



August 24, 2015

Mr. Brett Fulks
Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, NM 88210

**RE: Soil Sampling
Todd 36 D State #01 SWD
Sec. 36-23S-31E
Eddy County, NM**

Dear Mr. Fulks:

Devon Energy Corporation (Devon) retained Enviro Clean Services, LLC (ECS) to collect soil samples at the Todd 36 D State #01 SWD site located in Sec. 36-23S-31E, Eddy County, New Mexico (approximately 32.26272°N, 103.73338°W), following a produced water release. **Figure 1** is a site map depicting the area of release and soil sample locations.

The New Mexico Oil Conservation Division's (OCD) Form C-141 prepared for this site indicates that on the afternoon of January 21, 2015, a tank leak released 75 barrels (bbls) of produced water, with 50 bbls recovered by vacuum truck. The net loss is 25 bbls of produced water.

On January 26, 2015, ECS field personnel collected soil samples from five locations within the impacted area. Sample depths were from the surface and at one foot below ground surface (bgs). The samples were transported under chain-of-custody to Permian Basin Environmental Lab, LP in Midland, Texas using industry standards for care and preservation. All samples were analyzed for Chlorides (EPA method 300.0) and Total Petroleum Hydrocarbons (TPH, EPA method 8015M).

General Site Characteristics

The affected property is leased from the Bureau of Land Management (BLM). The *Geologic Map of New Mexico* (NMBGMR, 2003) indicates the site's surface geology is comprised of Qep – Quaternary eolian and piedmont deposits (Holocene to middle Pleistocene). This unit is interlayered eolian sands and piedmont-slope deposits along the eastern flank of the Pecos River valley, primarily between Roswell and Carlsbad. The unit is typically capped by thin eolian deposits. The Natural Resource Conservation Service identifies the local soils as KM – Kermit-Berino fine sands, 0 to 3 percent slopes, which consist of mixed alluvium and/or eolian sands, typically with a profile of fine sand at the surface, with loamy fine sands at depth of five feet or more.

These descriptions are consistent with the surrounding native soils, but the impacted area is comprised of an engineered crushed limestone pad, with the imported materials being more than a foot thick to support storage tanks and vehicular traffic.

The OCD Recommended Remediation Action Levels (RRALs) are a ranking system used to evaluate regulatory requirements. RRALs are based on depth to water, wellhead protection area distance, and the distance to surface water bodies. The nearest water well is approximately a mile away, but depth to water is not reported. The closest well with a reported depth to water indicated groundwater is approximately 115 feet bgs. State Land Office Point of Diversion reports are attached for review. There is no surface water within several miles of the site.



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 02405	C	ED		4	1	02	24S	31E		617690	3568631*	275	160	115
C 02460	C	ED				3	02	24S	31E	617496	3568022*	320		
C 02460 POD2	C	ED				3	02	24S	31E	617496	3568022*	320		
C 02464	C	ED		3	4	1	02	24S	31E	617589	3568530*	320	205	115

Average Depth to Water: 182 feet

Minimum Depth: 160 feet

Maximum Depth: 205 feet

Record Count: 4

Basin/County Search:

County: Eddy

PLSS Search:

Section(s): 1, 2

Township: 24S

Range: 31E

Using the site specific data, the RRALs for the site are 10 parts per million (ppm, or mg/Kg) benzene, 50 ppm BTEX, and 5,000 ppm TPH. All of the sample locations exhibited elevated levels of chlorides when compared to this standard. **Table 1** summarizes the analytical results, and the laboratory analytical report and chain of custody documentation are attached for your records.

