

Devon Energy Production Co LP

Todd 22B Fed 2

Delineation Report and Work Plan

**Unit Letter B, Section 22, T23S, R31E
Eddy County, New Mexico**

30-015-32203

April 22, 2016



Prepared for:

**Devon Energy Production Co., LP
PO Box 250
Artesia, New Mexico 88211**

By:

**Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510**

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I. Company Contacts

Representative	Company	Telephone	E-mail
Brett Fulks	Devon Energy Prod.	575-748-1844	Brett.Fulks@dvn.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Devon Energy to perform site delineation on the Todd 22B Fed 2 Battery, concerning a Fifty (50) bbl. release comprising of produced water and crude. This site is situated in Eddy County, Section 22, Township 23S, and Range 31E.

According to the C-141: A manway gasket located on the horizontal heater failed. This resulted in a release of fluid to the interior of the bermed area with some escaping the bermed containment. There was a small amount of overspray onto vegetation on the Southwest side of the pad area. The line was isolated from production in order to prevent further release. The equipment was tagged and locked until repairs could be made. A vacuum truck was dispatched and recovered approximately 45 Bbl. of the fluid. The NMOCD and BLM were notified on April 06, 2016 respectively. The C-141 filed and stamped by the same on April 07, 2016 assigning this event number **2RP-3640** (Appendix A).

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of this site location. According to the topography map for Eddy County the depth to ground water for Section 22, Township 23S, Range 31E is approximately 180' bgs. Further research of the New Mexico Office of the State Engineer records indicate the average depth to groundwater for the area to be 232' bgs. Thereby, posing no eminent threat or danger to life forms in the area.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X
Distance to Surface Water:			

(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			0

V. Work Performed

On April 14, 2016 SESI was onsite to photograph, assess and map the spill area

On April 18, 2016 SESI personnel returned to the site, in order to complete the vertical delineation of the impacted area. Whereby, it was determined that two (2) auger holes would be advanced inside the bermed area, and a single auger hole would be advanced in the pad area where it appeared the fluid had “pooled” indicating possibly the most dense impact. Representative soil samples were properly packaged, preserved and transported to Cardinal Laboratories, Hobbs New Mexico and analyzed for Chloride (Cl⁻) (Method SM 4500Cl-B). The results of the analysis are presented in the table below:

Sample Date 04/18/16	Depth	Chloride (mg/kg)	BTEX	TPH	
Sample ID				GRO	DRO
AH-1	Surface	848	<0.300	<10.0	67.6
AH-1	1ft.	160	<0.300	<10.0	<10.0
AH-2	Surface	1010	<0.300	<50.0	2360
AH-2	1ft.	416	<0.300	<50.0	294
AH-2	2ft.	96.0	<0.300	<10.0	<10.0
AH-3	Surface	5760	<0.300	<10.0	<10.0
AH-3	1ft.	3760	<0.300	<10.0	<10.0
AH-3	2ft.	<16.0	<0.300	<10.0	<10.0

VI. Action Plan

Due to the results listed above and the dynamics of the site; the following action plan is proposed:

The interior of the bermed area is to be “hand” dug to a depth of 6” bgs. The pad area contains electrical lines beneath the ground surface. Excluding these areas a depth of 18” bgs., or until Cl⁻ are <1000 mg/kg would be excavated in the impacted area of the pad. All contaminated soil is to be disposed of at an NMOCD approved facility. The overspray on the large vegetation will be treated with a single application of Micro blaze.

Upon completion of all approved remediation activity: SESI will submit complete final closure documentation regarding this incident, on behalf of Devon Energy to all parties of concern.

VII. Figures & Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Appendix A – C-141

Appendix B – Groundwater

Appendix C – Analytical Results

Appendix D – Photo Documentation

Figure 1

Vicinity Map

Todd 22B Fed 2

2BBLS Oil & 48 BBLS PW



This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere

Prepared by: Dana DeLaRosa

Map is current as of: 06-Apr-2016



Miles

0 0.00 0.01 0.02 1:889

S22,T23S,R31E

2BBLS Oil & 48BBLS PW



Figure 2

Site Plan

Devon
Todd 22B Fed1

AH2 @ 2'

AH1 @ 1.5'

AH3 @ 2.5'

Survey

Google earth

© 2016 Google

1996

Imagery Date: 2/13/2014 32°17'46.11" N 103°45'49.24" W elev 3426 ft eye alt 3767 ft

Appendix A

C-141

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

ARTESIA DISTRICT

APR 07 2016

RECEIVED

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 Devon Energy Production Company <i>6137</i>	Contact Enrique Campos, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575.513.1933
Facility Name Todd 22B Fed 2	Facility Type Gas

Surface Owner Federal	Mineral Owner Federal	API No 30-015-32203
------------------------------	------------------------------	----------------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	22	23S	31E	510	FNL	1980	FEL	Eddy

Latitude: 32.29576

Longitude: 103.76357

NATURE OF RELEASE

Type of Release Oil & Produced Water	Volume of Release 2BBLS Oil & 48BBLS PW	Volume Recovered 1BBL Oil & 44BBLS PW
Source of Release Manway gasket on horizontal separator	Date and Hour of Occurrence 4/5/2016 @ 1:52pm	Date and Hour of Discovery 4/5/2016 @ 1:52pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD-Shelly Tucker BLM-Mike Bratcher	
By Whom? Jeremy Porras, Assistant Production Foreman	Date and Hour OCD-4/6/2016 @ 3:10pm BLM-4/6/2016 @ 3:05pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.*

The manway gasket located on the horizontal heater gave out causing 2 BBLS oil and 48 BBLS produced water to be released. The line was isolated from production to prevent further release. The equipment was tagged and locked until repairs are made.

