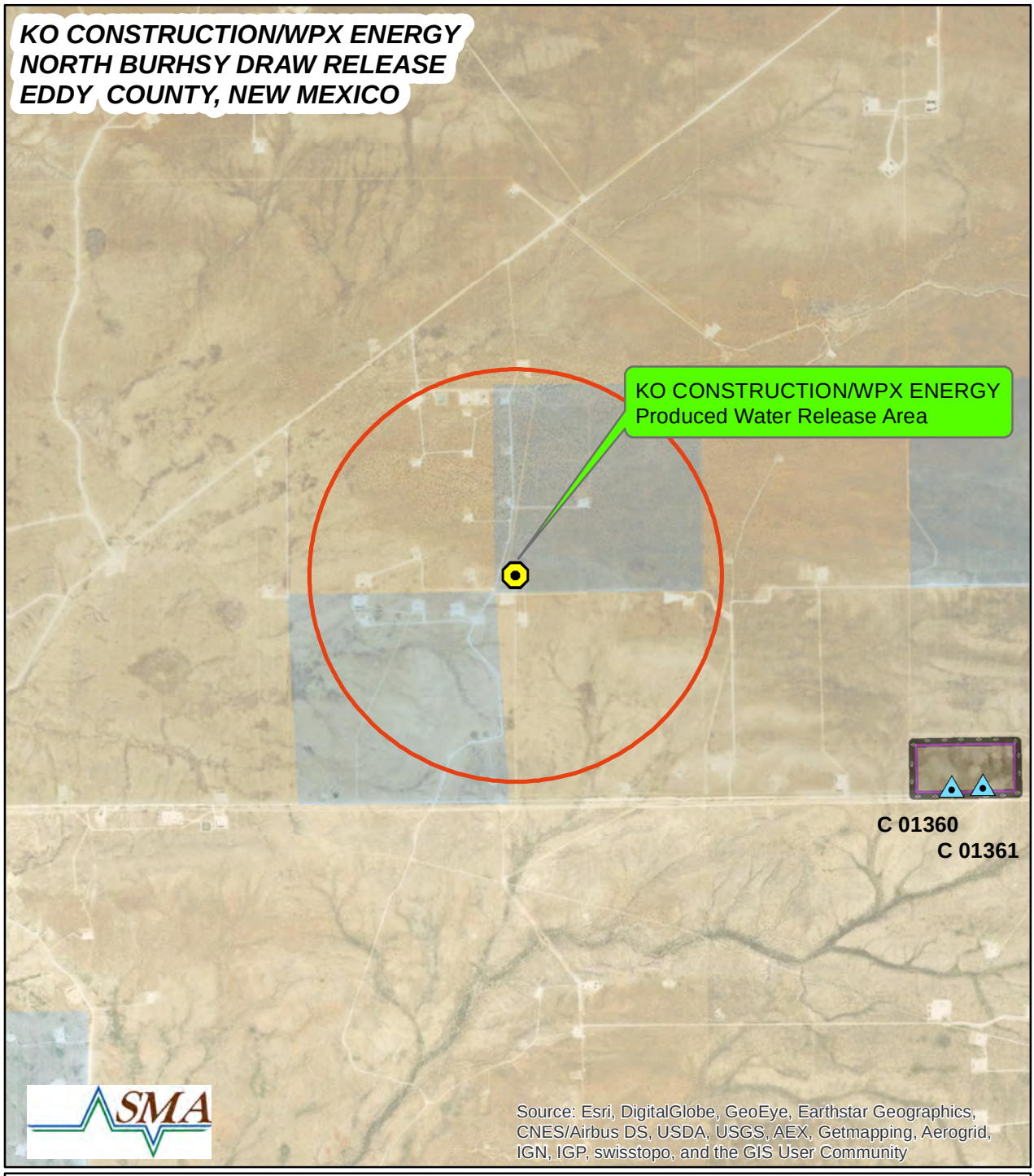
Cynthia Gray, CHMM
Senior Scientist

Figures:

Tables:

Appendices:

FIGURE 1
Vicinity Map



LEGEND
- Private Lands
- Bureau of Land Management
- New Mexico State Lands
- 1-Mile Buffer Zone
- Produced Water Release Area
- OSE Wells
- National Wetlands Inventory
- County and State Roads

Scale: 1:48,000
Base Map: Malaga, NM.
7.5' USGS Quadrangle
PLSS: Section 36, T25S, R1W & R29E
UTM Zone 13, NAD83, Meters
Date: October 10, 2016
Drawn By: C.Pattillo

0 1,000 2,000 4,000 Feet

N
W E
S

FIGURE 1 VICINITY MAP

FIGURE 2

Site Map

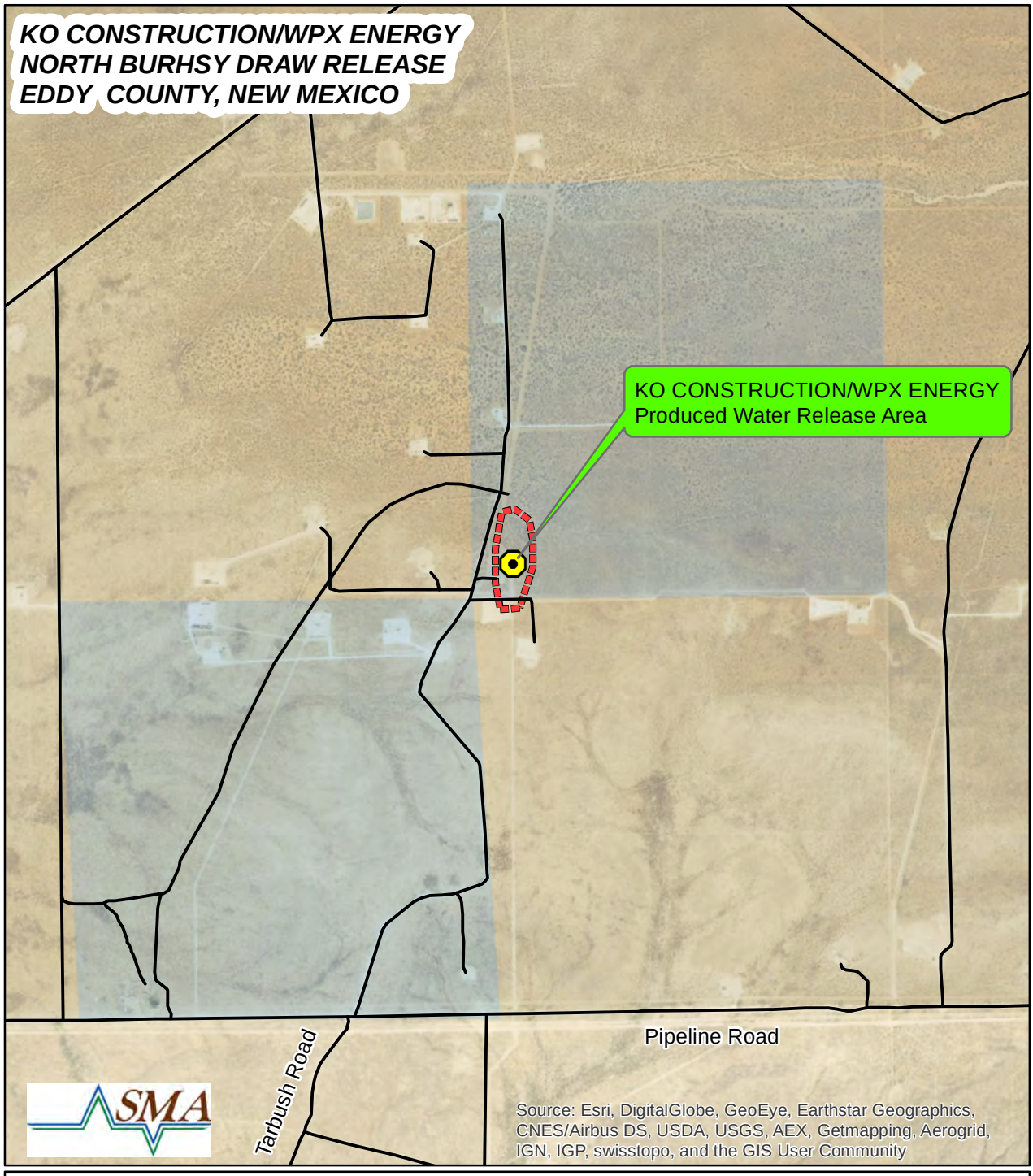
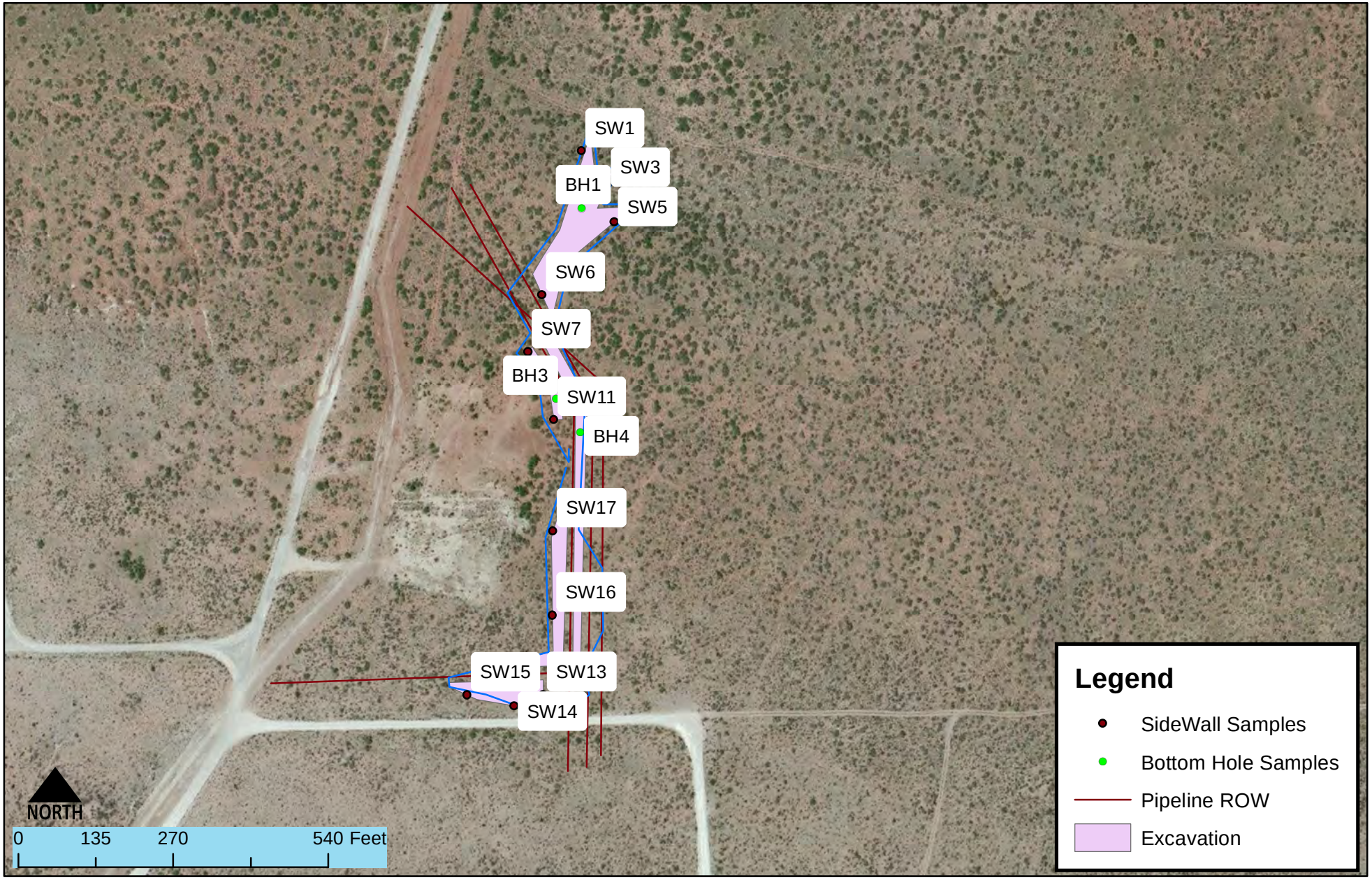