Table 1 – Analytical Results Summary

Sample ID	Depth (feet)	Date Collected	TPH C6-C12	TPH >C12-C28	TPH >C28-C35	Total TPH	Chlorides
RRAL			---	---	---	5,000	1,000*
001	0	1/26/2015	37.1	126	<27.8	163	4,540
001A	1	1/26/2015	<28.4	<28.4	<28.4	<28.4	3,130
002	0	1/26/2015	<27.8	<27.8	<27.8	<27.8	4,530
002A	1	1/26/2015	<28.1	<28.1	<28.1	<28.1	5,420
003	0	1/26/2015	<28.7	37.3	<28.7	37.3	5,670
003A	1	1/26/2015	<26.9	<26.9	<26.9	<26.9	6,100
004	0	1/26/2015	<26.6	<26.6	<26.6	<26.6	1,760
004A	1	1/26/2015	<26.3	<26.3	<26.3	<26.3	4,020
005	0	1/26/2015	<28.4	<28.4	<28.4	<28.4	10,300
005A	1	1/26/2015	<26.3	27.3	<26.3	27.3	2,360

All values are in milligrams per kilogram (mg/Kg, ppm)

Analyte detections are **bolded**.

Values that exceed the Recommended Remediation Action Levels (RRAL) are shaded.

* Chloride values are site specific; 1,000 ppm is a common value where groundwater impact is unlikely.

Oil Conservation Division Work Plan

Additional subsurface chloride vertical delineation is required for this site based on OCD guidance requirements.

For vertical delineation ECS recommends advancing soil borings until three samples at one foot intervals are field screened below 1,000 ppm chloride, or to approximately 30 feet bgs, whichever occurs first, in the area of sample point 002, between 003 and 004, and between 004 and 005. Soil samples will be field screened using an electrical conductivity meter and one-to-one soil-water solution, with laboratory samples to confirm the chloride content.

The release site is covered with an engineered carbonate surface, and the affected area does not support any vegetation. As a good stewardship measure, a one-foot bgs excavation of the caliche surface is proposed. A 30 mil polyethylene liner will be installed to prevent further percolation of chlorides, and the excavated area will be backfilled with material similar to that removed, matching the surface grade and esthetically restoring the site.

All excavated impacted soil will be transported to an approved NMOCD facility for disposal. With Devon's concurrence, ECS will prepare a cost estimate to return to the site and collect vertical delineation confirmation samples.

ECS appreciates the opportunity to be of service to Devon. If you have any questions about the information presented in this report, please contact me at bgreen@envirocleanps.com or at 432.301.0209.

