



2057 Commerce Drive  
Midland, TX 79703

432.520.7720 PHONE  
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www.TRCsolutions.com

**RECEIVED**

**By JKeyes at 10:51 am, May 17, 2016**

**APPROVED**

May 16, 2016

Jamie Keyes

New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division, District 1  
1625 French Drive  
Hobbs, NM 88240

Re: Proposed Remediation Workplan

Boyd 4-Inch Historical West Release Site (1RP-4277)

Unit Letter "P", Section 23, Township 22 South, Range 37 East, NMPM  
Lea County, New Mexico

Dear Mr. Keyes,

TRC Environmental Corporation (TRC), has prepared this Proposed Remediation Workplan (Workplan) for the Boyd 4-Inch Historical West Release Site (1RP-4277). The purpose of this Workplan is to propose remediation activities designed to advance the Boyd 4-Inch Historical West Release Site toward an NMOCD approved Site Closure Status. The legal description of the Release Site is Unit Letter "P", Section 23, Township 22 South, Range 37 East, in Lea County, New Mexico. The subject property is owned by Mr. Irwin Boyd of Eunice, New Mexico. A Site Location Map and Site Details and Confirmation Soil Sample Location Map are provided as Figure 1 and Figure 2, respectively. Release Site photographs are attached to this Workplan.

Following the completion of the soil investigation activities, designed to provide vertical and horizontal delineation, the analytical results appear to indicate the Boyd 4-Inch Historical Release Site comprises two (2) distinct releases (Boyd 4-Inch Historical West (1RP-4277) and Boyd 4-Inch Historical East (1RP-4278)). This Workplan addresses proposed remediation activities designed to remediate the western portion (Boyd 4-Inch Historical West) of the Release Site. A Workplan designed to remediate the eastern portion (Boyd 4-Inch Historical East) of Release Site will be submitted under separate cover.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 23, Township 22 South, Range 37 East. A reference map utilized by the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office, indicates groundwater should be encountered at approximately fifty-three (53) feet below ground surface (bgs). Analytical results derived from preliminary soil samples collected from the floor of the existing Release Site excavation indicates hydrocarbon impact exists at approximately twenty (20) feet bgs. Based on the

NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion.

An unregistered water well (windmill) is located approximately nine hundred seventy-eight (978) feet north-northwest (upgradient) of the Release Site. Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

Based on the NMOCD Site Classification criteria, the Release Site remediation levels are 10 mg/Kg for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene and toluene (BTEX) and 100 mg/Kg for total petroleum hydrocarbons (TPH). Chloride remediation levels for the Release Site are 250 mg/Kg.

From September 18, 2012 through December 11, 2013, a previous contractor excavated approximately 587 cubic yards (cy) of impacted soil from the area of impact. Impacted soil was transported to Sundance Services, Inc. in Eunice, New Mexico. The area excavated by the previous contractor is open and is referred to as, the existing excavation.

On January 29, 2016, TRC, on behalf of ETC, collected six (6) preliminary soil status samples (Floor-1 @ 10', SSW-1 @ 8', NSW-1 @ 7', Floor-2 @ 4', SSW-2 @ 3', and NSW-2 @ 2.5') from the existing excavation to determine the current levels of impact at the Release Site. The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method E-300.1. The analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory Method Detection Limit (MDL) and NMOCD regulatory guidelines. All TPH concentrations were less than the laboratory MDL, with the exception of soil samples SSW-2 @ 3' and NSW-2 @ 2.5', which exhibited TPH concentrations of 469 mg/Kg and 151 mg/Kg, respectively. Chloride concentrations ranged from less than 2.00 mg/Kg for soil sample Floor-2 @ 4' to 24.4 mg/Kg for soil sample Floor-1 @ 10'.

Based on field observations, it was determined the analytical results from soil samples collected on January 29, 2016 were likely not an accurate representation of the remaining soil impact at the Release Site.

On March 8, 2016, TRC, on behalf of ETC, utilized a hand auger to collect additional soil samples for laboratory analysis. In the vicinity of previously collected soil sample Floor-1 @ 10', a hand auger was used to collect soil samples Sample-1 BOE 2', Sample-1 BOE 8.5', and Sample-1 BOE 10', which were collected at approximately twelve (12) feet bgs, approximately eighteen and one-half (18.5) feet bgs, and approximately twenty (20) feet bgs, respectively.

In the vicinity of previously collected soil sample Floor-2 @ 4', a hand auger was used to collect soil samples Sample-2 BOE 2', Sample-2 BOE 4', and Sample-2 BOE 4.6', which were collected at approximately six (6) feet bgs, approximately eight (8) feet bgs, and approximately eight (8) feet, seven (7) inches (8.6') bgs, respectively.

On the south side of the existing excavation, a hand auger was utilized in three (3) locations (Sample-3 through Sample-5) to collect soil samples from two (2) feet bgs, six (6) feet bgs, and ten (10) feet bgs. Please see Figure 2 for soil sample locations.

In addition to the soil sample locations described above, three (3) surface soil samples (Sample-6 Surface, Sample-7 Surface, and Sample 8 Surface) were collected from near or on the caliche well pad located immediately south of the Release Site.

The analytical results indicated soil samples (Sample-1 BOE 2', Sample-1 BOE 8.5', and Sample-1 BOE 10') exhibited benzene concentrations less than the applicable laboratory MDL and NMOCD regulatory guidelines. BTEX concentrations ranged from less than the laboratory MDL of 0.00299 mg/Kg for soil sample Sample-1 BOE 2' to 9.267 mg/Kg for soil sample Sample-1 BOE 8.5'. TPH concentrations ranged from 15 mg/Kg for soil sample Sample-1 BOE 2' to 3,458 mg/Kg for soil sample Sample-1 BOE 8.5'. Chloride concentrations were less than the applicable laboratory MDL and NMOCD regulatory guidelines.

The analytical results indicated soil samples (Sample-2 BOE 2', Sample-2 BOE 4', and Sample-2 BOE 4.6') exhibited benzene concentrations less than the applicable laboratory MDL. BTEX concentrations ranged from 1.831 mg/Kg for soil sample Sample-2 BOE 2' to 8.532 mg/Kg for soil sample Sample-2 BOE 4'. TPH concentrations ranged from 1,710.5 mg/Kg for soil sample Sample-2 BOE 2' to 6,735 mg/Kg for soil sample Sample-2 BOE 4'. Chloride concentrations were less than the applicable laboratory MDL and NMOCD regulatory guidelines.

The analytical results indicated soil samples (Sample-3 2', Sample-3 6', and Sample 3-10') exhibited benzene and BTEX concentration less than the applicable laboratory MDL and NMOCD regulatory guidelines. TPH concentrations ranged from less than the laboratory MDL of 15 mg/Kg for soil sample Sample-3 2' to 27.3 mg/Kg for soil sample Sample-3 6'. Chloride concentration ranged from 616 mg/Kg for soil sample Sample 3 10' to 1,590 mg/Kg for soil sample Sample-3 2'.