FIGURE 2 LOCATION MAP

FIGURE 3

Site Details and Sample Locations Map



Detailed Site and Sample Map
KO Construction/ WPX- North Brushy Draw
Malaga, New Mexico

Figure 3

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

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Carlsbad, New Mexico 88221
(575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 10/3/2016

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\NORTH BUSHY Figure 2.mxd

TABLE 1

Release Information and Site Ranking

Site Ranking Determination Table

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20		NMOSE Well Data, NMOCD Well Files	All records searched produced depth measurements >140 feet
50' to 99' = 10			
>100' = 0	0		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	**NMOCD Numeric Rank for this Site**	**Source for Ranking**	**Notes**
< 200' = 20		USGS Topo Maps; Google Earth ; ArcMap	Brushy Draw is approximately 1.65 miles, Pecos River is approximately 3.45 miles
200' - 1000' = 10			
>1000' = 0	0		
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	**NMOCD Numeric Rank for this Site**	**Source for Ranking**	**Notes**
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	The nearest well is approximately 2.25 miles
Total Site Ranking	**0**		
Soil Remedation Standards	**0 to 9**	**10 to 19**	**>19**
Benzene	**10 PPM**	**10 PPM**	**10 PPM**
BTEX	**50 PPM**	**50 PPM**	**50 PPM**
TPH	**5000 PPM**	**1000 PPM**	**100 PPM**

TABLE 2
Field Screening Results

Table 1: Summary of Chloride Field Screening Results

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
8/16/2016	9:00	BH4	2'	1705	Y
8/16/2016	9:00	BH3	3'	172	Y
8/16/2016	9:00	BH2	4'	260	Y
8/16/2016	9:00	BH1	2'	75	Y
8/16/2016	9:00	SW1	2'	62	Y
8/16/2016	9:00	SW3	2'	380	Y
8/16/2016	9:00	SW5	2'	295	Y
8/16/2016	9:00	SW6	2'	1262	Y
8/16/2016	9:00	SW7	2'	115	Y
8/16/2016	10:00	SW11	2'	105	Y
8/16/2016	10:00	SW13	2'	72	Y
8/16/2016	10:00	SW14	2'	63	Y
8/16/2016	10:00	SW15	2'	69	Y
8/16/2016	10:00	SW16	2'	92	Y
8/16/2016	10:00	SW17	2'	105	Y
9/16/2016	8:30	SW1	1'	62	Y
9/16/2016	8:30	SW2	1'	88	Y
9/16/2016	8:30	SW3	1'	81	Y
9/16/2016	8:30	SW4	1'	72	Y
9/16/2016	8:30	SW5	1'	95	Y

TABLE 3
Summary of Laboratory Analyses

Table 2: Summary of Laboratory Analyses

Analytical Report- 1609247 1610641	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1609247-001	BH4	8/12/2016	4'	N/A	N/A	N/A	N/A	1600
1609247-002	BH3	8/12/2016	3'	N/A	N/A	N/A	N/A	170
1609247-003	BH2	8/12/2016	2'	N/A	N/A	N/A	N/A	220
1609247-004	BH1	8/12/2016	1'	N/A	N/A	N/A	N/A	53
1609247-005	SW1	8/12/2016	2'	N/A	N/A	N/A	N/A	BDL
1609247-006	SW3	8/12/2016	2'	N/A	N/A	N/A	N/A	370
1609247-007	SW5	8/12/2016	2'	N/A	N/A	N/A	N/A	280
1609247-008	SW6	8/12/2016	2'	N/A	N/A	N/A	N/A	1200
1609247-009	SW7	8/12/2016	2'	N/A	N/A	N/A	N/A	97
1609247-010	SW11	8/12/2016	2'	N/A	N/A	N/A	N/A	BDL
1610641-001	SW13	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-002	SW14	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-003	SW15	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-004	SW16	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-005	SW17	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-001	SW1	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-002	SW2	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-003	SW3	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL

1610641-004	SW4	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL
1610641-005	SW5	9/16/2015	2'	N/A	N/A	N/A	N/A	BDL

APPENDIX A
C141 Final

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 August 8, 2011

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 WPX Energy Inc/ RKI E&P, LLC	Contact Karolina Blaney
Address 3500 One Williams Center Tulsa, OK 74172	Telephone No. 970 589 0743
Facility Name: North Brushy Draw	Facility Type : Produced water gathering line

Surface Owner: Federal	Mineral Owner: Federal	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	1	26S	29E	330	FSL	500	FWL	Eddy

Latitude: 32.0926101 **Longitude**: -103.9468205

NATURE OF RELEASE

Type of Release. Produced Water	Volume of Release: 200 Bbls	Volume Recovered: 70 Bbls
Source of Release Leaking connection on header manifold	Date and Hour of Occurrence 05/08/16	Date and Hour of Discovery 05/08/16 – 11:50hrs MT
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Message left at Artesia Field Office	
By Whom? Lucas Smith	Date and Hour: 05/08/16– 1504hrs MT	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*

See Attached Report.

Describe Area Affected and Cleanup Action Taken.*

See Attached Report.

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:	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: 10/19/16 Phone: 970 589 0743		

* Attach Additional Sheets If Necessary

APPENDIX B
ECS Approved Work Plan

Sampling Summary Report and Remediation Plan
North Brushy Draw 35-12 Produced Water Spill
Unit D, Section 2, Township 25S, Range 29E, Eddy County, NM
Spill Incident # NAB1613135790

WPX Energy Inc. (WPX) contracted Enviro Clean Services (ECS) to oversee the delineation and excavation services being performed by KO Construction, LLC (KO) at the North Brushy Draw 35-12 in Eddy County, NM. The investigation is in response to a produced water release of approximately 200 barrels (bbls) of produced water with 70 bbls recovered. The incident was reported by Lucas Smith on May 8, 2016; the initial C-141 is attached as **Appendix A**. The proposed soil assessment and remediation activities are presented below.

Site Information

The North Brushy Draw 35-12 is located on New Mexico State Land (NMSLO) 12 miles southeast of Malaga in Eddy County, New Mexico. The legal description is: Unit D, Section 2, Township 25S, Range 29E, with the GPS coordinates of 32.07898°N, 103.94493°W. A Site Map is provided in **Appendix B**.

According to the US Department of Agriculture Natural Resource Conservation Service Web Soil Survey, the surface in this area is primarily "US – Upton-Simona complex with 1 to 15% slope, eroded". This soil is found on fans and ridges, and is composed of gravelly loam with up to 75% calcium carbonate in the profile. The New Mexico Bureau of Geology and Mineral Resources Web Map indicates the local surface geology is "Qep – Quaternary (Holocene to middle Pleistocene) Eolian and piedmont deposits". Drainage courses in the area are normally dry.

A search of the New Mexico Office of the State Engineer's (OSE) Water Rights and Points of Diversion databases did not reveal any water wells within approximately three miles of the site. Groundwater in nearest well is greater than 100 feet below ground surface (bgs). **Appendix C** includes the nearest Point of Diversion information retrieved from the OSE.

Regulatory Framework

The remediation of a produced water release in New Mexico are managed under regulatory jurisdiction of the New Mexico Oil Conservation Division (OCD). Releases greater than five barrels (bbl) in volume are reportable to the OCD and are evaluated by the Recommended Remediation Action Levels (RRAL). RRALs are a ranking system used to evaluate regulatory requirements based upon depth to groundwater, distance to surface water, and distance from wellhead protection area. Using the New Mexico Oil

Conservation Division (OCD) Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993), ranking criteria for this site indicates the following:

Depth to groundwater	>100'	0
Wellhead protection area	>1,000'	0
Distance to surface water body	>1,000'	0

Based on the site ranking score of 0, the OCD RRAL are as defined in **Table 1**. In addition to the hydrocarbon RRALs, the OCD also requires all oilfield releases to be delineation assessed for chlorides to Water Quality Control Commission (WQCC) values (250 mg/Kg).

Incident Description

This release occurred when a valve malfunctioning at a water header released approximately 200 bbl of produced water. The runoff path of the spill is to the north, paralleling two pipelines downslope approximately 10 vertical feet, and impacting approximately 1.25 acres.

Initial Soil Investigation

On May 16, 2016, ECS personnel visited the location to assess the release. ECS mapped the spill area and estimated the spill area. Initial samples were taken in 12 locations (001 through 012) between 0.5 to 3 feet bgs. All samples were collected in 4-ounce glass jars, preserved on ice and transferred to Xenco Laboratories (Xenco) in Midland, Texas.

Xenco is accredited by the National Laboratory Accreditation Program (NELAP) for the technology and analytes necessary to demonstrate regulatory compliance) for total petroleum hydrocarbons (TPH) by EPA method 8015M (modified), benzene, toluene, ethylene, and xylenes (BTEX) by EPA method 8021B, and chlorides by EPA method 300.0. A summary of the analytical results is provided in **Table 1**. Copies of the laboratory report and chain of custody documentation are provided in **Appendix D.**

Laboratory analytical results indicate all samples were below the RRAL of 10 mg/kg and 50 mg/kg for benzene and BTEX, respectively. Surface sample TPH concentrations exceeded the 5,000 mg/kg RRAL in sample locations SP-002 (9,350 mg/kg) and SP-003 (5,490 mg/Kg). Chloride concentrations exceeded the WQCC value of 250 mg/Kg in all sample locations.

On June 23 - 24, 2016, an ECS crew mobilized to the location to vertically delineate the sample locations by hand auger. Bedrock refusal was encountered in sample locations SP-001 through SP-008, SP-011, and SP-012. TPH concentrations were delineated in sample locations SP-002 (589 mg/Kg) and SP-003 (738 mg/Kg). A summary of the analytical results is provided in Table 1. Copies of the laboratory report and chain of custody documentation are provided in **Appendix D.**

Table 1 - Soil Analytical Data Summary

Sample ID	Date	Depth (ft)	Benzene	BTEX	TPH C6 – C35	Chlorides
RRAL			**10**	**50**	**5,000**	**250***
SP-001	05/16/16	1	<0.0015	<0.0015	<15.0	**4,800**
001-A	06/23/16	0 – 1	--	--	--	**2,870**
SP-002	05/16/16	1	<0.0015	**0.140**	**9,350**	**3,790**
002-A	06/23/16	0 – 1	--	--	**589**	--
SP-003	05/16/16	1	<0.0015	**0.0041**	**5,490**	**10,900**
003-A	06/23/16	0-1	--	--	**738**	--
SP-004	05/16/16	0.5	<0.0015	<0.0015	**34.9**	**9,060**
004-A	06/23/16	0 – 1	--	--	--	**11,300**
SP-005	05/16/16	1.5	<0.0015	<0.0015	**16.0**	**8,910**
005-B	06/23/16	1 – 2	--	--	--	**2,150**
SP-006	05/16/16	2	<0.0015	<0.0015	<15.0	**641**
006-B	06/23/16	1 – 2	--	--	--	**3,510**
SP-007	05/16/16	3	<0.0015	<0.0015	**28.5**	**1,680**
007-D	06/23/16	3 – 4	--	--	--	**2,620**
SP-008	05/16/16	2	<0.0015	0.0046	**573**	**8,260**
008-E	06/23/16	4 – 5	--	--	--	**1,240**
SP-009	05/16/16	3	<0.0015	<0.0015	**27.2**	**276**
009-E	06/23/16	4 – 5	--	--	--	**205**
SP-010	05/16/16	2.5	<0.0015	<0.0015	**71.5**	**6,110**
010-C	06/23/16	2 – 3	--	--	--	**17.1**
SP-011	05/16/16	2.5	<0.0015	<0.0015	<15.0	**5,770**
011-E	06/23/16	4 – 5	--	--	--	**6,560**
SP-012	05/16/16	2.5	<0.0015	<0.0015	<15.0	**4,090**
012-E	06/23/16	4 – 5	--	--	--	**3,170**
Backfill Material	05/16/16	Soil Pile	<0.0015	<0.0015	**33.3**	**230**

Notes:
BTEX, TPH, and Chloride analyzed via methods 8021B, 8015M, and 300.0, respectively.
* Cleanup value based on WQCC requirements.
< indicates the concentration is below the reporting limit (RL)
All concentrations reported in milligrams per kilogram (mg/kg).
Bold values indicate the analyte was detected.
Bold and shaded values are above the RRAL.