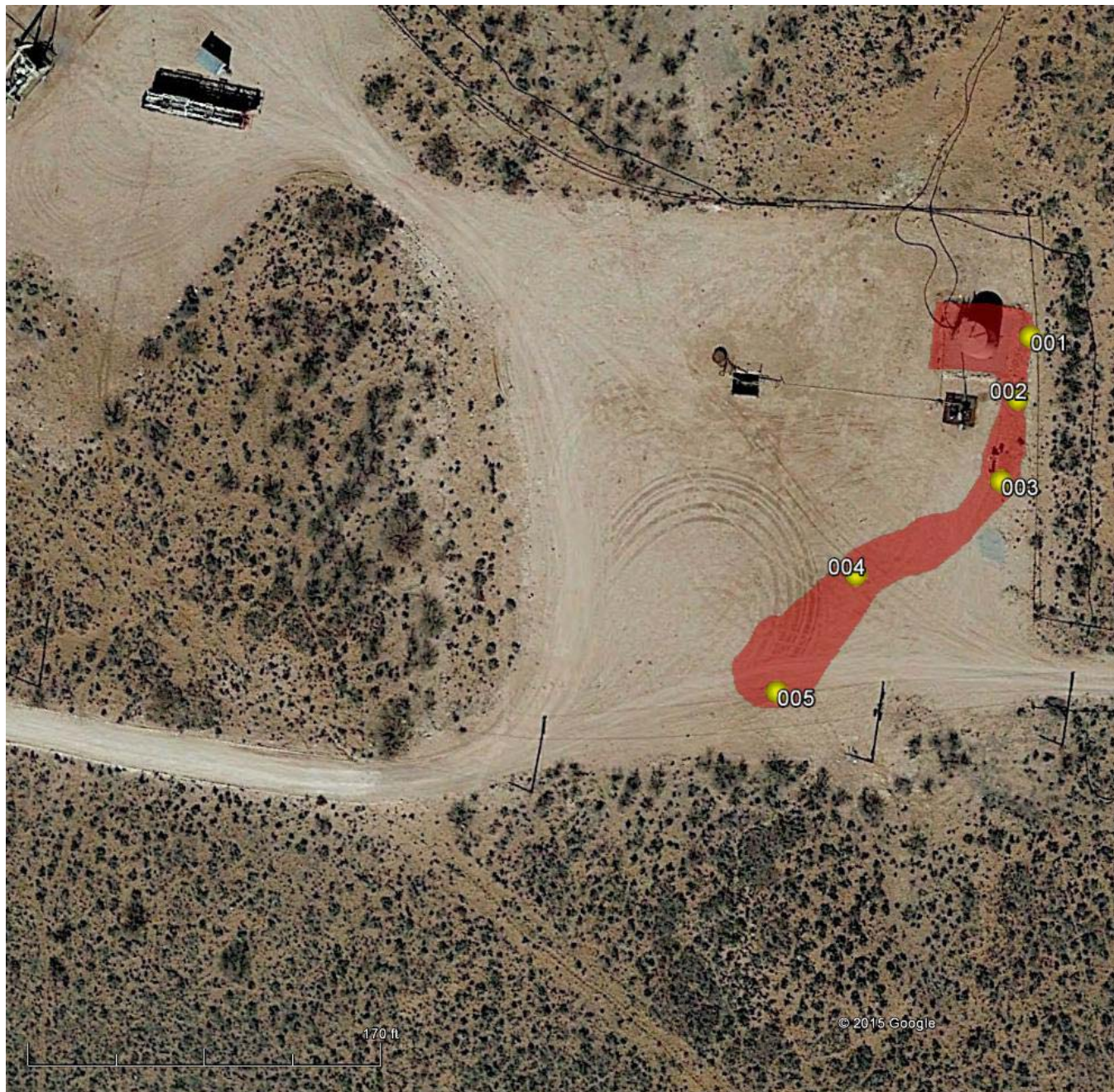
Sincerely,

Enviro Clean Services, LLC




William D. Green, PG
Geologist, Texas No. 136

Attachments: Figure 1: Area of Release and Soil Sample Locations
Initial C-141
State Land Office Point of Diversion Reports
Laboratory Analytical Report and Chain of Custody Documentation
Photographic Documentation



Sample Location GPS Points		
Sample Location	Latitude	Longitude
001	N32.262795	W103.733226
002	N32.262715	W103.733245
003	N32.262610	W103.733270
004	N32.262490	W103.733490
005	N32.262340	W103.733610

Area of Release and Soil Sample Locations
Devon Energy Corporation
Todd 36 D State #01 SWD
Sec. 36-23S-31E
Eddy County, NM

Scale:		Drawn By:
Not to Scale		ECS
Date:	3/4/2015	Project Mgr.:
		ECS
P O Box 721090, Oklahoma City, Oklahoma 73172		
Project No.: DVNRNM0012		
		Figure: 1

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

Form C-141
Revised August 8, 2011

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

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	Contact Kevin Phillips
Address PO Box 250 Artesia, NM 88211	Telephone No. 575- 748-3371
Facility Name Todd 36 1	Facility Type SWD

Surface Owner State	Mineral Owner State	API No. 30-015-20341
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LOCATION OF RELEASE

Unit Letter K	Section 36	Township 23S	Range 31E	Feet from the 1980	North/South Line WEST	Feet from the 1980	East/West Line NORTH	County EDDY
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Latitude: 32.2626871870239 Longitude: 103.733599857938

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 75 BBL	Volume Recovered 50 BBL
Source of Release Water tank leak	Date and Hour of Occurrence 1/21/15 2:00PM	Date and Hour of Discovery 1/21/15 2:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM- Jeff Robertson OCD- Mike Bratcher	
By Whom? Kevin Phillips	Date and Hour 1/22/15 10:15 PM BLM 1/22/15 1:00 PM OCD	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Hole in water tank.

Describe Area Affected and Cleanup Action Taken.*
Lease operator noticed a hole about 5' from the bottom of the tank. The containment was full and overflowing onto the location. 75 BBL total spill with 50 BBL recovered. Called SB Transportation for a vacuum truck to pick up water. Planning the cleanup with Enviro Clean.