The analytical results indicated soil samples (Sample-4 2', Sample-4 6', and Sample 4-10') exhibited benzene, BTEX, and TPH concentrations less than the applicable laboratory MDL, with the exception of soil sample Sample-4 10', which exhibited a TPH concentration of 28.1 mg/Kg. Chloride concentrations ranged from 22.7 mg/Kg for soil sample Sample-4 10' to 506 mg/Kg for soil sample Sample-4 2'.

The analytical results indicated soil samples (Sample-5 2', Sample-5 6', and Sample-5 10') exhibited benzene, BTEX, and TPH concentrations less than the applicable laboratory MDL. Chloride concentrations ranged from 157 mg/Kg for soil sample Sample-5 10' to 627 mg/Kg for soil sample Sample-5 2'.

The analytical results indicated soil samples (Sample-6 Surface, Sample-7 Surface, and Sample-8 Surface) exhibited TPH concentrations ranging from 1,340 mg/Kg for soil sample Sample-6 Surface to 11,017 mg/Kg for soil sample Sample-8 Surface. Chloride concentrations ranged from 22.7 mg/Kg for soil sample Sample-7 Surface to 1,400 mg/Kg for soil sample Sample-8 Surface.

Based on the analytical results of soil samples collected on March 8, 2016, ETC proposes the following remediation activities designed to remediate the western portion (Boyd 4-Inch Historical West) Release Site:

- Utilizing a trackhoe, excavate the Release Site (Boyd 4-Inch Historical West) to a depth of approximately twenty (20) feet bgs. The dimensions for the proposed excavation are approximately thirty-five (35) feet in width and sixty-five (65) feet in length. Excavated soil will be stockpiled adjacent to the excavation pending transportation to a NMOCD approved disposal facility.
- Collect an appropriate number of excavation sidewall and floor soil samples and submit to the laboratory for determination of concentrations of BTEX, TPH, and Chloride.
- On receipt of favorable analytical results, request NMOCD permission to backfill the excavation with locally purchased non-impacted "like" soil or caliche. On NMOCD approval, the excavation will be backfilled with the non-impacted material.
- Transport excavated soil under manifest to an NMOCD approved disposal facility.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD.

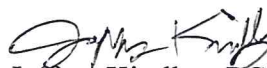
ETC is prepared to begin the activities outlined in this Proposed Remediation Workplan on NMOCD approval.

If you have any questions, or if additional information is required, please feel free to call me at 432-520-7720 (office) or 432-559-3296 (cell).

Thank you,



Curt D. Stanley  
Senior Project Manager  
TRC Environmental Corporation

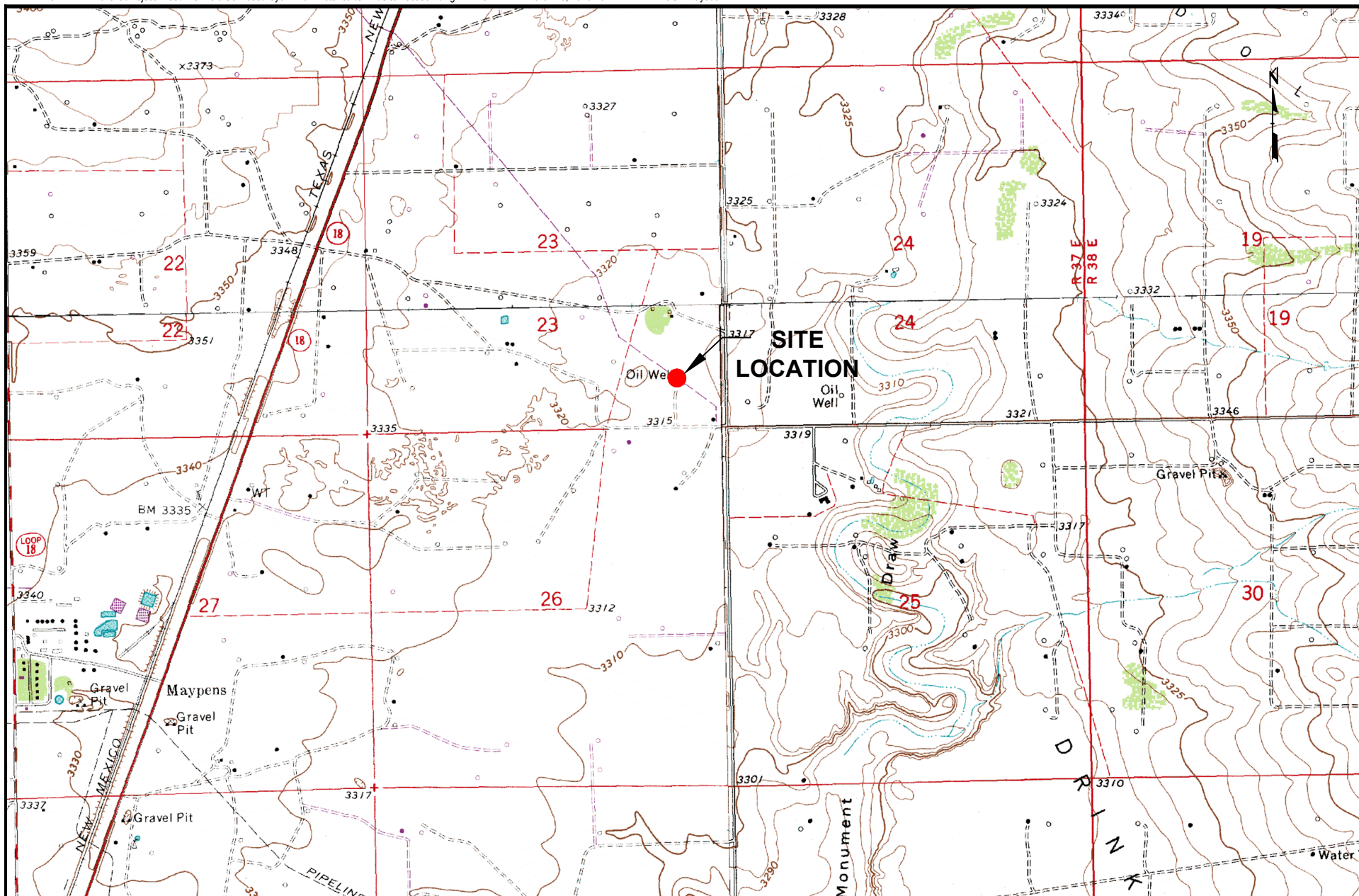


Jeffrey Kindley, PG  
Senior Project Manager  
TRC Environmental Corporation

**Attachments:**

Figure 1 - Site Location Map  
Figure 2 – Site Details and Confirmation Soil Sample Locations Map  
Table 1 – Concentrations of Benzene, BTEX, TPH and Chloride in Soil  
Release Site Photographs      Laboratory Analytical Results

cc:    File



LEGEND:

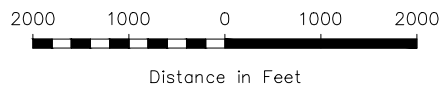


Figure 1

Site Location Map  
ETC Field Services, LLC  
Boyd 4" Historical  
Lea County, NM

Scale: 1" = 2000'