Describe Area Affected and Cleanup Action Taken.*

2BBLS oil and 48BBLS of produced water was released and 1BBL oil and 44BBLS produced water was recovered via vacuum truck. The release originated from the manway gasket on the horizontal heater on the Southwest side of pad. Oil and produced water was released into the bermed containment surrounding the equipment. Approximately 3 gallons of oil and 2BBLS of PW escaped the bermed containment. Approximately 2 gallons of oil and produced water mix sprayed in a fine mist onto the vegetation on the Southwest side of the pad. The approximate total size of the affected area was 30' x 30' on pad. An environmental agency will be contacted for remediation.

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: <i>Dana DeLaRosa</i>	OIL CONSERVATION DIVISION	
Printed Name: Dana DeLaRosa	Signed By: <i>[Signature]</i> Approved by Environmental Specialist:	
Title: Field Admin Support	Approval Date: <i>4/7/16</i>	Expiration Date: <i>N/A</i>
E-mail Address: dana.delarosa@dmn.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines <input checked="" type="checkbox"/> SUBMIT REMEDIATION PROPOSAL NO	
Date: 4-7-2016 Phone: 575.746.5594	LATER THAN: <i>5/11/16</i>	

* Attach Additional Sheets If Necessary

2RP-3640

Bratcher, Mike, EMNRD

From: DeLaRosa, Dana <Dana.DeLaRosa@dvu.com>
Sent: Thursday, April 07, 2016 2:35 PM
To: stucker@blm.gov; jamos@blm.gov; Bratcher, Mike, EMNRD
Subject: Todd 22B Fed 2_2BBL Oil 48BBL PW_4.4.16
Attachments: Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_GIS Image.pdf; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Initial C141.doc; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Pic 1 of 5.JPG; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Pic 2 of 5.JPG; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Pic 3 of 5.JPG; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Pic 4 of 5.JPG; Todd 22B Fed 2_2BBL Oil & 48BBL PW_4.4.16_Pic 5 of 5.JPG

Hello,

I was informed this email did not go through earlier. I resized the images to see if this would work.

Attached is the Initial C141, GIS Image and photos for the 2BBL oil and 48BBL produced water release that occurred on 4.4.2016 at the Todd 22B Fed 2. The red dot on the GIS Image represents the approximate origin of release.

Thank you,

Thank you,

Dana DeLaRosa

Field Admin Support
Production
B-Schedule



Devon Energy Corporation
PO Box 250
Artesia, NM 88211
575-746-5594

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Appendix B

Groundwater



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02258	C	ED		3	2	26	23S	31E		618055	3571853*	662		
C 02348	C	ED		1	4	3	26	23S	31E	617648	3571068	700	430	270
C 02492		ED		4	4	4	06	23S	31E	612056	3577320*	135	85	50
C 02492 POD2	C	ED		3	2	2	07	23S	31E	611767	3576996	400	125	275
C 02664		ED		3	3	2	05	23S	31E	613049	3578138*	4291	354	3937
C 02725		ED		1	1	1	05	23S	31E	612240	3578731*	532		
C 02773		ED		4	1	3	03	23S	31E	615668	3577762*	880		
C 02774		ED		3	1	3	04	23S	31E	613857	3577745*	1660		
C 02775		ED		1	1	1	05	23S	31E	612240	3578731*	529		
C 02776		ED		2	1	1	05	23S	31E	612440	3578731*	661		
C 02777	CUB	ED		4	4	4	10	23S	31E	616974	3575662	890		
C 02865		ED		4	4	4	06	23S	31E	612056	3577320*	174		
C 02954 EXPL		ED		3	1	4	20	23S	31E	613114	3572906*	905		
C 03140		ED		4	2	4	04	23S	31E	615266	3577758*	684		
C 03351	C	ED		4	1	4	04	23S	31E	614917	3577861	320	168	152
C 03520 POD1	C	ED		3	1	1	07	23S	31E	610733	3576905	500		

Average Depth to Water: **232 feet**

Minimum Depth: **85 feet**

Maximum Depth: **430 feet**

Record Count: 16

PLSS Search:

Township: 23S

Range: 31E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Appendix C – Analytical Results

April 21, 2016

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: DEV-16-003

Enclosed are the results of analyses for samples received by the laboratory on 04/19/16 14:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-1 SURFACE (H600842-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	848	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	67.6	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 134 % 35-147