On June 28, 2016, the OCD approved drilling a soil boring in the area with the highest chloride impact, near SP-003 and SP-004. The OCD approval correspondence is provided as **Appendix E**.

On June 29, 2016, one soil boring was installed in the area of apparent pooling and as close to the pipelines as safety allows. The soil boring was drilled with an air rotary rig by White Drilling Company (WDC), of Clyde, Texas. A right of entry permit was acquired by WPX from the NMSLO for soil investigation.

Drill cuttings were described according to the Unified Soil Classification System (USCS). Cuttings were collected every 2-feet to a depth of 20 feet, then every 5-feet from 20 to 40 feet bgs for field and laboratory analyses. Laboratory samples were collected in 4-ounce glass jars and transferred to XENCO. Samples were analyzed for Chlorides per EPA Method 300.0. A summary of the analytical results is provided in **Table 2**. Copies of the laboratory report and chain of custody documentation are provided in **Appendix D**. Soil boring log is provided in **Appendix F**.

Table 2 - Summary of Soil Boring Analytical Results

Sample ID	Sample Date	Depth (ft. bgs)	Chloride
RRAL			***250**
SB-1	06/29/16	1.5 – 2.0	**1,180**
	06/29/16	3.5 – 4.0	**260**
	06/29/16	5.5 – 6.0	**206**
	06/29/16	7.5 – 8.0	**356**
	06/29/16	9.5 – 10.0	**289**
	06/29/16	11.5 – 12.0	**321**
	06/29/16	13.5 – 14.0	**305**
	06/29/16	15.5 – 16.0	**110**
	06/29/16	17.5 – 18.0	**123**
	06/29/16	19.5 – 20.0	**34.4**
	06/29/16	24.5 – 25.0	**33.0**
	06/29/16	29.5 – 30.0	**14.2**
	06/29/16	34.5 – 35.0	**19.9**
	06/29/16	35.5 – 40.0	**11.1**

Notes:
Chloride analyzed by EPA CWA method 300.0.
* Cleanup value based on WQCC requirements.
< indicates the concentration is below the reporting limit (RL)
mg/Kg indicates concentrations in milligrams per kilogram.
Bold values indicate the analyte was detected.
Bold and shaded values are above the RRAL.

Proposed Remedial Actions

ECS respectfully requests a 2,500 mg/kg maximum chloride concentration remediation level. All soils exceeding this value will be excavated to vertical depth of 4-feet bgs. If laboratory delineation values exceed the 2,500 mg/kg remediation level at 4-feet bgs, an impervious clay liner will be installed over the exceedance area outside the pipeline right-of-way. To aid in excavation, ECS will conduct field testing using a calibrated Myron® conductivity pen and a 1 to1 soil and distilled water solution to guide excavation. Vertical and horizontal confirmation samples will be collected from the bottom and side walls of the excavated areas at a rate of one sample every 100 linear feet along the flow path. While awaiting disposal transportation, excavated soil will be placed on a polyethylene liner.

Following receipt of chloride confirmation samples, permission will be requested from the OCD and the BLM to backfill the location. Impacted soil will be transported to the R360 Red Bluff Facility in Orla, Texas. Backfill material will be imported from the North Bushy Draw 35-4 reclamation area. Backfill material has been analyzed, and is below the OCD RRAL.

As part of the final site reclamation and rehabilitation, ECS will seed the Site with native seed in order or to revegetate the impacted area in compliance with NMSLO requirements. This includes tilling the clean topsoil and dispersing BLM seed mix #2 at a rate of approximately 10-pounds per acre. To help establish

revegetation, the site will be watered once after the distribution of seeds, rain patterns will be monitored, and the Site will be monitored approximately 30 days later to determine if additional actions are needed. In the event of noxious weeds, a roustabout crew will remove weeds manually and the Site will be seeded again.

Upon completion of activities, a report detailing the excavation, sample results, and rehabilitation efficacy will be generated for WPX, and will include a copy of the initial and final C-141 Form.

Attachments: Appendix A: Initial C-141
Appendix B: Site Map
Appendix C: Groundwater Data
Appendix D: Laboratory Analytical Report
Appendix E: OCD Correspondence
Appendix F: Boring Log

APPENDIX A
INITIAL C-141

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 August 8, 2011

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 WPX Energy Inc/ RKI E&P, LLC	Contact Lucas Smith
Address 3500 One Williams Center Tulsa, OK 74172	Telephone No. 539-573-0176
Facility Name: North Brushy Draw	Facility Type : Produced water gathering line

Surface Owner: Federal	Mineral Owner: Federal	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	1	26S	29E	330	FSL	500	FWL	Eddy

Latitude: 32.0926101 **Longitude**: -103.9468205

NATURE OF RELEASE

Type of Release. Produced Water	Volume of Release: 200 Bbls	Volume Recovered: 70 Bbls
Source of Release Leaking connection on header manifold	Date and Hour of Occurrence 05/08/16	Date and Hour of Discovery 05/08/16 – 11:50hrs MT
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Message left at Artesia Field Office	
By Whom? Lucas Smith	Date and Hour: 05/08/16– 1504hrs MT	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
Produced water gathering system header developed a leak. The system was shut in and the free fluids were vacuumed up. The remaining impacted soils with be removed for disposal and confirmation samples will be collected.

Describe Area Affected and Cleanup Action Taken.*

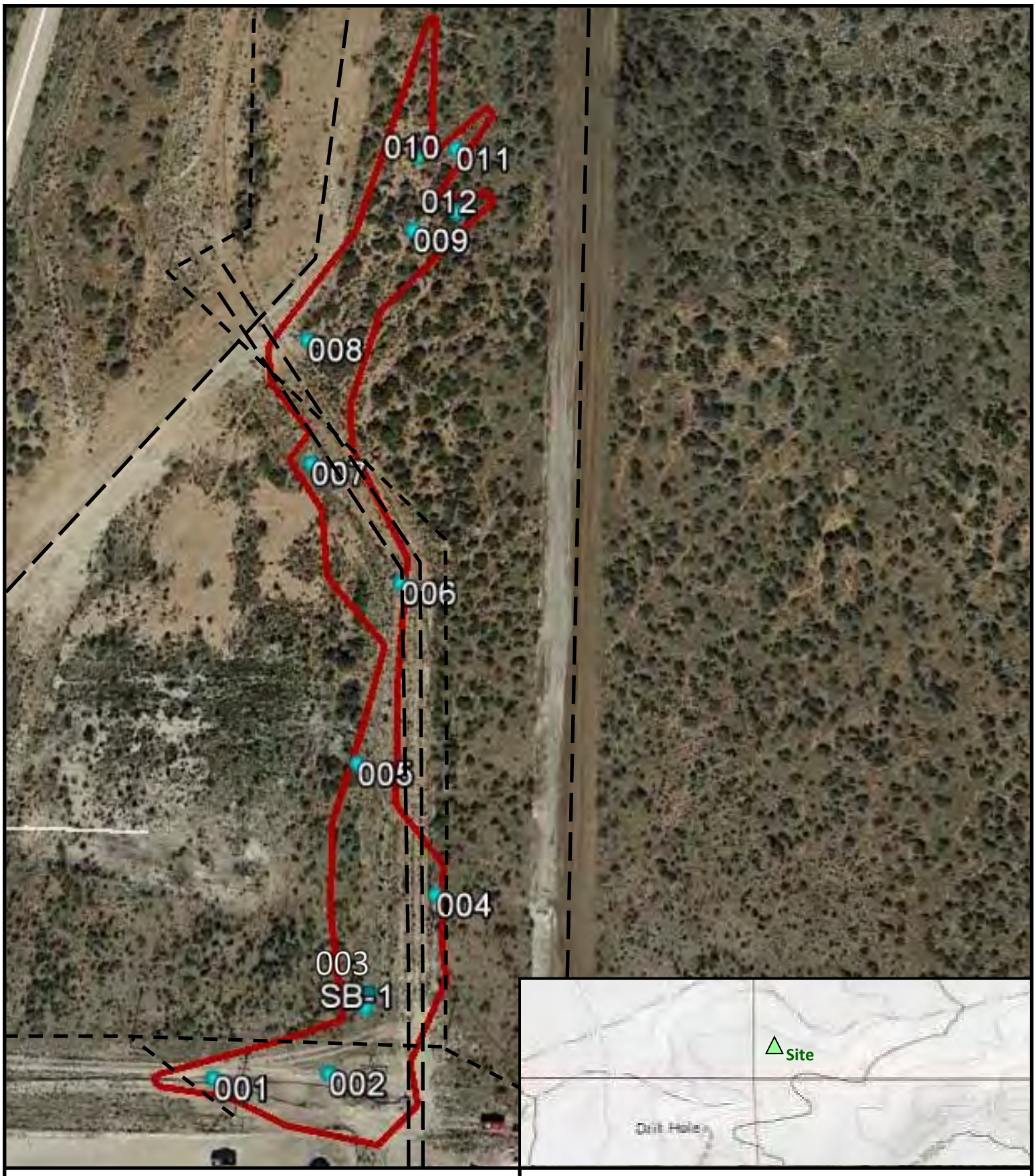
Primarily the fluids pooled on the pipeline right-of-way. At one point the fluid left the right-of-way and followed a low spot approximately 150yds by 4ft.