CAD By: TA

Checked By: CS

Draft: February 3, 2016

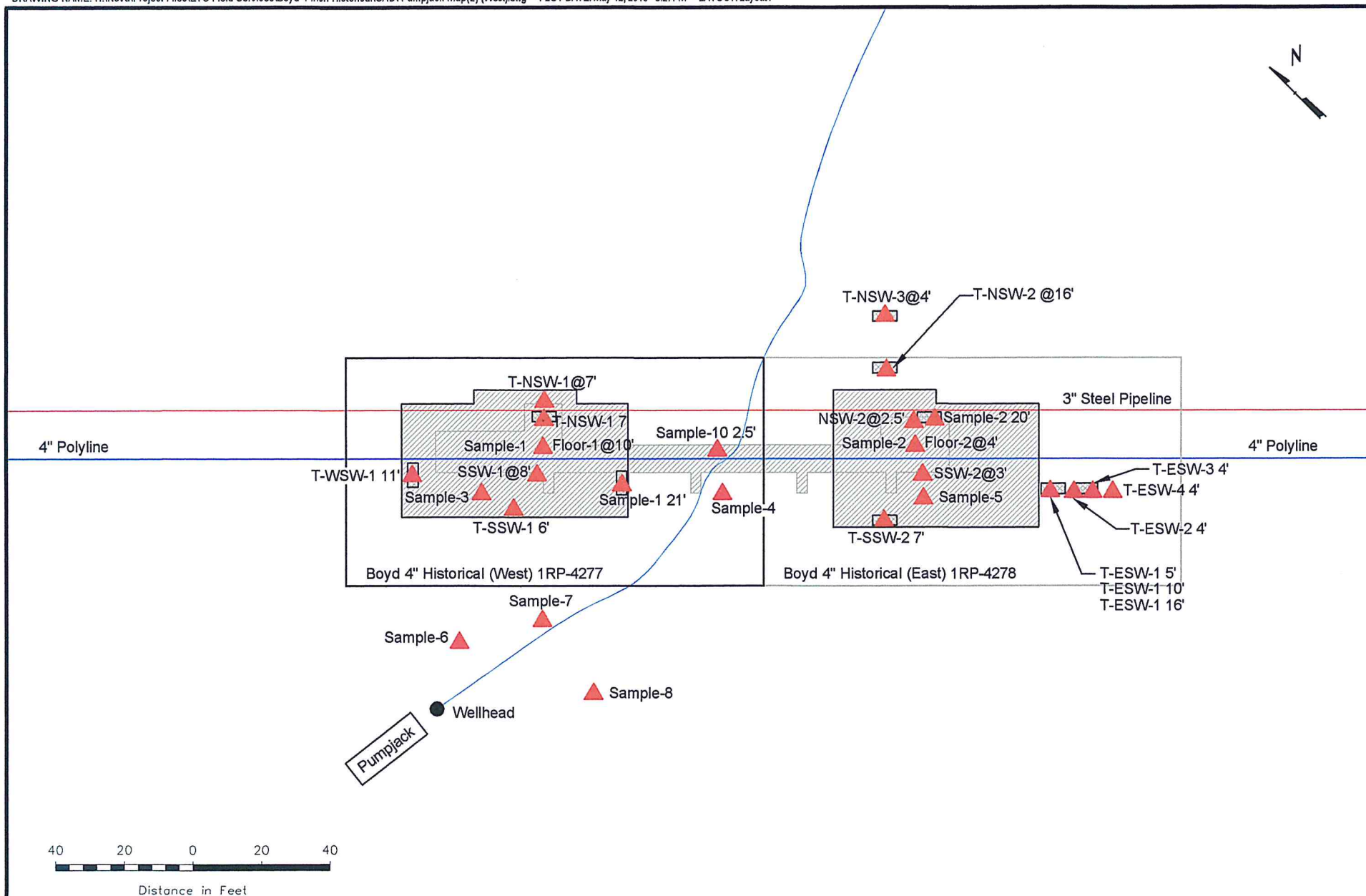
Lat. N 32.372074° , Long. W 103.127151°

SW1/4 SW1/4 Sec 23 T22S R37E

TRC Proj. No.: 251737



2057 Commerce Drive  
Midland, Texas 79703  
432.520.7720



**LEGEND:**

- Steel Pipeline
- Polyline
- ▲ Soil Sample Location

**Figure 2**  
**Site Detail and Confirmation**  
**Soil Sample Locations**  
**ETC Field Services, LLC**  
**Boyd 4" Historical (West)**  
**Lea County, NM**

Scale: 1" = 40'

CAD By: TA	Checked By: CS
Draft: February 3, 2016	
Lat. N 32.372074° , Long. W 103.127151°	
SW1/4 SW1/4 Sec 23 T22S R37E	
TRC Proj. No.: 251737	



TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

ETC FIELD SERVICES, LLC  
BOYD 4 INCH HISTORICAL RELEASE SITE  
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p -XYLENES	o -XYLENE	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>28</sub>	TPH ORO C <sub>28</sub> -C <sub>35</sub>	TOTAL TPH C <sub>6</sub> -C <sub>35</sub>	CHLORIDE
**Floor-1 @ 10'	01/29/16	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<15.0	<15.0	<15.0	<15.0	24.4
**SSW-1 @ 8'	01/29/16	<0.000996	<0.00199	<0.000996	<0.00199	<0.000996	<0.00199	<14.9	<14.9	<14.9	<14.9	2.64
**NSW-1 @ 7'	01/29/16	<0.000992	<0.00198	<0.000992	<0.00198	<0.000992	<0.00198	<15.0	<15.0	<15.0	<15.0	2.42
**Floor-2 @ 4'	01/29/16	<0.000998	<0.00200	<0.000998	<0.00200	<0.000998	<0.00200	<15.0	35.0	<15.0	35.0	<2.00
**SSW-2 @ 3'	01/29/16	<0.000998	<0.00200	<0.000998	<0.00200	<0.000998	<0.00200	<15.0	469	<15.0	<b>469</b>	17.8
**NSW-2 @ 2.5'	01/29/16	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<14.9	151	<14.9	<b>151</b>	7.69
Sample-1 BOE 2'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	15.0	<15.0	15.0	<9.98
Sample-1 BOE 8.5'	03/08/16	<0.0149	0.177	1.49	6.40	1.20	9.267	613	2,810	35.0	<b>3,458</b>	<9.67
Sample-1 BOE 10'	03/08/16	<0.0149	0.100	0.681	2.81	0.934	4.525	338	1,800	31.6	<b>2,169.6</b>	<9.88
Sample-2 BOE 2'	03/08/16	<0.00746	<0.00994	0.273	0.813	0.745	1.831	237	1,430	43.5	<b>1,710.5</b>	<9.98
Sample-2 BOE 4'	03/08/16	<0.0150	0.512	1.50	4.99	1.53	8.532	1,020	5,600	115	<b>6,735</b>	<9.96
Sample-2 BOE 4.6'	03/08/16	<0.0150	0.307	0.881	2.85	1.40	5.438	376	2,420	46.8	<b>2,842.8</b>	<10.0
Sample-3 2'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	<15.0	<15.0	<15.0	<b>1,590</b>
Sample-3 6'	03/08/16	<0.00149	<0.00198	<0.00198	<0.00198	<0.00298	<0.00298	<15.0	27.3	<15.0	27.3	<b>1,200</b>
Sample-3 10'	03/08/16	<0.00149	<0.00199	<0.00199	<0.00199	<0.00298	<0.00298	<14.9	20.6	<14.9	20.6	<b>616</b>
Sample-4 2'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00300	<0.00300	<15.0	<15.0	<15.0	<15.0	<b>506</b>
Sample-4 6'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	<15.0	<15.0	<15.0	102
Sample-4 10'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	28.1	<15.0	28.1	22.7
Sample-5 2'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<14.9	<14.9	<14.9	<14.9	<b>627</b>
Sample-5 6'	03/08/16	<0.00149	<0.00199	<0.00199	<0.00199	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	<b>472</b>
Sample-5 10'	03/08/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00300	<0.00300	<15.0	<15.0	<15.0	<15.0	157
Sample-6 Surface	03/08/16	-	-	-	-	-	-	24.0	1,200	116	<b>1,340</b>	43.7
Sample-7 Surface	03/08/16	-	-	-	-	-	-	19.1	630	99.8	<b>748.9</b>	22.7
Sample-8 Surface	03/08/16	-	-	-	-	-	-	165	10,700	152	<b>11,017</b>	<b>1,400</b>
Sample-1 @ 21'	04/05/16	<0.00149	<0.00199	<0.00199	<0.00199	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	9.07
T-SSW-1 @ 6'	04/05/16	<0.00149	<0.00198	<0.00198	<0.00198	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	20.0
T-NSW-1 @ 7'	04/05/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	<15.0	<15.0	<15.0	3.65
T-WSW-1 @ 11'	04/05/16	<0.00149	<0.00198	<0.00198	<0.00198	<0.00298	<0.00298	<15.0	51.7	<15.0	51.7	35.6
Sample-2 @ 20'	04/05/16	0.0264	0.0132	0.160	0.315	0.059	0.5736	444	1,920	26	<b>2,390.1</b>	32.3
Sample -10 @ 2.5'	04/05/16	<0.00149	<0.00199	<0.00199	<0.00199	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	40.9

TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

**ETC FIELD SERVICES, LLC**  
**BOYD 4 INCH HISTORICAL RELEASE SITE**  
**LEA COUNTY, NEW MEXICO**

*All concentrations are reported in mg/Kg*

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>28</sub>	TPH ORO C <sub>28</sub> -C <sub>35</sub>	TOTAL TPH C <sub>6</sub> -C <sub>35</sub>	CHLORIDE
T-SSW-2 @ 7'	04/06/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	<15.0	<15.0	<15.0	99.0
T-ESW-1 @ 5'	04/06/16	<0.00149	<0.00198	<0.00198	<0.00198	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	875
T-ESW-1 @ 10'	04/06/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	58.8	<15.0	58.8	168
T-ESW-1 @ 16'	04/06/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00299	<0.00299	<15.0	<15.0	<15.0	<15.0	14.1
T-NSW-2 @ 16'	04/06/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00300	<0.00300	<15.0	<15.0	<15.0	<15.0	1,440
T-NSW-3 @ 4'	04/06/16	<0.00149	<0.00199	<0.00199	<0.00199	<0.00298	<0.00298	<15.0	<15.0	<15.0	<15.0	246
T-ESW-2 @ 4'	04/06/16	<0.00150	<0.00200	<0.00200	<0.00200	<0.00300	<0.00300	<15.0	<15.0	<15.0	<15.0	304
T-ESW-3 @ 4'	04/06/16	-	-	-	-	-	-	-	-	-	-	321
T-ESW-4 @ 4'	04/06/16	-	-	-	-	-	-	-	-	-	-	361

\*\* = Soil sample results do not appear to be representative

## Photographic Documentation

**Client:** ETC Field Services, LLC  
**Project Name:** Boyd 4-Inch Historical (West)

**Prepared by:** TRC Environmental Corp.  
**Location:** Lea County, NM

**Photograph No. 1**

**Date:**  
**March 17, 2016**

**Description:**  
**Looking East**  
**West end of**  
**existing**  
**excavation.**



**Photograph No. 2**

**Date:**  
**March 17, 2016**

**Description:**  
**Looking South.**  
**Existing**  
**excavation from**  
**north side of west**  
**end of excavation.**



# Analytical Report 524056

for  
**TRC Solutions, Inc**

**Project Manager: Curt Stanley**

**Boyd 4 Inch Historical**

**ETC Field Services**

**08-FEB-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)



08-FEB-16

Project Manager: **Curt Stanley**  
**TRC Solutions, Inc**  
2057 Commerce  
Midland, TX 79703

Reference: XENCO Report No(s): **524056**  
**Boyd 4 Inch Historical**  
Project Address: Lea County, NM

**Curt Stanley:**

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) 524056. 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. 524056 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

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 524056



**TRC Solutions, Inc, Midland, TX**

Boyd 4 Inch Historical

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
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## CASE NARRATIVE



*Client Name: TRC Solutions, Inc*

*Project Name: Boyd 4 Inch Historical*

Project ID: *ETC Field Services*  
Work Order Number(s): *524056*

Report Date: *08-FEB-16*  
Date Received: *02/01/2016*

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analysis Summary 524056

TRC Solutions, Inc, Midland, TX

Project Name: Boyd 4 Inch Historical



**Project Id:** ETC Field Services  
**Contact:** Curt Stanley  
**Project Location:** Lea County, NM

**Date Received in Lab:** Mon Feb-01-16 04:38 pm  
**Report Date:** 08-FEB-16  
**Project Manager:** Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	524056-001	524056-002	524056-003	524056-004	524056-005	524056-006
	<i>Field Id:</i>	Floor-1 @ 10'	SSW-1 @ 8'	NSW-1 @ 7'	Floor-2 @ 4'	SSW-2 @ 3'	NSW-2 @ 2.5'
	<i>Depth:</i>	10 ft	8 ft	7 ft	4 ft	3 ft	2.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-29-16 14:00	Jan-29-16 14:05	Jan-29-16 14:10	Jan-29-16 14:30	Jan-29-16 14:35	Jan-29-16 14:40
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Feb-03-16 17:30	Feb-03-16 17:30	Feb-03-16 17:30	Feb-03-16 17:30	Feb-03-16 17:30	Feb-03-16 17:30
	<i>Analyzed:</i>	Feb-04-16 16:31	Feb-03-16 21:01	Feb-03-16 21:18	Feb-04-16 16:48	Feb-03-16 21:56	Feb-03-16 22:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00100	ND 0.000996	ND 0.000992	ND 0.000998	ND 0.000998	ND 0.00100
Toluene		ND 0.00200	ND 0.00199	ND 0.00198	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.000996	ND 0.000992	ND 0.000998	ND 0.000998	ND 0.00100
m_p-Xylenes		ND 0.00200	ND 0.00199	ND 0.00198	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.000996	ND 0.000992	ND 0.000998	ND 0.000998	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.000996	ND 0.000992	ND 0.000998	ND 0.000998	ND 0.00100
Total BTEX		ND 0.00100	ND 0.000996	ND 0.000992	ND 0.000998	ND 0.000998	ND 0.00100
<b>Inorganic Anions by EPA 300/300.1</b>	<i>Extracted:</i>	Feb-04-16 13:00	Feb-04-16 13:00	Feb-04-16 13:00	Feb-04-16 13:00	Feb-04-16 13:00	Feb-04-16 13:00
	<i>Analyzed:</i>	Feb-04-16 23:25	Feb-04-16 23:43	Feb-05-16 00:01	Feb-05-16 00:18	Feb-05-16 00:36	Feb-05-16 01:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		24.4 2.00	2.64 2.00	2.42 2.00	ND 2.00	17.8 2.00	7.69 2.00
<b>TPH By SW8015B Mod</b>	<i>Extracted:</i>	Feb-07-16 17:00	Feb-07-16 17:00	Feb-07-16 17:00	Feb-07-16 17:00	Feb-07-16 17:00	Feb-07-16 17:00
	<i>Analyzed:</i>	Feb-07-16 23:57	Feb-08-16 01:11	Feb-08-16 01:35	Feb-08-16 01:58	Feb-08-16 02:24	Feb-08-16 02:50
	<i>Units/RL:</i>	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	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 14.9
C10-C28 Diesel Range Hydrocarbons		ND 15.0	ND 14.9	ND 15.0	35.0 15.0	469 15.0	151 14.9
C28-C35 Oil Range Hydrocarbons		ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 14.9
Total TPH		ND 15.0	ND 14.9	ND 15.0	35.0 15.0	469 15.0	151 14.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks  
Project Manager