Surrogate: 1-Chlorooctadecane 161 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-1 1' (H600842-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	<10.0	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 138 % 35-147

Surrogate: 1-Chlorooctadecane 158 % 28-171

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703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-2 SURFACE (H600842-03)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15		
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78		
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81		
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65		
Total BTX	<0.300	0.300	04/20/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	2360	50.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 133 % 35-147

Surrogate: 1-Chlorooctadecane 228 % 28-171

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-2 1' (H600842-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTEx	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	294	50.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 136 % 35-147

Surrogate: 1-Chlorooctadecane 188 % 28-171

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-2 2' (H600842-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	<10.0	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 149 % 35-147

Surrogate: 1-Chlorooctadecane 172 % 28-171

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Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-3 SURFACE (H600842-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5760	16.0	04/20/2016	ND	384	96.0	400	4.08		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	<10.0	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 141 % 35-147

Surrogate: 1-Chlorooctadecane 163 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-3 1' (H600842-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3760	16.0	04/20/2016	ND	384	96.0	400	4.08		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	<10.0	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 141 % 35-147

Surrogate: 1-Chlorooctadecane 163 % 28-171

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Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 04/19/2016
Reported: 04/21/2016
Project Name: DEV-16-003
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/18/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: AH-3 2' (H600842-08)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2016	ND	2.10	105	2.00	2.15	
Toluene*	<0.050	0.050	04/20/2016	ND	2.01	100	2.00	2.78	
Ethylbenzene*	<0.050	0.050	04/20/2016	ND	1.82	91.1	2.00	2.81	
Total Xylenes*	<0.150	0.150	04/20/2016	ND	5.67	94.5	6.00	2.65	
Total BTX	<0.300	0.300	04/20/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/20/2016	ND	384	96.0	400	4.08	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2016	ND	203	102	200	5.81	
DRO >C10-C28	<10.0	10.0	04/19/2016	ND	231	116	200	6.11	

Surrogate: 1-Chlorooctane 145 % 35-147

Surrogate: 1-Chlorooctadecane 164 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Safety and Environmental Solutions		BILL TO		P.O. #:	
Project Manager: Bob Allen				Company: Same	
Address: 703 East Clinton, PO Box 1613				Attn:	
City: Hobbs				Address:	
Phone #: 575 397-0510		Fax #: 575 393-4388		City:	
Project #: DEV-16-003		Project Owner:		State: Zip:	
Project Name:		Project Location:		Phone #:	
Sampler Name:		FOR LAB USE ONLY		Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H060842	Att-1 Surface		1									04	0910	Chlorides
	Att-1 14"		1									0308	0930	TPH (8015)
	Att-1 15"		1									0405	1020	BTEX
	Att-2 Surface		1									1020	1045	
	Att-2 14"		1									1100	1300	
	Att-2 20"		1									1320	1340	
	Att-3 Surface		1											
	Att-3 14"		1											
	Att-3 20"		1											

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Relinquished By: <i>Don't know</i>	Date: 04/19/16	Received By: <i>Shari Shunder</i>
Relinquished By: <i>Don't know</i>	Date: 04/19/16	Received By: <i>Shari Shunder</i>
Time: 2:20		

Delivered By: (Circle One)	Sample Condition	CHECKED BY: <i>[Signature]</i>
Sampler - UPS - Bus - Other:	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	
	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #:
REMARKS:	

Appendix D

Site Photographs

Devon Energy
Todd 22B Fed 2



Looking North at impacted pad area



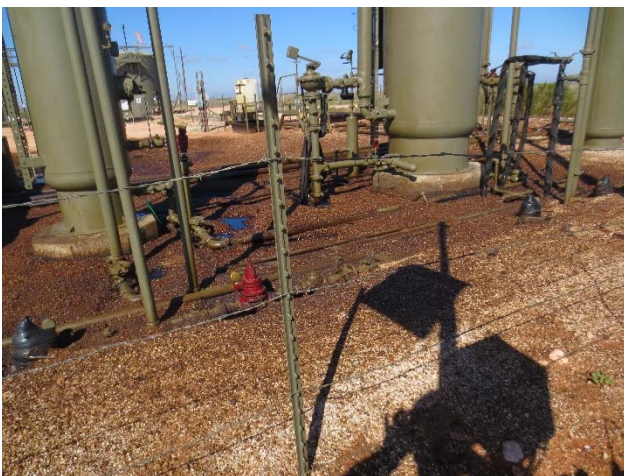
Standing fluid inside berm from SE corner



Standing Fluid inside berm SW corner



Impacted area inside berm NE Corner



Looking SW from center NE corner of bermed area



Looking SW from NE corner of bermed area

Devon Energy
Todd 22B Fed 2



Over-spray area looking West



Sprayed area looking Northwest



Sprayed area looking North



Spray area looking Southwest



Spray are looking West



Looking SE at impacted area inside berm

Devon Energy
Todd 22B Fed 2



Area of Auger hole 1



Auger hole 2



Auger hole 3 verification of depth



Indicating pooling area of Auger Hole 3