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:	OIL CONSERVATION DIVISION	
Printed Name: Lucas Smith	Approved by Environmental Specialist:	
Title: EHS Manager	Approval Date:	Expiration Date:
E-mail Address: Lucas.smith@wpxenergy.com	Conditions of Approval:	Attached ☐
Date: 05/09/16 Phone: 539-573-0176		

* Attach Additional Sheets If Necessary

APPENDIX B
SITE MAP



Legend

- Approximate Spill Area, May 16, 2016
- Approximate Soil Sample Locations
- Pipeline
- Overhead Powerline

N

32.07898°N
103.94493°W

Figure 1: Site Map

WPX Energy, Inc.
North Brushy Draw 35-12 Produced Water Spill
Eddy County, New Mexico

Approx. Scale: 1" = 100'	ENVIROCLEAN SERVICES, L.L.C.	Date: 07/20/2016
2405 E. Co. Rd. 123, Midland, Texas 79706		Job : WPXRTX0004

APPENDIX C
GROUNDWATER DATA

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 03483 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status: PMT PERMIT

Total Acres: **Subfile:** -

Total Diversion: 0 **Cause/Case:** -

Owner: BYRON W (SHOT) PASCHAL

Owner: BUREAU OF LAND MANAGEMENT

Contact: STEVE DALY

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	543409	COWNF	2014-03-17	CHG	PRC	C 03483	T	0	0	
get images	476565	EXPL	2011-04-15	PMT	LOG	C 03483	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03483	Shallow	4	4	4	05	26S	30E	604296	3548251	.5 MI E. OF C-1361;PIPELINE RD

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	0		EXP		GW

APPENDIX D
LABORATORY ANALYTICAL REPORT

Analytical Report 530225

for

Enviroclean- Midland

Project Manager: BILL GREEN

N Bushy Draw

18-MAY-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534-15-1)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

18-MAY-16

Project Manager: **BILL GREEN**
Enviroclean- Midland
2405 ECR 123
Midland, TX 79706

Reference: XENCO Report No(s): **530225**
N Bushy Draw
Project Address: Loving, NM

BILL GREEN:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 530225. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 530225 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 530225

Enviroclean- Midland, Midland, TX

N Bushy Draw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-001	S	05-16-16 11:10	- 1 ft	530225-001
SP-002	S	05-16-16 11:20	- 1 ft	530225-002
SP-003	S	05-16-16 11:30	- 1 ft	530225-003
SP-004	S	05-16-16 11:37	- 6 In	530225-004
SP-005	S	05-16-16 11:45	- 1.5 ft	530225-005
SP-006	S	05-16-16 11:50	- 2 ft	530225-006
SP-007	S	05-16-16 11:59	- 3 ft	530225-007
SP-008	S	05-16-16 12:10	- 2 ft	530225-008
SP-009	S	05-16-16 12:20	- 3 ft	530225-009
SP-010	S	05-16-16 13:30	- 2.5 ft	530225-010
SP-011	S	05-16-16 12:45	- 2.5 ft	530225-011
SP-012	S	05-16-16 12:50	- 2.5 ft	530225-012
SP-BF	S	05-16-16 13:10		530225-013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Batch: LBA-994515 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 530225-001,530225-004,530225-005,530225-006,530225-013,530225-009,530225-010,530225-011,530225-012,530225-007.

Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.

Certificate of Analysis Summary 530225

Enviroclean- Midland, Midland, TX

Project Name: N Bushy Draw

Project Id:
Contact: BILL GREEN
Project Location: Loving, NM

Date Received in Lab: Tue May-17-16 10:40 am
Report Date: 18-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	530225-001		530225-002		530225-003		530225-004		530225-005		530225-006	
	Field Id:	SP-001		SP-002		SP-003		SP-004		SP-005		SP-006	
	Depth:	1 ft		1 ft		1 ft		6 In		1.5 ft		2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-16-16 11:10		May-16-16 11:20		May-16-16 11:30		May-16-16 11:37		May-16-16 11:45		May-16-16 11:50	
BTEX by EPA 8021B	***Extracted:***	May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00	
	Analyzed:	May-17-16 18:51		May-17-16 19:07		May-18-16 10:55		May-17-16 19:39		May-17-16 19:56		May-17-16 20:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00150	ND	0.00150	ND	0.00149	ND	0.00150	ND	0.00149	ND	0.00150
Toluene		ND	0.00200	0.0154	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00200
Ethylbenzene		ND	0.00200	0.0109	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00200
m,p-Xylenes		ND	0.00200	0.0856	0.00200	0.00411	0.00199	ND	0.00200	ND	0.00199	ND	0.00200
o-Xylene		ND	0.00300	0.0282	0.00299	ND	0.00299	ND	0.00299	ND	0.00299	ND	0.00299
Total Xylenes		ND	0.00200	0.114	0.00200	0.00411	0.00199	ND	0.00200	ND	0.00199	ND	0.00200
Total BTEX		ND	0.00150	0.140	0.00150	0.00411	0.00149	ND	0.00150	ND	0.00149	ND	0.00150
Inorganic Anions by EPA 300	***Extracted:***	May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00	
	Analyzed:	May-17-16 21:08		May-17-16 21:20		May-17-16 21:33		May-17-16 21:45		May-17-16 21:57		May-17-16 22:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4800	400	3790	400	10900	400	9060	400	8910	400	641	40.0
TPH by SW 8015B	***Extracted:***	May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00	
	Analyzed:	May-18-16 07:18		May-18-16 09:54		May-18-16 09:27		May-18-16 10:46		May-18-16 06:20		May-18-16 06:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	194	74.8	26.2	15.0	16.1	14.9	ND	15.0	ND	15.0
C10-C28 Diesel Range Organics		ND	15.0	8730	74.8	5280	15.0	18.8	14.9	16.0	15.0	ND	15.0
Total TPH		ND	15.0	9350	74.8	5490	15.0	34.9	14.9	16.0	15.0	ND	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 530225

Enviroclean- Midland, Midland, TX

Project Name: N Bushy Draw

Project Id:
Contact: BILL GREEN
Project Location: Loving, NM

Date Received in Lab: Tue May-17-16 10:40 am
Report Date: 18-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	530225-007		530225-008		530225-009		530225-010		530225-011		530225-012	
	Field Id:	SP-007		SP-008		SP-009		SP-010		SP-011		SP-012	
	Depth:	3 ft		2 ft		3 ft		2.5 ft		2.5 ft		2.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-16-16 11:59		May-16-16 12:10		May-16-16 12:20		May-16-16 13:30		May-16-16 12:45		May-16-16 12:50	
BTEX by EPA 8021B	***Extracted:***	May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00	
	Analyzed:	May-17-16 20:28		May-17-16 20:44		May-17-16 21:00		May-17-16 21:17		May-17-16 22:06		May-17-16 22:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00149	ND	0.00150	ND	0.00149	ND	0.00150	ND	0.00149	ND	0.00149
Toluene		ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00199
Ethylbenzene		ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00199
m,p-Xylenes		ND	0.00199	0.00460	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00199
o-Xylene		ND	0.00299	ND	0.00299	ND	0.00298	ND	0.00299	ND	0.00299	ND	0.00299
Total Xylenes		ND	0.00199	0.00460	0.00200	ND	0.00199	ND	0.00200	ND	0.00199	ND	0.00199
Total BTEX		ND	0.00149	0.00460	0.00150	ND	0.00149	ND	0.00150	ND	0.00149	ND	0.00149
Inorganic Anions by EPA 300	***Extracted:***	May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00		May-17-16 16:00	
	Analyzed:	May-17-16 22:45		May-17-16 22:57		May-17-16 23:33		May-17-16 23:46		May-17-16 23:58		May-18-16 00:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1680	100	8260	400	276	20.0	6110	400	5770	400	4090	400
TPH by SW 8015B	***Extracted:***	May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00		May-17-16 13:00	
	Analyzed:	May-18-16 07:06		May-18-16 07:29		May-18-16 07:53		May-18-16 08:15		May-18-16 08:39		May-18-16 09:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	16.7	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C10-C28 Diesel Range Organics		28.5	15.0	556	15.0	27.2	15.0	71.5	15.0	ND	15.0	ND	15.0
Total TPH		28.5	15.0	573	15.0	27.2	15.0	71.5	15.0	ND	15.0	ND	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 530225

Enviroclean- Midland, Midland, TX

Project Name: N Bushy Draw

Project Id:
Contact: BILL GREEN
Project Location: Loving, NM

Date Received in Lab: Tue May-17-16 10:40 am
Report Date: 18-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	530225-013					
	Field Id:	SP-BF					
	Depth:						
	Matrix:	SOIL					
	Sampled:	May-16-16 13:10					
BTEX by EPA 8021B	***Extracted:***	May-17-16 13:00					
	Analyzed:	May-17-16 22:38					
	Units/RL:	mg/kg	RL				
Benzene		ND	0.00150				
Toluene		ND	0.00200				
Ethylbenzene		ND	0.00200				
m,p-Xylenes		ND	0.00200				
o-Xylene		ND	0.00300				
Total Xylenes		ND	0.00200				
Total BTEX		ND	0.00150				
Inorganic Anions by EPA 300	***Extracted:***	May-17-16 16:00					
	Analyzed:	May-18-16 00:22					
	Units/RL:	mg/kg	RL				
Chloride		230	20.0				
TPH by SW 8015B	***Extracted:***	May-17-16 13:00					
	Analyzed:	May-18-16 09:25					
	Units/RL:	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		ND	15.0				
C10-C28 Diesel Range Organics		33.3	15.0				
Total TPH		33.3	15.0				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994515 **Sample:** 530225-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 18:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0509	0.0300	170	80-120	**

Lab Batch #: 994515 **Sample:** 530225-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 19:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

Lab Batch #: 994515 **Sample:** 530225-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 19:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0414	0.0300	138	80-120	**

Lab Batch #: 994515 **Sample:** 530225-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 19:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0412	0.0300	137	80-120	**

Lab Batch #: 994515 **Sample:** 530225-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 20:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0457	0.0300	152	80-120	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994515 **Sample:** 530225-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 20:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0471	0.0300	157	80-120	**

Lab Batch #: 994515 **Sample:** 530225-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 20:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0359	0.0300	120	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 994515 **Sample:** 530225-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 21:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0468	0.0300	156	80-120	**

Lab Batch #: 994515 **Sample:** 530225-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 21:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0456	0.0300	152	80-120	**

Lab Batch #: 994515 **Sample:** 530225-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 22:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0434	0.0300	145	80-120	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994515 **Sample:** 530225-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 22:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0468	0.0300	156	80-120	**

Lab Batch #: 994515 **Sample:** 530225-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/16 22:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0487	0.0300	162	80-120	**

Lab Batch #: 994548 **Sample:** 530225-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 06:20

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	99.9	98	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

Lab Batch #: 994548 **Sample:** 530225-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 06:43

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 994548 **Sample:** 530225-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 07:06

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	99.8	99	70-135	
o-Terphenyl	46.3	49.9	93	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994548 **Sample:** 530225-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 07:18

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.8	113	70-135	
o-Terphenyl	57.0	49.9	114	70-135	

Lab Batch #: 994548 **Sample:** 530225-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 07:29

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 994548 **Sample:** 530225-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 07:53

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	99.7	94	70-135	
o-Terphenyl	42.6	49.9	85	70-135	

Lab Batch #: 994548 **Sample:** 530225-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 08:15

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	99.9	99	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 994548 **Sample:** 530225-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 08:39

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.9	99.9	95	70-135	
o-Terphenyl	43.0	50.0	86	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994548 **Sample:** 530225-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 09:01

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.2	99.8	98	70-135	
o-Terphenyl	45.0	49.9	90	70-135	

Lab Batch #: 994548 **Sample:** 530225-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 09:25

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.5	99.9	92	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 994548 **Sample:** 530225-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 09:27

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	99.8	99	70-135	
o-Terphenyl	52.4	49.9	105	70-135	

Lab Batch #: 994548 **Sample:** 530225-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 09:54

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.7	103	70-135	
o-Terphenyl	50.4	49.9	101	70-135	

Lab Batch #: 994548 **Sample:** 530225-003 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 10:19

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	99.8	93	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994548 **Sample:** 530225-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 10:46

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.6	105	70-135	
o-Terphenyl	51.3	49.8	103	70-135	

Lab Batch #: 994515 **Sample:** 530225-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 10:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0351	0.0300	117	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 994515 **Sample:** 708952-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/16 21:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

Lab Batch #: 994548 **Sample:** 708971-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/18/16 03:21

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	100	98	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

Lab Batch #: 994515 **Sample:** 708952-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/16 20:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994548 **Sample:** 708971-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/18/16 03:44

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 994515 **Sample:** 708952-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/16 20:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

Lab Batch #: 994548 **Sample:** 708971-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/18/16 04:07

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	52.4	50.0	105	70-135	

Lab Batch #: 994515 **Sample:** 530085-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/16 20:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0354	0.0300	118	80-120	

Lab Batch #: 994548 **Sample:** 530225-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 07:44