- 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      **SQL** 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

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 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 1211 W Florida Ave, Midland, TX 79701  
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



## Form 2 - Surrogate Recoveries

Project Name: Boyd 4 Inch Historical

Work Orders : 524056,

Project ID: ETC Field Services

\* 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:** Boyd 4 Inch Historical



**Work Order #:** 524056

**Project ID:** ETC Field Services

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



Work Order #: 524056

# Form 3 - MS Recoveries

Project Name: Boyd 4 Inch Historical



Project ID: ETC Field Services

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

BRL - Below Reporting Limit



## Form 3 - MS / MSD Recoveries

**Project Name: Boyd 4 Inch Historical**



**Work Order # :** 524056

**Project ID:** ETC Field Services

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

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

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.

# Xenco Laboratories

The Environmental Lab of Texas

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-563-1713

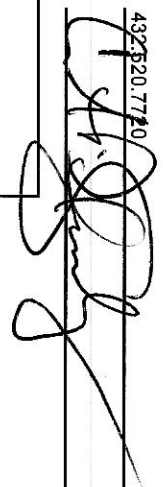
Project Manager: Curt Stanley

Company Name: TRC Solutions, Inc

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Sampler Signature: 

Fax No: 432.520.7701

e-mail: cstanley@trcsolutions.com

rose.slade@energytransfer.com

Project Name: ETC Field Services

Project #: Boyd 4 Inch Historical

Project Loc: Lea County, NM

PO #:

Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 504056

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300.1	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	Floor-1 @ 10'			1/29/2016	1400		1	X									Soil	X													X
	SSW-1 @ 8'			1/29/2016	1405		1	X									Soil	X													X
	NSW-1 @ 7'			1/29/2016	1410		1	X									Soil	X													X
	Floor-2 @ 4'			1/29/2016	1430		1	X									Soil	X													X
	SSW-2 @ 3'			1/29/2016	1435		1	X									Soil	X													X
	NSW-2 @ 2.5'			1/29/2016	1440		1	X									Soil	X													X

Special Instructions:

Bill to Rose

Reimbursement by:

Reimbursement by:

Relinquished by:

Date Time

Date Time

Date Time

Received by:

Received by:

Received by ELOT:

Date

Date

Date

Time

Time

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Sampler/Client Rep.?

Temperature Upon Receipt: -0.9°C



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 02/01/2016 04:38:00 PM

Work Order #: 524056

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)?	-.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <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
#22 >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: 02/02/2016

Checklist reviewed by:

*Kelsey Brooks*

Kelsey Brooks

Date: 02/02/2016

# **Analytical Report 526570**

**for**

**TRC Solutions, Inc**

**Project Manager: Nikki Green**

**Energy Transfer Boyd 4" Historical**

**15-MAR-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)



15-MAR-16

Project Manager: **Nikki Green**

**TRC Solutions, Inc**

2057 Commerce

Midland, TX 79703

Reference: XENCO Report No(s): **526570**

**Energy Transfer Boyd 4" Historical**

Project Address: Lea County, NM

**Nikki 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) 526570. 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. 526570 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

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## TRC Solutions, Inc, Midland, TX

### Energy Transfer Boyd 4" Historical

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Sample-1 BOE	S	03-08-16 10:30	- 2 ft	526570-001
Sample-1 BOE	S	03-08-16 11:03	- 8.5 ft	526570-002
Sample-1 BOE	S	03-08-16 11:21	- 10 ft	526570-003
Sample-2 BOE	S	03-08-16 11:50	- 2 ft	526570-004
Sample-2 BOE	S	03-08-16 12:30	- 4 ft	526570-005
Sample-2 BOE	S	03-08-16 12:45	- 4.6 ft	526570-006
Sample-3	S	03-08-16 13:17	- 2 ft	526570-007
Sample-3	S	03-08-16 13:50	- 6 ft	526570-008
Sample-3	S	03-08-16 14:33	- 10 ft	526570-009
Sample-4	S	03-08-16 15:01	- 2 ft	526570-010
Sample-4	S	03-08-16 15:36	- 6 ft	526570-011
Sample-4	S	03-08-16 15:49	- 10 ft	526570-012
Sample-5	S	03-08-16 16:01	- 2 ft	526570-013
Sample-5	S	03-08-16 16:15	- 6 ft	526570-014
Sample-5	S	03-08-16 16:45	- 10 ft	526570-015
Sample-6 Surface	S	03-08-16 16:50		526570-016
Sample-7 Surface	S	03-08-16 16:55		526570-017
Sample-8 Surface	S	03-08-16 17:00		526570-018



## CASE NARRATIVE



*Client Name: TRC Solutions, Inc*

*Project Name: Energy Transfer Boyd 4" Historical*

Project ID:

Work Order Number(s): 526570

Report Date: 15-MAR-16

Date Received: 03/09/2016

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### **Sample receipt non conformances and comments:**

---

### **Sample receipt non conformances and comments per sample:**

None

#### **Analytical non conformances and comments:**

Batch: LBA-990191 BTEX by EPA 8021B

Lab Sample ID 526570-015 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 526570-002, -003, -004, -005, -006, -015.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analysis Summary 526570

TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical



Project Id:

Contact: Nikki Green

Project Location: Lea County, NM

Date Received in Lab: Wed Mar-09-16 04:30 pm

Report Date: 15-MAR-16

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	526570-001	526570-002	526570-003	526570-004	526570-005	526570-006
	<i>Field Id:</i>	Sample-1 BOE	Sample-1 BOE	Sample-1 BOE	Sample-2 BOE	Sample-2 BOE	Sample-2 BOE
	<i>Depth:</i>	2 ft	8.5 ft	10 ft	2 ft	4 ft	4.6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-08-16 10:30	Mar-08-16 11:03	Mar-08-16 11:21	Mar-08-16 11:50	Mar-08-16 12:30	Mar-08-16 12:45
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-10-16 17:30	Mar-10-16 10:15	Mar-10-16 10:15	Mar-10-16 10:15	Mar-10-16 10:15	Mar-10-16 10:15
	<i>Analyzed:</i>	Mar-11-16 07:38	Mar-11-16 18:39	Mar-11-16 17:50	Mar-11-16 18:55	Mar-11-16 18:23	Mar-11-16 18:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00150	ND 0.0149	ND 0.0149	ND 0.00746	ND 0.0150	ND 0.0150
Toluene		ND 0.00200	0.177 0.0198	0.100 0.0199	ND 0.00994	0.512 0.0200	0.307 0.0200
Ethylbenzene		ND 0.00200	1.49 0.0198	0.681 0.0199	0.273 0.00994	1.50 0.0200	0.881 0.0200
m_p-Xylenes		ND 0.00200	6.40 0.0198	2.81 0.0199	0.813 0.00994	4.99 0.0200	2.85 0.0200
o-Xylene		ND 0.00299	1.20 0.0298	0.934 0.0298	0.745 0.0149	1.53 0.0299	1.40 0.0299
Total Xylenes		ND 0.00200	7.60 0.0198	3.74 0.0199	1.56 0.00994	6.52 0.0200	4.25 0.0200
Total BTEX		ND 0.00150	9.27 0.0149	4.53 0.0149	1.83 0.00746	8.53 0.0150	5.44 0.0150
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00
	<i>Analyzed:</i>	Mar-11-16 18:05	Mar-11-16 18:49	Mar-11-16 19:32	Mar-11-16 19:46	Mar-11-16 20:01	Mar-11-16 20:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		ND 9.98	ND 9.67	ND 9.88	ND 9.98	ND 9.96	ND 10.0
<b>TPH By SW8015B Mod</b>	<i>Extracted:</i>	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00
	<i>Analyzed:</i>	Mar-10-16 14:43	Mar-10-16 16:06	Mar-10-16 16:34	Mar-10-16 17:02	Mar-11-16 08:00	Mar-10-16 18:01
	<i>Units/RL:</i>	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	613 15.0	338 15.0	237 15.0	1020 75.0	376 15.0
C10-C28 Diesel Range Hydrocarbons		15.0 15.0	2810 15.0	1800 15.0	1430 15.0	5600 75.0	2420 15.0
C28-C35 Oil Range Hydrocarbons		ND 15.0	35.0 15.0	31.6 15.0	43.5 15.0	115 75.0	46.8 15.0
Total TPH		15.0 15.0	3460 15.0	2170 15.0	1710 15.0	6740 75.0	2840 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 526570

TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical



Project Id:

Contact: Nikki Green

Project Location: Lea County, NM

Date Received in Lab: Wed Mar-09-16 04:30 pm

Report Date: 15-MAR-16

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	526570-007	526570-008	526570-009	526570-010	526570-011	526570-012
	<i>Field Id:</i>	Sample-3	Sample-3	Sample-3	Sample-4	Sample-4	Sample-4
	<i>Depth:</i>	2 ft	6 ft	10 ft	2 ft	6 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-08-16 13:17	Mar-08-16 13:50	Mar-08-16 14:33	Mar-08-16 15:01	Mar-08-16 15:36	Mar-08-16 15:49
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-10-16 17:30	Mar-10-16 17:30	Mar-10-16 17:30	Mar-10-16 17:30	Mar-10-16 17:30	Mar-10-16 17:30
	<i>Analyzed:</i>	Mar-11-16 07:55	Mar-11-16 08:11	Mar-11-16 08:28	Mar-11-16 08:44	Mar-11-16 09:01	Mar-11-16 09:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00150	ND 0.00149	ND 0.00149	ND 0.00150	ND 0.00150	ND 0.00150
Toluene		ND 0.00200	ND 0.00198	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00200	ND 0.00198	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
m_p-Xylenes		ND 0.00200	ND 0.00198	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00299	ND 0.00298	ND 0.00298	ND 0.00300	ND 0.00299	ND 0.00299
Total Xylenes		ND 0.00200	ND 0.00198	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
Total BTEX		ND 0.00150	ND 0.00149	ND 0.00149	ND 0.00150	ND 0.00150	ND 0.00150
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00
	<i>Analyzed:</i>	Mar-11-16 20:29	Mar-11-16 20:44	Mar-11-16 20:58	Mar-11-16 21:13	Mar-11-16 21:27	Mar-11-16 22:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1590 100	1200 100	616 99.0	506 99.8	102 48.8	22.7 9.67
<b>TPH By SW8015B Mod</b>	<i>Extracted:</i>	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00
	<i>Analyzed:</i>	Mar-10-16 18:29	Mar-10-16 18:57	Mar-10-16 19:25	Mar-10-16 19:52	Mar-10-16 20:51	Mar-10-16 21:20
	<i>Units/RL:</i>	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	ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0
C10-C28 Diesel Range Hydrocarbons		ND 15.0	27.3 15.0	20.6 14.9	ND 15.0	ND 15.0	28.1 15.0
C28-C35 Oil Range Hydrocarbons		ND 15.0	ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0
Total TPH		ND 15.0	27.3 15.0	20.6 14.9	ND 15.0	ND 15.0	28.1 15.0

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 526570

TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical



Project Id:

Contact: Nikki Green

Project Location: Lea County, NM

Date Received in Lab: Wed Mar-09-16 04:30 pm

Report Date: 15-MAR-16

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	526570-013	526570-014	526570-015	526570-016	526570-017	526570-018
	<i>Field Id:</i>	Sample-5	Sample-5	Sample-5	Sample-6 Surface	Sample-7 Surface	Sample-8 Surface
	<i>Depth:</i>	2 ft	6 ft	10 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-08-16 16:01	Mar-08-16 16:15	Mar-08-16 16:45	Mar-08-16 16:50	Mar-08-16 16:55	Mar-08-16 17:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-10-16 17:30	Mar-10-16 17:30	Mar-10-16 10:15			
	<i>Analyzed:</i>	Mar-11-16 09:50	Mar-11-16 09:34	Mar-11-16 12:06			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		ND 0.00150	ND 0.00149	ND 0.00150			
Toluene		ND 0.00200	ND 0.00199	ND 0.00200			
Ethylbenzene		ND 0.00200	ND 0.00199	ND 0.00200			
m_p-Xylenes		ND 0.00200	ND 0.00199	ND 0.00200			
o-Xylene		ND 0.00299	ND 0.00298	ND 0.00300			
Total Xylenes		ND 0.00200	ND 0.00199	ND 0.00200			
Total BTEX		ND 0.00150	ND 0.00149	ND 0.00150			
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00	Mar-11-16 17:00
	<i>Analyzed:</i>	Mar-11-16 22:54	Mar-11-16 23:08	Mar-11-16 23:22	Mar-11-16 23:37	Mar-11-16 23:51	Mar-12-16 00:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		627 98.4	472 98.4	157 50.0	43.7 10.0	22.7 9.96	1400 99.6
<b>TPH By SW8015B Mod</b>	<i>Extracted:</i>	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00	Mar-10-16 11:00
	<i>Analyzed:</i>	Mar-10-16 21:50	Mar-10-16 22:18	Mar-10-16 22:47	Mar-11-16 07:03	Mar-11-16 07:29	Mar-11-16 00:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C10 Gasoline Range Hydrocarbons		ND 14.9	ND 15.0	ND 15.0	24.0 15.0	19.1 15.0	165 74.9
C10-C28 Diesel Range Hydrocarbons		ND 14.9	ND 15.0	ND 15.0	1200 15.0	630 15.0	10700 74.9
C28-C35 Oil Range Hydrocarbons		ND 14.9	ND 15.0	ND 15.0	116 15.0	99.8 15.0	152 74.9
Total TPH		ND 14.9	ND 15.0	ND 15.0	1340 15.0	749 15.0	11000 74.9