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>Jeanette Barron</i>	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Jeanette Barron			
Title: Field Admin Support	Approved by Environmental Specialist:	Approval Date:	
E-mail Address: Jeanette.barron@dmn.com	Conditions of Approval:	Expiration Date:	
Date: 1.23.15 Phone: 575-748-1813		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary



(acre ft per annum)

ACTIVE & INACTIVE POINTS OF DIVERSION



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
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C 02460	C	ED			3	02	24S	31E		617496	3568022*	320		
C 02460 POD2	C	ED			3	02	24S	31E		617496	3568022*	320		
C 02464	C	ED		3	4	1	02	24S	31E	617589	3568530*	320	205	115

Average Depth to Water: **182 feet**

Minimum Depth: **160 feet**

Maximum Depth: **205 feet**

Record Count: 4

Basin/County Search:

County: Eddy

PLSS Search:

Section(s): 1, 2

Township: 24S

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.



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

Average Depth to Water: **430 feet**

Minimum Depth: **430 feet**

Maximum Depth: **430 feet**

Record Count: 2

PLSS Search:

Section(s): 25, 26, 35, 36 **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.

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
10014 SCR 1213
Midland, TX 79706**



Analytical Report

Prepared for:

Joel Ortiz
EnviroClean PS
2405 E CR 123
Midland, TEXAS 79706

Project: Devon Todd 36 #1 SWD

Project Number: [none]

Location: New Mexico

Lab Order Number: 5A27002



NELAP/TCEQ # T104704156-13-3

Report Date: 02/03/15

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
001	5A27002-01	Soil	01/26/15 17:00	01-27-2015 10:10
001 A	5A27002-02	Soil	01/26/15 17:10	01-27-2015 10:10
002	5A27002-03	Soil	01/26/15 17:15	01-27-2015 10:10
002 A	5A27002-04	Soil	01/26/15 17:20	01-27-2015 10:10
003	5A27002-05	Soil	01/26/15 17:25	01-27-2015 10:10
003 A	5A27002-06	Soil	01/26/15 17:30	01-27-2015 10:10
004	5A27002-07	Soil	01/26/15 17:35	01-27-2015 10:10
004 A	5A27002-08	Soil	01/26/15 17:40	01-27-2015 10:10
005	5A27002-09	Soil	01/26/15 17:45	01-27-2015 10:10
005 A	5A27002-10	Soil	01/26/15 17:50	01-27-2015 10:10

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

001
5A27002-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	4540	5.56	mg/kg dry	5	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	10.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	37.1	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	126	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		112 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		122 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	163	27.8	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

001 A

5A27002-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	3130	5.68	mg/kg dry	5	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	12.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		97.6 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		105 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

002

5A27002-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	4530	5.56	mg/kg dry	5	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	10.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	27.8	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		88.8 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		93.0 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

10014 SCR 1213 Midland, TX 79706 432-686-7235

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

002 A

5A27002-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	5420	11.2	mg/kg dry	10	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	11.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.1	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	28.1	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	28.1	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		111 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		127 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

003

5A27002-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	5670	11.5	mg/kg dry	10	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	13.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.7	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
> C12-C28	37.3	28.7	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	28.7	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		118 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		125 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	37.3	28.7	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

10014 SCR 1213 Midland, TX 79706 432-686-7235

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

003 A

5A27002-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	6100	26.9	mg/kg dry	25	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	7.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	26.9	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	26.9	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		105 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		112 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

004

5A27002-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	1760	10.6	mg/kg dry	10	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		116 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		127 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

10014 SCR 1213 Midland, TX 79706 432-686-7235

EnviroClean PS
2405 E CR 123
Midland TEXAS, 79706

Project: Devon Todd 36 #1 SWD
Project Number: [none]
Project Manager: Joel Ortiz

Fax: (432) 301-0176

004 A

5A27002-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	4020	10.5	mg/kg dry	10	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	5.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	26.3	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	26.3	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		114 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		125 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

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Midland TEXAS, 79706

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005

5A27002-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	10300	28.4	mg/kg dry	25	P5B0301	01/30/15	02/03/15	EPA 300.0
% Moisture	12.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C12-C28	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
>C28-C35	ND	28.4	mg/kg dry	1	P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: 1-Chlorooctane		104 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Surrogate: o-Terphenyl		121 %	70-130		P5A2805	01/27/15	01/28/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	01/27/15	01/28/15	calc