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: N Bushy Draw

Work Orders : 530225,

Project ID:

Lab Batch #: 994515 **Sample:** 530085-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/16 20:53

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 994548 **Sample:** 530225-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/18/16 08:10

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.9	111	70-135	
o-Terphenyl	49.5	50.0	99	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: N Bushy Draw

Work Order #: 530225 **Project ID:**

Analyst: PJB **Date Prepared:** 05/16/2016 **Date Analyzed:** 05/16/2016

Lab Batch ID: 994515 **Sample:** 708952-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00150	0.100	0.0967	97	0.100	0.0824	82	16	70-130	35	
Toluene	<0.00200	0.100	0.0961	96	0.100	0.0821	82	16	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0962	96	0.100	0.0823	82	16	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.201	101	0.200	0.172	86	16	70-135	35	
o-Xylene	<0.00300	0.100	0.0995	100	0.100	0.0851	85	16	71-133	35	

Analyst: MNR **Date Prepared:** 05/17/2016 **Date Analyzed:** 05/17/2016

Lab Batch ID: 994552 **Sample:** 708944-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	20.0	19.7	99	20.0	19.7	99	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: N Bushy Draw

Work Order #: 530225 **Project ID:**

Analyst: ARM **Date Prepared:** 05/17/2016 **Date Analyzed:** 05/18/2016

Lab Batch ID: 994548 **Sample:** 708971-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	802	80	1000	853	85	6	70-135	35	
C10-C28 Diesel Range Organics	<15.0	1000	855	86	1000	925	93	8	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: N Bushy Draw

Work Order #: 530225

Lab Batch #: 994552 **Project ID:**

Date Analyzed: 05/17/2016 **Date Prepared:** 05/17/2016 **Analyst:** MNR

QC- Sample ID: 530051-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2.74	20.0	23.2	102	80-120	

Lab Batch #: 994552

Date Analyzed: 05/17/2016 **Date Prepared:** 05/17/2016 **Analyst:** MNR

QC- Sample ID: 530225-006 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	641	400	1070	107	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: N Bushy Draw

Work Order # : 530225 **Project ID:**

Lab Batch ID: 994515 **QC- Sample ID:** 530085-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/16/2016 **Date Prepared:** 05/16/2016 **Analyst:** PJB

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00149	0.0994	0.0547	55	0.0998	0.0532	53	3	70-130	35	X
Toluene	<0.00199	0.0994	0.0378	38	0.0998	0.0457	46	19	70-130	35	X
Ethylbenzene	<0.00199	0.0994	0.0266	27	0.0998	0.0382	38	36	71-129	35	XF
m,p-Xylenes	<0.00199	0.199	0.0518	26	0.200	0.0768	38	39	70-135	35	XF
o-Xylene	<0.00298	0.0994	0.0283	28	0.0998	0.0375	38	28	71-133	35	X

Lab Batch ID: 994548 **QC- Sample ID:** 530225-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/18/2016 **Date Prepared:** 05/17/2016 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	998	880	88	999	876	88	0	70-135	35	
C10-C28 Diesel Range Organics	<15.0	998	915	92	999	906	91	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: N Bushy Draw

Work Order #: 530225

Lab Batch #: 994552 **Project ID:**

Date Analyzed: 05/17/2016 19:32 **Date Prepared:** 05/17/2016 **Analyst:** MNR

QC- Sample ID: 530051-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	2.74	2.83	3	20	

Lab Batch #: 994552

Date Analyzed: 05/17/2016 22:21 **Date Prepared:** 05/17/2016 **Analyst:** MNR

QC- Sample ID: 530225-006 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	641	670	4	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

ENVIRO CLEAN SERVICES, L.L.C.

CHAIN OF CUSTODY

530225

Enviro Clean / Midland Texas	Project Name/Number: N Bushy Draw
2405 E. County Rd. 123 Midland, TX 79706	Project Location: Loving NM
Email: wendy.north@eccgrp.com bill.green@eccgrp.com	Phone No: 432.301.0209
Project Contact: Bill Green	Invoice To: ap@envirocleanps.com Enviro Clean 11717 N. Morgan Rd. Yukon, OK 73099
Samplers's Name:	PO Number: WPXRTX 00004

Matrix Codes

S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
WW = Waste Water
P = Product/Oil
SW = Surface water
SL = Sludge
OW = Ocean Water
W = Wipe
O = Other
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Preservative Used: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	ICE	Analytical Information: Texas TPH - TX 1005	New Mexico TPH - 8015M	BTEX - 8021B	Chlorides - 300 Series	Field Comments
1	SP-001	1'	05/16	11:10	S	1								X		X	X	X	
2	SP-002	1'		11:20	S	1								X		X	X	X	
3	SP-003	1'		11:30	S	1								X		X	X	X	
4	SP-004	6"		11:37	S	1								X		X	X	X	
5	SP-005	1'6"		11:43	S	1								X		X	X	X	
6	SP-006	2'		11:50	S	1								X		X	X	X	
7	SP-007	3'		11:59	S	1								X		X	X	X	
8	SP-008	2'		12:10	S	1								X		X	X	X	
9	SP-009	3'		12:26	S	1								X		X	X	X	
10	SP-010	2'6"		12:30	S	1								X		X	X	X	
11	SP-011	3'6"		12:45	S	1								X		X	X	X	
12	SP-012	2'6"		12:50	S	1								X		X	X	X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [X] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

Data Deliverable Information

- [X] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

TAT Starts Day received by Lab, if received by 3:00 pm

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Relinquished by Sampler:		1	2	5-17-16 1040	2
3 Relinquished by:	Date Time:	3 Received By:	4 Relinquished By:	Date Time:	4 Received By:
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	Preserved where applicable	On Ice: X; Cooler Temp. 3.2°C; Thermo. Corr. Factor 0°C

ENVIRO CLEAN SERVICES, L.L.C.

CHAIN OF CUSTODY

530225

Enviro Clean / Midland Texas	Project Name/Number: N Bushy Draw 35-12
2405 E. County Rd. 123 Midland, TX 79706	Project Location: Loving NM
Email: wendy.north@eccgrp.com bill.green@eccgrp.com	Phone No: 432.301.0209
Project Contact: Bill Green	Invoice To: ap@envirocleanps.com Enviro Clean 11717 N. Morgan Rd. Yukon, OK 73099
Samplers's Name:	PO Number: WOYRTX0004

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Preservative Used: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	ICE	Analytical Information: Texas TPH - TX 1005	New Mexico TPH - 8015M	BTEX - 8021B	Chlorides - 300 Series	Field Comments
1	SP-BF	Com.	05/16	1:10	S	1								X		↑	X	X	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Matrix Codes: S = Soil/Sed/Solid; GW = Ground Water; DW = Drinking Water; WW = Waste Water; P = Product/Oil; SW = Surface water; SL = Sludge; OW = Ocean Water; W = Wipe; O = Other; A = Air

Turnaround Time (Business days)		Data Deliverable Information		Notes:
☐ Same Day TAT	☐ 5 Day TAT	☒ Level II Std QC	☐ Level IV (Full Data Pkg /raw data)	
☒ Next Day EMERGENCY	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV	
☐ 2 Day EMERGENCY	☐ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411	
☐ 3 Day EMERGENCY		☐ TRRP Checklist		
TAT Starts Day received by Lab, if received by 3:00 pm				FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1			1	2	5-17-16 1040	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 3.2°C Thermo. Corr. Factor 0°C

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Enviroclean- Midland

Date/ Time Received: 05/17/2016 10:40:00 AM

Work Order #: 530225

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron
Mary Negron
Date: 05/17/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 05/18/2016

Analytical Report 532413

for

Enviroclean- Midland

Project Manager: BILL GREEN

WPX-N. Bushy Draw 35-12

WPXRTX0004

07-JUL-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

07-JUL-16

Project Manager: **BILL GREEN**
Enviroclean- Midland
2405 ECR 123
Midland, TX 79706

Reference: XENCO Report No(s): **532413**
WPX-N. Bushy Draw 35-12
Project Address: NM

BILL GREEN:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 532413. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 532413 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Julian Martinez
Odessa Laboratory Director

Sample Cross Reference 532413

Enviroclean- Midland, Midland, TX

WPX-N. Bushy Draw 35-12

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
001-A (0-1')	S	06-23-16 11:18	0 - 1 ft	532413-001
002-A (0-1')	S	06-23-16 11:25	0 - 1 ft	532413-002
003-A (0-1')	S	06-23-16 11:30	0 - 1 ft	532413-003
004-A (0-1')	S	06-23-16 11:40	0 - 1 ft	532413-004
005-B (1-2')	S	06-23-16 11:50	1 - 2 ft	532413-005
006-B (1-2')	S	06-23-16 12:00	1 - 2 ft	532413-006
007-D (3-4')	S	06-23-16 12:10	3 - 4 ft	532413-007
008-E (4-5')	S	06-23-16 12:20	4 - 5 ft	532413-008
009-E (4-5')	S	06-23-16 12:30	4 - 5 ft	532413-009
010-C (2-3')	S	06-23-16 12:15	2 - 3 ft	532413-010
011-E (4-5')	S	06-23-16 12:40	4 - 5 ft	532413-011
012-E (4-5')	S	06-23-16 12:50	4 - 5 ft	532413-012

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 532413

Enviroclean- Midland, Midland, TX

Project Name: WPX-N. Bushy Draw 35-12

Project Id: WPXRTX0004
Contact: BILL GREEN
Project Location: NM

Date Received in Lab: Tue Jun-28-16 10:35 am
Report Date: 07-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532413-001		532413-002		532413-003		532413-004		532413-005		532413-006	
	Field Id:	001-A (0-1')		002-A (0-1')		003-A (0-1')		004-A (0-1')		005-B (1-2')		006-B (1-2')	
	Depth:	0-1 ft		0-1 ft		0-1 ft		0-1 ft		1-2 ft		1-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-23-16 11:18		Jun-23-16 11:25		Jun-23-16 11:30		Jun-23-16 11:40		Jun-23-16 11:50		Jun-23-16 12:00	
Inorganic Anions by EPA 300	***Extracted:***	Jul-06-16 14:00						Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00	
	Analyzed:	Jul-07-16 11:15						Jul-07-16 11:39		Jul-07-16 11:46		Jul-07-16 12:10	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2870	200					11300	1000	2150	100	3510	200
TPH by SW 8015M	***Extracted:***			Jun-28-16 11:00		Jun-28-16 11:00							
	Analyzed:			Jun-28-16 18:12		Jun-28-16 18:35							
	Units/RL:			mg/kg	RL	mg/kg	RL						
C6-C10 Gasoline Range Hydrocarbons				20.4	15.0	ND	15.0						
C10-C28 Diesel Range Hydrocarbons				569	15.0	738	15.0						
C28-C35 Oil Range Hydrocarbons				ND	15.0	ND	15.0						
Total TPH				589	15.0	738	15.0						

Certificate of Analysis Summary 532413

Enviroclean- Midland, Midland, TX

Project Name: WPX-N. Bushy Draw 35-12

Project Id: WPXRTX0004
Contact: BILL GREEN
Project Location: NM

Date Received in Lab: Tue Jun-28-16 10:35 am
Report Date: 07-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532413-007		532413-008		532413-009		532413-010		532413-011		532413-012	
	Field Id:	007-D (3-4')		008-E (4-5')		009-E (4-5')		010-C (2-3')		011-E (4-5')		012-E (4-5')	
	Depth:	3-4 ft		4-5 ft		4-5 ft		2-3 ft		4-5 ft		4-5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-23-16 12:10		Jun-23-16 12:20		Jun-23-16 12:30		Jun-23-16 12:15		Jun-23-16 12:40		Jun-23-16 12:50	
Inorganic Anions by EPA 300	***Extracted:***	Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00	
	Analyzed:	Jul-07-16 12:18		Jul-07-16 12:41		Jul-07-16 12:49		Jul-07-16 12:57		Jul-07-16 13:04		Jul-07-16 13:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2620	200	1240	100	205	10.0	17.1	10.0	6560	500	3170	200