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Kelsey Brooks  
Project Manager

- 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

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(432) 563-1800	(432) 563-1713
(602) 437-0330	



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990033

Sample: 526570-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 14:43

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-130	
o-Terphenyl	57.0	50.0	114	70-135	

Lab Batch #: 990033

Sample: 526570-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 16:06

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.7	126	70-130	
o-Terphenyl	58.5	49.9	117	70-135	

Lab Batch #: 990033

Sample: 526570-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 16:34

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.9	116	70-130	
o-Terphenyl	56.0	50.0	112	70-135	

Lab Batch #: 990033

Sample: 526570-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 17:02

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.9	119	70-130	
o-Terphenyl	56.6	50.0	113	70-135	

Lab Batch #: 990033

Sample: 526570-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 18:01

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.7	123	70-130	
o-Terphenyl	57.0	49.9	114	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990033

Sample: 526570-007 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 18:29

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.8	110	70-130	
o-Terphenyl	54.8	49.9	110	70-135	

Lab Batch #: 990033

Sample: 526570-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 18:57

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-130	
o-Terphenyl	54.4	49.9	109	70-135	

Lab Batch #: 990033

Sample: 526570-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 19:25

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.6	108	70-130	
o-Terphenyl	53.8	49.8	108	70-135	

Lab Batch #: 990033

Sample: 526570-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 19:52

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.9	108	70-130	
o-Terphenyl	54.1	50.0	108	70-135	

Lab Batch #: 990033

Sample: 526570-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 20:51

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	99.7	98	70-130	
o-Terphenyl	48.9	49.9	98	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990033

Sample: 526570-012 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 21:20

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-130	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 990033

Sample: 526570-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 21:50

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.7	99.6	90	70-130	
o-Terphenyl	44.7	49.8	90	70-135	

Lab Batch #: 990033

Sample: 526570-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 22:18

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-130	
o-Terphenyl	54.7	49.9	110	70-135	

Lab Batch #: 990033

Sample: 526570-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 22:47

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	99.9	92	70-130	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 990033

Sample: 526570-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 00:14

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	99.9	88	70-130	
o-Terphenyl	45.9	50.0	92	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990033

Sample: 526570-016 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 07:03

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.8	111	70-130	
o-Terphenyl	52.4	49.9	105	70-135	

Lab Batch #: 990033

Sample: 526570-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 07:29

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-130	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 990116

Sample: 526570-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 07:38

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 990116

Sample: 526570-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 07:55

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 990033

Sample: 526570-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 08:00

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	100	97	70-130	
o-Terphenyl	56.5	50.0	113	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990116

Sample: 526570-008 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 08:11

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 990116

Sample: 526570-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 08:28

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 990116

Sample: 526570-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 08:44

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 990116

Sample: 526570-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 09:01

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 990116

Sample: 526570-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 09:18

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990116

Sample: 526570-014 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 09:34

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 990116

Sample: 526570-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 09:50

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 990191

Sample: 526570-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 12:06

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 990191

Sample: 526570-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 17:50

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0251	0.0300	84	80-120	

Lab Batch #: 990191

Sample: 526570-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 18:06

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0347	0.0300	116	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990191

Sample: 526570-005 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 18:23

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 990191

Sample: 526570-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 18:39

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 990191

Sample: 526570-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 18:55

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0358	0.0300	119	80-120	

Lab Batch #: 990033

Sample: 706222-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 13:16

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-130	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 990116

Sample: 706268-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 19:08

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990191

Sample: 706321-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/11/16 11:50

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 990033

Sample: 706222-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 13:45

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-130	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 990116

Sample: 706268-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 17:39

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 990191

Sample: 706321-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/11/16 10:23

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 990033

Sample: 706222-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 14:14

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-130	
o-Terphenyl	53.0	50.0	106	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990116

Sample: 706268-1-BSD / BSD

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/10/16 17:55

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 990191

Sample: 706321-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/11/16 10:40

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 990033

Sample: 526570-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 15:11

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.8	120	70-130	
o-Terphenyl	53.3	49.9	107	70-135	

Lab Batch #: 990116

Sample: 526061-009 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 18:19

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 990191

Sample: 526570-015 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 10:56

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	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: Energy Transfer Boyd 4" Historical

Work Orders : 526570,

Lab Batch #: 990033

Sample: 526570-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 15:39

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-130	
o-Terphenyl	52.1	49.9	104	70-135	

Lab Batch #: 990116

Sample: 526061-009 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/10/16 18:36

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 990191

Sample: 526570-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/11/16 11:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	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.



## BS / BSD Recoveries



**Project Name: Energy Transfer Boyd 4" Historical**

**Work Order #: 526570**

**Project ID:**

**Analyst: PJB**

**Date Prepared: 03/10/2016**

**Date Analyzed: 03/10/2016**

**Lab Batch ID: 990116**

**Sample: 706268-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00150	0.100	0.0837	84	0.100	0.0834	83	0	70-130	35	
Toluene	<0.00200	0.100	0.0854	85	0.100	0.0831	83	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0903	90	0.100	0.0901	90	0	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.188	94	1	70-135	35	
o-Xylene	<0.00300	0.100	0.0862	86	0.100	0.0866	87	0	71-133	35	

**Analyst: PJB**

**Date Prepared: 03/10/2016**

**Date Analyzed: 03/11/2016**

**Lab Batch ID: 990191**

**Sample: 706321-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00150	0.100	0.0824	82	0.100	0.0808	81	2	70-130	35	
Toluene	<0.00200	0.100	0.0814	81	0.100	0.0812	81	0	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0821	82	0.100	0.0853	85	4	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.171	86	0.200	0.178	89	4	70-135	35	
o-Xylene	<0.00300	0.100	0.0822	82	0.100	0.0855	86	4	71-133	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



## BS / BSD Recoveries



**Project Name: Energy Transfer Boyd 4" Historical**

**Work Order #: 526570**

**Project ID:**

**Analyst: DEP**

**Date Prepared: 03/11/2016**

**Date Analyzed: 03/11/2016**

**Lab Batch ID: 990124**

**Sample: 706272-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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
Analytes											
Chloride	<10.0	100	103	103	100	103	103	0	90-110	20	

**Analyst: ARM**

**Date Prepared: 03/10/2016**

**Date Analyzed: 03/10/2016**

**Lab Batch ID: 990033**

**Sample: 706222-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod	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
Analytes											
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	958	96	1000	907	91	5	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	992	99	1000	959	96	3	75-125	25	