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Midland TEXAS, 79706

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Project Number: [none]
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Fax: (432) 301-0176

005 A
5A27002-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	2360	10.5	mg/kg dry	10	P5B0301	01/30/15	02/03/15	EPA 300.0	
% Moisture	5.0	0.1	%	1	P5A2902	01/29/15	01/29/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P5A2906	01/28/15	01/29/15	TPH 8015M	
> C12-C28	27.3	26.3	mg/kg dry	1	P5A2906	01/28/15	01/29/15	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P5A2906	01/28/15	01/29/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		124 %	70-130		P5A2906	01/28/15	01/29/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		132 %	70-130		P5A2906	01/28/15	01/29/15	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	27.3	26.3	mg/kg dry	1	[CALC]	01/28/15	01/29/15	calc	

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Fax: (432) 301-0176

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5A2902 - * DEFAULT PREP *****

Blank (P5A2902-BLK1)

Prepared & Analyzed: 01/29/15

% Moisture ND 0.1 %

Duplicate (P5A2902-DUP1)

Source: 5A28002-01

Prepared & Analyzed: 01/29/15

% Moisture 6.0 0.1 % 6.0 0.00 20

Duplicate (P5A2902-DUP2)

Source: 5A28002-03

Prepared & Analyzed: 01/29/15

% Moisture 7.0 0.1 % 6.0 15.4 20

Batch P5B0301 - * DEFAULT PREP *****

Blank (P5B0301-BLK1)

Prepared & Analyzed: 02/03/15

Chloride ND 1.00 mg/kg wet

LCS (P5B0301-BS1)

Prepared & Analyzed: 02/03/15

Chloride 102 1.00 mg/kg wet 100 102 80-120

LCS Dup (P5B0301-BSD1)

Prepared & Analyzed: 02/03/15

Chloride 100 1.00 mg/kg wet 100 100 80-120 1.48 20

Duplicate (P5B0301-DUP1)

Source: 5A27002-01

Prepared & Analyzed: 02/03/15

Chloride 4590 5.56 mg/kg dry 4540 1.11 20

Duplicate (P5B0301-DUP2)

Source: 5A28006-01

Prepared & Analyzed: 02/03/15

Chloride 226 1.14 mg/kg dry 230 1.80 20

Matrix Spike (P5B0301-MS1)

Source: 5A27002-01

Prepared & Analyzed: 02/03/15

Chloride 4970 5.56 mg/kg dry 444 4540 97.3 80-120

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Project Manager: Joel Ortiz

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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5A2805 - TX 1005

Blank (P5A2805-BLK1)

Prepared: 01/27/15 Analyzed: 01/28/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	61.8		"	80.0		77.2	70-130			
Surrogate: o-Terphenyl	31.4		"	40.0		78.6	70-130			

LCS (P5A2805-BS1)

Prepared: 01/27/15 Analyzed: 01/28/15

C6-C12	807	25.0	mg/kg wet	1000		80.7	75-125			
>C12-C28	888	25.0	"	1000		88.8	75-125			
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	42.5		"	50.0		85.1	70-130			

LCS Dup (P5A2805-BSD1)

Prepared: 01/27/15 Analyzed: 01/28/15

C6-C12	843	25.0	mg/kg wet	1000		84.3	75-125	4.36	20	
>C12-C28	821	25.0	"	1000		82.1	75-125	7.86	20	
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	45.5		"	50.0		90.9	70-130			

Duplicate (P5A2805-DUP1)

Source: 5A26007-02

Prepared: 01/27/15 Analyzed: 01/28/15

C6-C12	33.9	25.0	mg/kg dry		31.5			7.18	20	
>C12-C28	ND	25.0	"		ND				20	
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	63.6		"	50.0		127	70-130			

Batch P5A2906 - TX 1005

Blank (P5A2906-BLK1)

Prepared & Analyzed: 01/28/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	99.5		"	100		99.5	70-130			
Surrogate: o-Terphenyl	54.0		"	50.0		108	70-130			

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Project Number: [none]
Project Manager: Joel Ortiz