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: WPX-N. Bushy Draw 35-12

Work Orders : 532413,

Project ID: WPXRTX0004

Lab Batch #: 997172 **Sample:** 532413-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 18:12

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	53.3	50.0	107	70-135	

Lab Batch #: 997172 **Sample:** 532413-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 18:35

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.8	102	70-135	
o-Terphenyl	48.4	49.9	97	70-135	

Lab Batch #: 997172 **Sample:** 710459-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 13:32

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 997172 **Sample:** 710459-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 13:56

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	61.9	50.0	124	70-135	

Lab Batch #: 997172 **Sample:** 710459-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 14:20

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	59.6	50.0	119	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: WPX-N. Bushy Draw 35-12

Work Orders : 532413,

Project ID: WPXRTX0004

Lab Batch #: 997172 **Sample:** 532336-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 15:06

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	57.7	50.0	115	70-135	

Lab Batch #: 997172 **Sample:** 532336-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 15:30

SURROGATE RECOVERY STUDY

TPH by SW 8015M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	55.1	50.0	110	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: WPX-N. Bushy Draw 35-12

Work Order #: 532413 **Project ID:** WPXRTX0004

Analyst: MNR **Date Prepared:** 07/06/2016 **Date Analyzed:** 07/07/2016

Lab Batch ID: 997641 **Sample:** 710669-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	231	92	250	233	93	1	90-110	20	

Analyst: ARM **Date Prepared:** 06/28/2016 **Date Analyzed:** 06/28/2016

Lab Batch ID: 997172 **Sample:** 710459-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015M Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	966	97	1000	903	90	7	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	997	100	1000	962	96	4	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS Recoveries

Project Name: WPX-N. Bushy Draw 35-12

Work Order #: 532413

Lab Batch #: 997641 **Project ID:** WPXRTX0004

Date Analyzed: 07/07/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532368-022 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<10.8	270	231	86	80-120	

Lab Batch #: 997641

Date Analyzed: 07/07/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532413-005 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2150	2500	4800	106	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: WPX-N. Bushy Draw 35-12

Work Order # : 532413 **Project ID:** WPXRTX0004

Lab Batch ID: 997172 **QC- Sample ID:** 532336-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/28/2016 **Date Prepared:** 06/28/2016 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015M Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	213	999	1040	83	1000	1060	85	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	22.0	999	972	95	1000	966	94	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: WPX-N. Bushy Draw 35-12

Work Order #: 532413

Lab Batch #: 997641 **Project ID:** WPXRTX0004

Date Analyzed: 07/07/2016 10:05 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532368-022 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<10.8	<10.8	0	20	U

Lab Batch #: 997641

Date Analyzed: 07/07/2016 11:54 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532413-005 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	2150	2280	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Version: 1.%

532413 No. 00732

CHAIN OF CUSTODY RECORD

ENVIRO CLEAN SERVICES, LLC
(918) 794-7828

PROJECT NUMBER: WPXRTXD004
SHIPPED TO:
PROJECT NAME: WPX - N.Brushy Draw 35-12
PROJECT MANAGER: William Green
COC 1 of ___
TAT: Normal
ASOW:

SAMPLER'S PRINTED NAME: Walter Petruzzi
SAMPLER'S SIGNATURE:

REMARKS: TPH is NM-modified 8015M with specific TPH Ranges

Date	Time (Mountain)	Sample ID	Sample Matrix	# of Sample Containers	Cl - 300.0	TPH - NM8015
6/23/16	1118	001-A (0-1')	S	1	X	
↓	1125	002-A (0-1')	S	1		X
↓	1130	003-A (0-1')	S	1		X
↓	1140	004-A (0-1')	↓	↓	X	
↓	1150	005-B (1-2')	↓	↓	X	
↓	1200	006-B (1-2')	↓	↓	X	
↓	1210	007-D (3-4')	↓	↓	X	
↓	1220	008-E (4-5')	↓	↓	X	
↓	1230	009-E (4-5')	↓	↓	X	
1215	~~1215~~ WAG	010-C (2-3')	↓	↓	X	
↓	1240	011-E (4-5')	↓	↓	X	
↓	1250	012-E (4-5)	↓	↓	X	

TOTAL NUMBER OF CONTAINERS → 12

RELINQUISHED BY: [signature]	DATE 6/28/16 TIME 1035	RECEIVED BY: [signature]	DATE 6/28/16 TIME 10:35
RELINQUISHED BY:	DATE TIME	RECEIVED BY:	DATE TIME
METHOD OF SHIPMENT:		AIRBILL NUMBER:	
RECEIVED IN LABORATORY BY:	DATE TIME	Send PDF, EDD, and INVOICE (if applicable) to: JULIE CZECH at jczech@envirocleanps.com	
LABORATORY CONTACT:		LABORATORY ADDRESS:	

Temp: 4.2°C IR ID:R-8
C/F:0
Corrected Temp: 4.2°C

POINT OF ORIGIN: ☐ OKLAHOMA CITY ☐ TULSA ☐ NORMAN ☐ WOODWARD ☐ ARLINGTON ☐ MIDLAND ☐ OTHER:

PAGE #1 - RECEIVING LAB PAGE #2 - ENVIRO CLEAN PROJECT FILE PAGE #3 - ENVIRO CLEAN QA/QC DEPT

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Enviroclean- Midland

Date/ Time Received: 06/28/2016 10:35:00 AM

Work Order #: 532413

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.2
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron
Mary Negron
Date: 06/28/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 06/28/2016

Analytical Report 532561

for

Enviroclean- Midland

Project Manager: BILL GREEN

N. Brushy Draw 35-12

WPXRTX0004

30-JUN-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

30-JUN-16

Project Manager: **BILL GREEN**
Enviroclean- Midland
2405 ECR 123
Midland, TX 79706

Reference: XENCO Report No(s): **532561**
N. Brushy Draw 35-12
Project Address: New Mexico

BILL GREEN:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 532561. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 532561 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 532561

Enviroclean- Midland, Midland, TX

N. Brushy Draw 35-12

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @ 1.5-2'	S	06-29-16 08:32	1.5 - 2 ft	532561-001
SB-1 @ 3.5-4'	S	06-29-16 08:33	3.5 - 4 ft	532561-002
SB-1 @ 5.5-6'	S	06-29-16 08:34	5.5 - 6 ft	532561-003
SB-1 @ 7.5-8'	S	06-29-16 08:35	7.5 - 8 ft	532561-004
SB-1 @ 9.5-10'	S	06-29-16 08:38	9.5 - 10 ft	532561-005
SB-1 @ 11.5-12'	S	06-29-16 08:40	11.5 - 12 ft	532561-006
SB-1 @ 13.5-14'	S	06-29-16 08:42	13.5 - 14 ft	532561-007
SB-1 @ 15.5-16'	S	06-29-16 08:43	15.5 - 16 ft	532561-008
SB-1 @ 17.5-18'	S	06-29-16 08:44	17.5 - 18 ft	532561-009
SB-1 @ 19.5-20'	S	06-29-16 08:45	19.5 - 20 ft	532561-010
SB-1 @ 24.5-25'	S	06-29-16 08:48	24.5 - 25 ft	532561-011
SB-1 @ 29.5-30'	S	06-29-16 08:50	29.5 - 30 ft	532561-012
SB-1 @ 34.5-35'	S	06-29-16 08:52	34.5 - 35 ft	532561-013
SB-1 @ 39.5-40'	S	06-29-16 08:54	39.5 - 40 ft	532561-014

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 532561

Enviroclean- Midland, Midland, TX

Project Name: N. Brushy Draw 35-12

Project Id: WPXRTX0004
Contact: BILL GREEN
Project Location: New Mexico

Date Received in Lab: Wed Jun-29-16 03:18 pm
Report Date: 30-JUN-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532561-001		532561-002		532561-003		532561-004		532561-005		532561-006	
	Field Id:	SB-1 @ 1.5-2'		SB-1 @ 3.5-4'		SB-1 @ 5.5-6'		SB-1 @ 7.5-8'		SB-1 @ 9.5-10'		SB-1 @ 11.5-12'	
	Depth:	1.5-2 ft		3.5-4 ft		5.5-6 ft		7.5-8 ft		9.5-10 ft		11.5-12 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-29-16 08:32		Jun-29-16 08:33		Jun-29-16 08:34		Jun-29-16 08:35		Jun-29-16 08:38		Jun-29-16 08:40	
Inorganic Anions by EPA 300	***Extracted:***	Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30	
	Analyzed:	Jun-29-16 18:18		Jun-29-16 18:25		Jun-29-16 18:33		Jun-29-16 18:41		Jun-29-16 18:49		Jun-29-16 18:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1180	100	260	10.0	206	10.0	356	50.0	289	50.0	321	50.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532561

Enviroclean- Midland, Midland, TX

Project Name: N. Brushy Draw 35-12

Project Id: WPXRTX0004
Contact: BILL GREEN
Project Location: New Mexico

Date Received in Lab: Wed Jun-29-16 03:18 pm
Report Date: 30-JUN-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532561-007		532561-008		532561-009		532561-010		532561-011		532561-012	
	Field Id:	SB-1 @ 13.5-14'		SB-1 @ 15.5-16'		SB-1 @ 17.5-18'		SB-1 @ 19.5-20'		SB-1 @ 24.5-25'		SB-1 @ 29.5-30'	
	Depth:	13.5-14 ft		15.5-16 ft		17.5-18 ft		19.5-20 ft		24.5-25 ft		29.5-30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-29-16 08:42		Jun-29-16 08:43		Jun-29-16 08:44		Jun-29-16 08:45		Jun-29-16 08:48		Jun-29-16 08:50	
Inorganic Anions by EPA 300	***Extracted:***	Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30		Jun-29-16 15:30	
	Analyzed:	Jun-29-16 19:20		Jun-29-16 19:28		Jun-29-16 19:36		Jun-29-16 19:59		Jun-29-16 20:07		Jun-29-16 20:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		305	50.0	110	10.0	123	10.0	34.4	10.0	33.0	10.0	14.2	10.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532561

Enviroclean- Midland, Midland, TX

Project Name: N. Brushy Draw 35-12

Project Id: WPXRTX0004
Contact: BILL GREEN
Project Location: New Mexico

Date Received in Lab: Wed Jun-29-16 03:18 pm
Report Date: 30-JUN-16
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	532561-013		532561-014					
	Field Id:	SB-1 @ 34.5-35'		SB-1 @ 39.5-40'					
	Depth:	34.5-35 ft		39.5-40 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jun-29-16 08:52		Jun-29-16 08:54					
Inorganic Anions by EPA 300	***Extracted:***	Jun-29-16 15:30		Jun-29-16 15:30					
	Analyzed:	Jun-29-16 20:22		Jun-29-16 20:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		19.9	10.0	11.1	10.0				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

BS / BSD Recoveries

Project Name: N. Brushy Draw 35-12

Work Order #: 532561, 532561 **Project ID:** WPXRTX0004

Analyst: MNR **Date Prepared:** 06/29/2016 **Date Analyzed:** 06/29/2016

Lab Batch ID: 997244 **Sample:** 710495-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	248	99	250	249	100	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: N. Brushy Draw 35-12

Work Order #: 532561

Lab Batch #: 997244 **Project ID:** WPXRTX0004

Date Analyzed: 06/29/2016 **Date Prepared:** 06/29/2016 **Analyst:** MNR

QC- Sample ID: 532558-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2960	5000	7760	96	80-120	