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

**Project Name: Energy Transfer Boyd 4" Historical**

**Work Order # :** 526570

**Project ID:**

**Lab Batch ID:** 990116

**QC- Sample ID:** 526061-009 S

**Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 03/10/2016

**Date Prepared:** 03/10/2016

**Analyst:** PJB

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

<b>BTEX by EPA 8021B</b> <b>Analytes</b>	<b>Parent Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Spiked Sample Result [C]</b>	<b>Spiked Sample %R [D]</b>	<b>Spike Added [E]</b>	<b>Duplicate Spiked Sample Result [F]</b>	<b>Spiked Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
Benzene	<0.00150	0.100	0.0811	81	0.0998	0.0799	80	1	70-130	35	
Toluene	<0.00200	0.100	0.0803	80	0.0998	0.0801	80	0	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0846	85	0.0998	0.0840	84	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.176	88	0.200	0.174	87	1	70-135	35	
o-Xylene	<0.00300	0.100	0.0821	82	0.0998	0.0816	82	1	71-133	35	

**Lab Batch ID:** 990191

**QC- Sample ID:** 526570-015 S

**Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 03/11/2016

**Date Prepared:** 03/10/2016

**Analyst:** PJB

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

<b>BTEX by EPA 8021B</b> <b>Analytes</b>	<b>Parent Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Spiked Sample Result [C]</b>	<b>Spiked Sample %R [D]</b>	<b>Spike Added [E]</b>	<b>Duplicate Spiked Sample Result [F]</b>	<b>Spiked Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
Benzene	<0.00150	0.0998	0.0576	58	0.0992	0.0593	60	3	70-130	35	X
Toluene	<0.00200	0.0998	0.0586	59	0.0992	0.0597	60	2	70-130	35	X
Ethylbenzene	<0.00200	0.0998	0.0637	64	0.0992	0.0647	65	2	71-129	35	X
m_p-Xylenes	<0.00200	0.200	0.135	68	0.198	0.137	69	1	70-135	35	X
o-Xylene	<0.00299	0.0998	0.0680	68	0.0992	0.0672	68	1	71-133	35	X

Matrix Spike Percent Recovery  $[D] = 100 \times (C-A)/B$   
Relative Percent Difference  $RPD = 200 \times |(C-F)/(C+F)|$

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

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.



# Form 3 - MS / MSD Recoveries



Project Name: Energy Transfer Boyd 4" Historical

Work Order #: 526570

Project ID:

Lab Batch ID: 990124

QC- Sample ID: 526570-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/11/2016

Date Prepared: 03/11/2016

Analyst: DEP

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	<9.98	99.8	110	110	99.8	109	109	1	80-120	20	

Lab Batch ID: 990124

QC- Sample ID: 526570-011 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/11/2016

Date Prepared: 03/11/2016

Analyst: DEP

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	102	488	592	100	488	594	101	0	80-120	20	

Lab Batch ID: 990033

QC- Sample ID: 526570-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/10/2016

Date Prepared: 03/10/2016

Analyst: ARM

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod 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	908	91	998	934	94	3	75-125	25	
C10-C28 Diesel Range Hydrocarbons	15.0	998	1010	100	998	1030	102	2	75-125	25	

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

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

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.

# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
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Project Manager: Nikki Green

Company Name: TRC Solutions, Inc

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Sampler Signature: Nikki Green

Fax No: 432.520.7701

e-mail: ngreen@trcsolutions.com

rose.slade@energytransfer.com

Project Name: Energy Transfer Boyd 4" Historical

Project #:

Project Loc: Lea County, NM

PO #:

Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 5A0570

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300.0	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	Sample-1 BOE	2'		3/8/2016	1030		1	X								Soil	X													X
	Sample-1 BOE	8.5'		3/8/2016	1103		1	X								Soil	X													X
	Sample-1 BOE	10'		3/8/2016	1121		1	X								Soil	X													X
	Sample-2 BOE	2'		3/8/2016	1150		1	X								Soil	X													X
	Sample-2 BOE	4'		3/8/2016	1230		1	X								Soil	X													X
	Sample-2 BOE	4.6'		3/8/2016	1245		1	X								Soil	X													X
	Sample-3	2'		3/8/2016	1317		1	X								Soil	X													X
	Sample-3	6'		3/8/2016	1350		1	X								Soil	X													X
	Sample-3	10'		3/8/2016	1433		1	X								Soil	X													X
	Sample-4	2'		3/8/2016	1501		1	X								Soil	X													X

Special Instructions: **Bill to Rose Slade at Energy Transfer. TPH Extended 35**

Relinquished by: Nikki Green Date: 3/9/16 Time: 1630 Received by: Nikki Green Date: 3/9/16 Time: 1630

Relinquished by: Date: Time: Received by: ELO: Date: Time:

Laboratory Comments:

Sample Containers Intact? ☐ Y ☐ N

VOCs Free of Headspace? ☐ Y ☐ N

Labels on containers? ☐ Y ☐ N

Custody seals on containers? ☐ Y ☐ N

Custody seals on cooler(s)? ☐ Y ☐ N

Sample Hand Delivered by Sampler/Client Rep.? ☐ Y ☐ N

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 8.7 °C

Preservation & # of Containers

Matrix	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300.0	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
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# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Nikki Green

Company Name: TRC Solutions, Inc

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Sampler Signature: *Nikki Green*

e-mail:

ngreen@trcsolutions.com

rose.slade@energytransfer.com

Fax No: 432.520.7701

Report Format:

☐ Standard

☐ TRRP

☐ NPDES

Project Name: Energy Transfer Boyd 4" Historical

Project #:

Project Loc:

Lea County, NM

PO #:

(lab use only)

ORDER #: 580570

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX: 201B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300.1	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	Sample-4	6'		3/8/2016	1536		1	X								Soil	X													X
	Sample-4	10'		3/8/2016	1549		1	X								Soil	X													X
	Sample-5	2'		3/8/2016	1601		1	X								Soil	X													X
	Sample-5	6'		3/8/2016	1615		1	X								Soil	X													X
	Sample-5	10'		3/8/2016	1645		1	X								Soil	X													X
	Sample-6 Surface			3/8/2016	1650		1	X								Soil	X													X
	Sample-7 Surface			3/8/2016	1655		1	X								Soil	X													X
	Sample-8 Surface			3/8/2016	1700		1	X								Soil	X													X

## Special Instructions:

Bill to Rose Slade at Energy Transfer TPH Extended 35

Relinquished by: *Mary Ann* Date: *3/9/16* Time: *1630* Received by: *Mary Ann*

Relinquished by: *Mary Ann* Date: *3/9/16* Time: *1630* Received by: *Mary Ann*

Relinquished by: *Mary Ann* Date: *3/9/16* Time: *1630* Received by: *Mary Ann*

## Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Sampler/Client Rep.?

by Counter? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 8.7°C



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 03/09/2016 04:30:00 PM

Work Order #: 526570

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)?	8.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes subcontract to xenco houston
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <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
#22 >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: 03/10/2016

Checklist reviewed by:

Kelsey Brooks  
Kelsey Brooks

Date: 03/10/2016