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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5A2906 - TX 1005

LCS (P5A2906-BS1)

Prepared & Analyzed: 01/28/15

C6-C12	875	25.0	mg/kg wet	1000		87.5	75-125			
>C12-C28	986	25.0	"	1000		98.6	75-125			
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	53.5		"	50.0		107	70-130			

LCS Dup (P5A2906-BS1)

Prepared & Analyzed: 01/28/15

C6-C12	921	25.0	mg/kg wet	1000		92.1	75-125	5.07	20	
>C12-C28	1010	25.0	"	1000		101	75-125	1.98	20	
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	62.2		"	50.0		124	70-130			

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Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



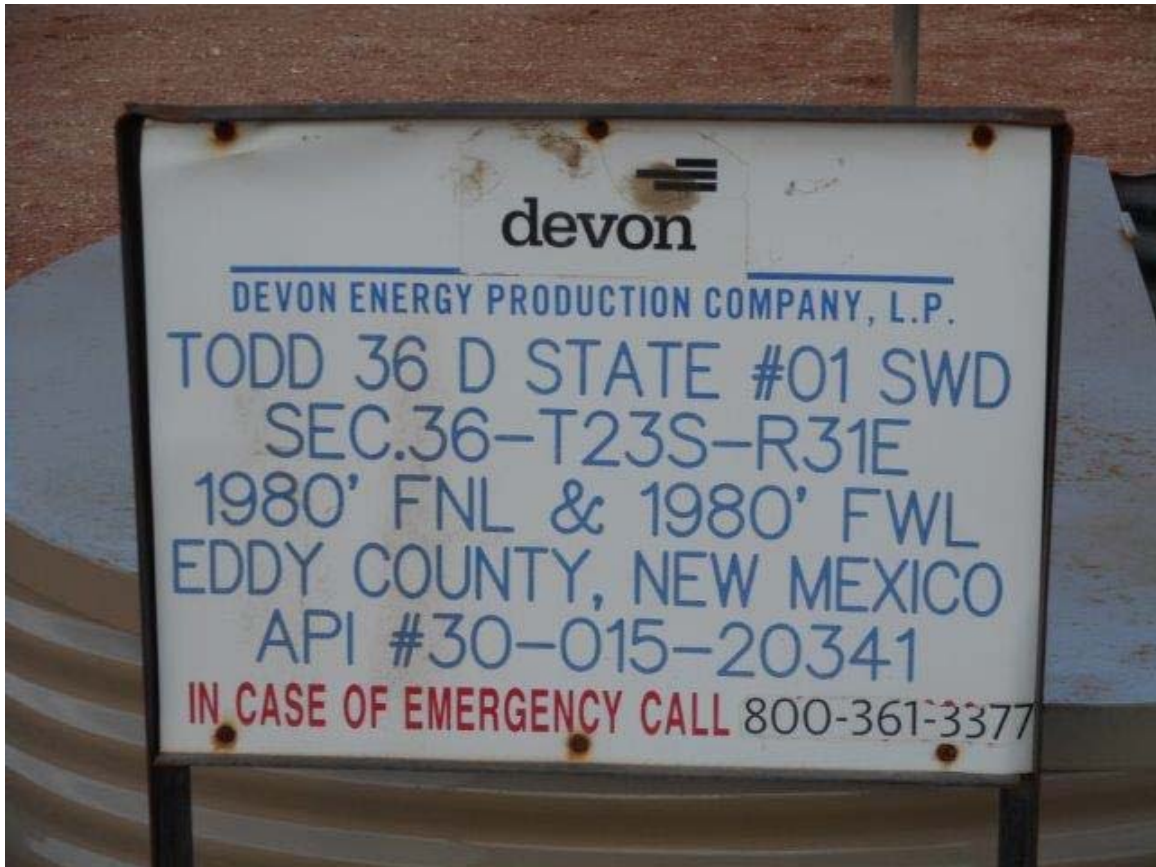
Date:

2/3/2015

Brent Barron, Laboratory Director/Technical Director

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Lease sign for the project



Viewing East: Flow Path



Viewing West: Apparent source area of the release



Viewing West: Natural slope and the tank berm channeled the flow westward