Lab Batch #: 997244

Date Analyzed: 06/29/2016 **Date Prepared:** 06/29/2016 **Analyst:** MNR

QC- Sample ID: 532561-009 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	123	250	343	88	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: N. Brushy Draw 35-12

Work Order #: 532561

Lab Batch #: 997244 **Project ID:** WPXRTX0004

Date Analyzed: 06/29/2016 17:54 **Date Prepared:** 06/29/2016 **Analyst:** MNR

QC- Sample ID: 532558-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	2960	3080	4	20	

Lab Batch #: 997244

Date Analyzed: 06/29/2016 19:43 **Date Prepared:** 06/29/2016 **Analyst:** MNR

QC- Sample ID: 532561-009 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	123	121	2	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

CHAIN OF CUSTODY

Page 1 Of 2

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

www.xenco.com

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

Xenco Quote #

Xenco Job # 532501

Client / Reporting Information

Company Name / Branch: Enviro Clean

Company Address: Midland TX

Email: bill.green@eccgrp.com

Phone No:

Project Contact: Bill Green

Samplers's Name:

Project Information

Project Name/Number: N. Brushy Draw 35-12/WPXRTX0004

Project Location: New Mexico

Invoice To:

PO Number:

Analytical Information

300.0 Chlorides

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SB-1 @ 1.5 - 2'		6/29	832	S	1								X	X
2	SB-1 @ 3.5 - 4'			833											
3	SB-1 @ 5.5 - 6'			834											
4	SB-1 @ 7.5 - 8'			835											
5	SB-1 @ 9.5 - 10'			838											
6	SB-1 @ 11.5 - 12'			840											
7	SB-1 @ 13.5 - 14'			842											
8	SB-1 @ 15.5 - 16'			843											
9	SB-1 @ 17.5 - 18'			844											
10	SB-1 @ 19.5 - 20'			845											

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [x] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		6/29 318	1	2		2
3			3	4		4
5			5	Custody Seal #	Preserved where applicable	On Ice: X; Cooler Temp. -1.0°C; Thermo. Corr. Factor 0°C

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negiotiated under a fully executed client contract.

Final 1.000

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CHAIN OF CUSTODY

Page 2 Of 2

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas, Texas (214-902-0300)

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www.xenco.com

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

Xenco Quote #

Xenco Job # 532561

Client / Reporting Information

Company Name / Branch: EMViro Clean

Company Address: Midland, TX

Email: bill.green@eccgrp.com

Phone No:

Project Contact:

Samplers's Name: William Green

Project Information

Project Name/Number: N. Brushy Draw 35-12

Project Location: Eddy Co., New Mexico

Invoice To:

PO Number:

Analytical Information

300.0 X Chlorides

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SB-1 @ 24.5 - 25'		6/29	848	S	1									
2	SB-1 @ 29.5 - 30'			850											
3	SB-1 @ 34.5 - 35'			852											
4	SB-1 @ 39.5 - 40'			854											
5															
6															
7															
8															
9															
10															

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		6/29 318		2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. -1.0 Thermo. Corr. Factor 0 °C

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Enviroclean- Midland

Date/ Time Received: 06/29/2016 03:18:00 PM

Work Order #: 532561

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-1
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Carley Owens
Carley Owens
Date: 06/29/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 06/30/2016

APPENDIX E
OCD CORRESPONDENCE

From: Bratcher, Mike, EMNRD
To: Kimberly Huckaba
Cc: Patterson, Heather, EMNRD; Tucker, Shelly; "agroves@slo.state.nm.us"
Subject: FW: Correction 2RP-3684 Delineation Requirements
Date: Tuesday, June 28, 2016 10:24:34 AM

Kimberly,

Sorry for any confusion. Looks like the release is on State surface, but associated with a Federal well.

Thanks,

Mike Bratcher
NMOCD District 2
811 S. First Street
Artesia, NM 88210
O: 575-748-1283 X108
C: 575-626-0857
F: 575-748-9720

From: Bratcher, Mike, EMNRD
Sent: Tuesday, June 28, 2016 8:37 AM
To: 'Kimberly Huckaba'; Patterson, Heather, EMNRD; Tucker, Shelly
Cc: Smith, Lucas; Bill Green; Craig McMahon; Brittany Neal
Subject: RE: Correction 2RP-3684 Delineation Requirements

RE: 2RP-3684

Kimberly,

OCD does request a representative delineation of the impacted area. The pooling area, which theoretically should be the “worst” spot along the release area, and you have identified as sample locations 003 and 004, will be acceptable for vertical delineation purposes for this site. OCD does agree to a 4’ excavation with liner placement to retard migration of contaminants left behind. Especially in rocky areas, OCD does request adequate cushioning be installed for liner protection . Please provide OCD with analytical data from the proposed delineation prior to backfilling, and provide updates as the project progresses. Federal sites will require like approval from BLM.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Thanks.

Mike Bratcher
NMOCD District 2
811 S. First Street
Artesia, NM 88210
O: 575-748-1283 X108
C: 575-626-0857
F: 575-748-9720

From: Kimberly Huckaba [mailto:khuckaba@eccgrp.com]
Sent: Monday, June 27, 2016 7:53 PM
To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD
Cc: Smith, Lucas; Bill Green; Craig McMahon; Brittany Neal
Subject: RE: Correction 2RP-3684 Delineation Requirements

Please note the following correction.

After reviewing the work plan and data presented therein, the pooling area is not in the vicinity of 010, 011, and 012, but near the source of the release in the vicinity of sample locations 003 and 004 where the highest Cl values were detected.

Kimberly Huckaba
Project Coordinator/Geologist
432.741.0855
khuckaba@eccgrp.com
www.EnviroCleanPS.com

From: Kimberly Huckaba
Sent: Monday, June 27, 2016 6:47 PM
To: 'mike.bratcher@state.nm.us' <mike.bratcher@state.nm.us>; 'heather.patterson@state.nm.us' <heather.patterson@state.nm.us>
Cc: 'Smith, Lucas' <Lucas.Smith@wpxenergy.com>; Bill Green <Bill.Green@eccgrp.com>; Craig McMahon <Craig.McMahon@eccgrp.com>; Brittany Neal <Brittany.Neal@eccgrp.com>
Subject: 2RP-3684 Delineation Requirements

Mike,

I am emailing you after a conversation I had with Heather Patterson last Wednesday, June 22, 2016.

We are working on project 2RP-3684 together with WPX Energy.
I understand Heather is on vacation this week and referred me to you with any questions.

Heather and I had discussed the delineation requirement after the second attempt to delineate the area and finding refusal at the restrictive layer. We discussed placing a liner in the areas where chloride exceeded 2,500 mg/Kg at the bedrock or at 4 feet below ground surface. We also discussed sampling a boring in the area of sample locations 010, 011, and 012 where the spill pooled. However, I did not receive this in writing and wanted to be sure we had OCD approval before continuing with the boring, excavation and liner placement.

If OCD grants approval to continue we would like to begin work beginning with the soil boring in the vicinity of 010, 011, and 012 on Wednesday, June 29, 2016.

Thank you for your time.

Sincerely,

ENVIROCLEAN
Kimberly Huckaba
Project Coordinator/Geologist
432.741.0855
khuckaba@eccgrp.com
www.EnviroCleanPS.com

APPENDIX F
BORING LOG

ENVIRO CLEAN CARDINAL

BORING LOG

Site Name:	WPX N. Brushy Draw 35-12	**Boring ID:**	SB-1; 32° 4' 45.13" N, 103° 56' 41.9" W
Job Number:	WPXRTX0004	**Date:**	6/29/2016
Driller:	White Drilling/Bo Atkins	**Geologist:**	William D. Green, TX PG No. 136

Depth	Time	µS/cm @ °C	Lab Chloride	USCS	Munsell Color	Description
1.5-2	832	2,155 @ 21.1°	1,180	SP	10YR 7/4	Very pale brown fine sand; rounded and spherical grains, with slight carbonate reaction
3.5-4	833	269 @ 20.3°	260	SP	10YR 7/3	Very pale brown fine sand; rounded and spherical grains, with slight carbonate reaction
5.5-6	834	473 @ 20.1°	206	SS	7.5YR 7/4	Rock ledge at ~5 feet. Pink very fine sandstone with carbonate cement
7.5-8	835	1,139 @ 19.8°	356	SP	7.5YR 7/3	Pink very fine sand; rounded and spherical grains
9.5-10	838	867 @ 20.3°	289	SS	7.5YR 7/3	Pink very fine sandstone with carbonate cement
11.5-12	840	522 @ 20.8°	321	SS	7.5YR 7/3	Pink very fine sandstone with carbonate cement
13.5-14	842	540 @ 20.2°	305	SP	5YR 7/3	Pink fine rounded sand
15.5-16	843	296 @ 19.9°	110	SS	10YR 4/2	Abrupt lithology change at 15.5 feet. Dark grayish brown well-lithified fine-grained sandstone
17.5-18	844	314 @ 20.8°	123	SS/Shale	10YR 5/1	Gray fine-grained sandstone with carbonate cement and thin shales interbedded
19.5-20	845	152 @ 20.8°	34.4	SW	10YR 7/2	Light gray fine sand and 1/4- to 1/2-inch smoothed gravels with carbonate cement
						Lithology change at about 23 feet.
24.5-25	848	161 @ 21.6°	33.0	SM	7.5YR 6/4	Light brown silty to fine-grained sand; about 10% 1/4-inch to 1-inch gravel
29.5-30	850	148 @ 21.8°	14.2	SM	10YR 6/6	Brownish yellow silty to fine-grained sand; round and spherical
34.5-35	852	154 @ 21.4°	19.9	SM	10YR 6/4	Light yellowish brown silty to fine-grained sand; round and spherical
39.5-40	854	200 @ 21.5°	11.1	SM	10YR 6/4	Light yellowish brown silty to fine-grained sand; round and spherical

Note: Boring installed with Air Rotary and samples collected from return cuttings.

APPENDIX C
Laboratory Analytical Results

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

September 23, 2016

Austin Weyant

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: WPX North Brushy Draw OrderNo.: 1609247

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 9/7/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 qualifers 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1609247**
Date Reported: **9/23/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH4
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-001 **Matrix:** SOIL **Received Date:** 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1600	75		mg/Kg	50	9/13/2016 1:22:16 AM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH3
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-002 **Matrix:** SOIL **Received Date:** 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	170	30		mg/Kg	20	9/9/2016 2:40:15 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH2
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-003 **Matrix:** SOIL **Received Date:** 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	220	30		mg/Kg	20	9/9/2016 2:52:39 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH1
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-004
Matrix: SOIL
Received Date: 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	53	30		mg/Kg	20	9/9/2016 3:05:03 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-005
Matrix: SOIL
Received Date: 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	9/9/2016 3:17:28 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-006
Matrix: SOIL
Received Date: 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	370	30		mg/Kg	20	9/9/2016 3:29:52 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW5
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-007 **Matrix:** SOIL **Received Date:** 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	280	30		mg/Kg	20	9/9/2016 3:42:16 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW6
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-008
Matrix: SOIL
Received Date: 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1200	75		mg/Kg	50	9/13/2016 1:34:40 AM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW7
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-009
Matrix: SOIL
Received Date: 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	97	30		mg/Kg	20	9/9/2016 4:07:05 PM	27414

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW11
Project: WPX North Brushy Draw
Collection Date: 8/12/2016 9:00:00 AM
Lab ID: 1609247-010 **Matrix:** SOIL **Received Date:** 9/7/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	9/9/2016 4:19:30 PM	27414

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	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609247**

23-Sep-16

Client: Souder, Miller & Associates

Project: WPX North Brushy Draw

Sample ID	**MB-27414**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150727**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-27414**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150729**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	90	110			

Sample ID	**1609199-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150734**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	22	1.5	15.00	3.598	123	70.8	119			S

Sample ID	**1609199-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150735**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	19	1.5	15.00	3.598	105	70.8	119	12.9	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1609247 RcptNo: 1

Received by/date: LC 09/07/16

Logged By: Lindsay Mangin 9/7/2016 9:30:00 AM

Completed By: Lindsay Mangin 9/7/2016 1:08:12 PM

Reviewed By: aJ 09/07/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ 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	2.7	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Souder, Miller and Associates	☐ Standard ☐ Rush
Mailing Address:	Project Name: WPX North Brushy Draw ~~Key State 1 Brine Station~~ JWB 9/19/16
201 S. Halagueno	Project #:
Phone #: 575-689-5351	
email or Fax#: lucas.middleton@soudermiller.com	Project Manager: Austin Weyant
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)	
Accreditation: ☐ NELAP ☐ Other ☐ EDD (Type)	Sampler: LCM On Ice: ☒ Yes ☐ No Sample Temperature: 5.7 - CF -1.0 = 2.7

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1609247
9-12-16	900	Soil	BH4	402		-001
			BH3			-002
			BH2			-003
			BH1			-004
			SW1			-005
			SW3			-006
			SW5			-007
			SW6			-008
			SW7			-009
			SW11			-010

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diese	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
							X								
							X								
							X								
							X								
							X								
							X								
							X								
							X								
							X								
							X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Kimberly Cuneha	09/07/16	0930
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Per AW, change proj name to WPX North Brushy Draw JWB 9/19/16

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

September 13, 2016

Austin Weyant

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: WPX North Brushy Draw OrderNo.: 1609253

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/7/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 qualifers 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: WPX North Brushy Draw
Lab Order: 1609253

Lab ID: 1609253-001 **Collection Date:** 8/10/2016 10:00:00 AM
Client Sample ID: L1-15 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	310	30	H	mg/Kg	20	9/9/2016 4:31:55 PM	27414

Lab ID: 1609253-002 **Collection Date:** 8/10/2016 10:00:00 AM
Client Sample ID: L1-16 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	320	30	H	mg/Kg	20	9/9/2016 5:09:09 PM	27414

Lab ID: 1609253-003 **Collection Date:** 8/10/2016 10:00:00 AM
Client Sample ID: L2-12 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	450	30	H	mg/Kg	20	9/9/2016 5:21:33 PM	27414

Lab ID: 1609253-004 **Collection Date:** 8/10/2016 10:00:00 AM
Client Sample ID: L2-14 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	170	30	H	mg/Kg	20	9/9/2016 5:33:57 PM	27414

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	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609253**

13-Sep-16

Client: Souder, Miller & Associates

Project: WPX North Brushy Draw

Sample ID	**MB-27414**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150727**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-27414**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**27414**	RunNo:	**37114**					
Prep Date:	**9/8/2016**	Analysis Date:	**9/9/2016**	SeqNo:	**1150729**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1609253 RcptNo: 1

Received by/date: LC 09/07/16

Logged By: **Lindsay Mangin** 9/7/2016 9:30:00 AM

Completed By: **Lindsay Mangin** 9/7/2016 1:26:08 PM

Reviewed By: aJ 09/07/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ 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	2.7	Good	Yes			

Chain-of-Custody Record

Client: Souder, Miller and Associates

Mailing Address: 201 S. Halagueno

Phone #: 575-689-5351

email or Fax#: lucas.middleton@soudermiller.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ **Rush**_____

Project Name: WPX- North Brushy Draw

Project #:

Project Manager: Austin Weyant

Sampler: LCM
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.7-CF-1.0 = 2.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1609253	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diese	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO$_3$,NO$_2$,PO$_4$,SO$_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
9/7/16	1000	Soil	L1-15	4oz		-001								X				
			L1-10			-002								X				
			L2-12			-003								X				
			L7-14			-004								X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Lindsey Concha	09/07/16	0930
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

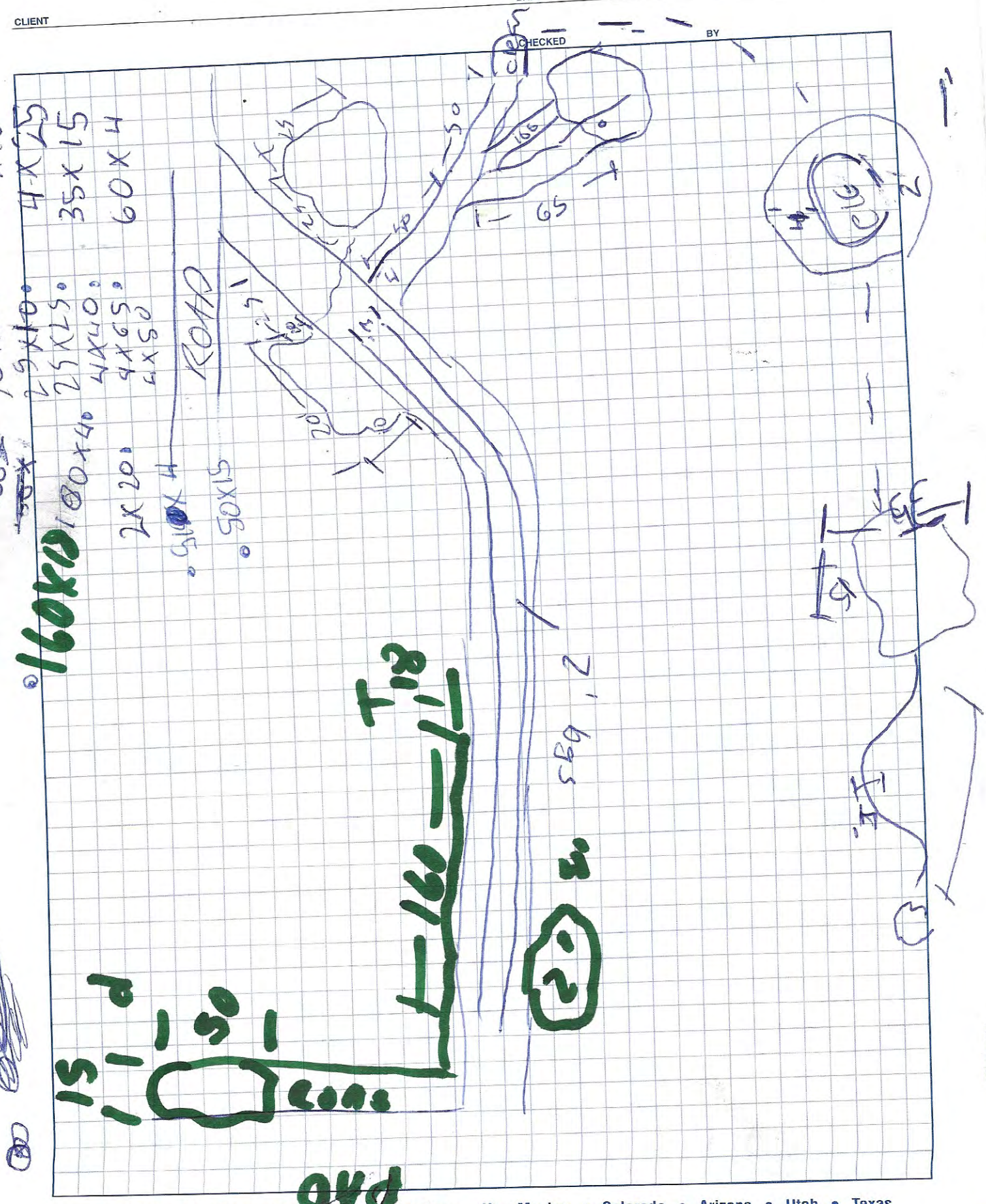
If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX D
Field Notes and Photos

SUBJECT PROJECT PAGE

CLIENT DATE BY

CHECKED BY



SUBJECT PROJECT 8-12-16 PAGE

CLIENT KO Construction DATE 8-9-16 BY LCM

CHECKED BY

On site

excavator digging on lower areas

- dump truck getting stuck
- water truck needed

0.33 1.5 Gec

SW5 - 0.53

6 - 0.70

7 - 0.1

8 - 0.24

9 - 1.6

10 - 2.0

11 - 0.0

12 - 0.3

BH 1 = 2'

BH 2 = 4'

SW1 = 0.05

SW2 = 1.42

SW3 = 0.46

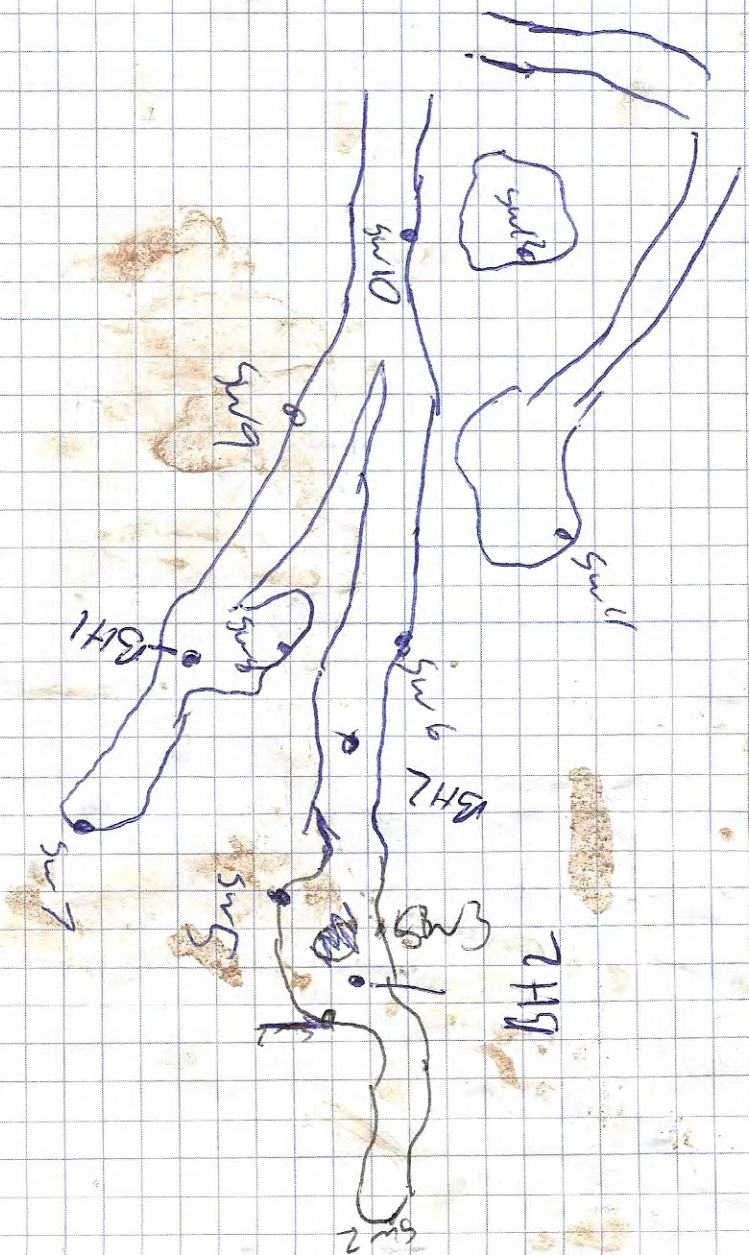


Photo 1: Excavation on West side

Photo2: Excavation on East side

Photo 3: Bottom of Excavation

Photo 4: Excavation on South end

Photo 5: Spill Pile

Photo 6: Central Area Back filled

Photo 7:Southern Area Back filled

Photo 8: Northern Area Back filled