

Approval given to Backfill 10/20/14 Knoten Lynch NMOCD

# REMEDIATION SUMMARY AND SITE CLOSURE REQUEST

ETC FIELD SERVICES, LLC
Boyd 4 Inch Historical West
Lea County, New Mexico
UNIT LTR "P", Section 23, Township 22 South, Range 37 East
Latitude 32.372181° North, Longitude 103.127236° West
NMOCD Reference # 1RP-4277

# **APPROVED**

By Olivia Yu at 3:22 pm, Apr 14, 2017

1RP-4277 approved for closure.

Prepared For:

ETC Field Services, LLC 800 East Sonferra San Antonio, Texas 78258 HOBBS OCD

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Prepared By:

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October 2016

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Senior Project Manager

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#### **INTRODUCTION**

TRC Environmental Corporation (TRC), on behalf of ETC Field Services, LLC (ETC), formerly known as Southern Union Gas Services (SUGS) and Regency Field Services, LLC (Regency), has prepared this Remediation Summary and Site Closure Request for the Release Site known as Boyd 4 Inch Historical West. 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. Irvin Boyd of Eunice, New Mexico. The Release Site GPS coordinates are 32.372181° North and 103. 127236° West. Please reference Figure 1 for the Site Location Map and Figure 4 for the Site Details and Confirmation Soil Sample Location Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix D.

In September 2012, SUGS discovered a release had occurred on a four (4) inch lateral pipeline and the release was initially deemed to be non-reportable to the New Mexico Oil Conservation Division (NMOCD). On May 12, 2016, ETC filed a NMOCD Form C-141 documenting the release, information as to the volume and date of the release is not available. General photographs of the site are provided as Appendix B.

#### NMOCD SITE CLASSIFICATION

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 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 Boyd 4 Inch Historical West Release Site 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.

The NMOCD guidelines indicate the Boyd 4 Inch Historical West Release Site has a ranking score of forty (40). Based on this score, the soil remediation levels for a site with a ranking score of forty (40) points are as follows:

- Benzene 10 mg/Kg (ppm)
- BTEX -50 mg/Kg (ppm)
- TPH -100 mg/Kg (ppm)
- Chloride 250 mg/Kg (ppm)

#### SUMMARY OF SOIL REMEDIATION ACTIVITIES

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

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. Based on field observations, it was determined the analytical results from soil samples collected were likely not an accurate representation of the remaining soil impacted at the Release site.

On March 8, 2016, eighteen (18) soil samples (Sample-1 BOE 2', Sample-1 BOE 8.5', Sample-1 BOE 10', Sample-2 BOE 2', Sample-2 BOE 4', Sample-2 BOE 4.6', Sample-3 2', Sample-3 6', Sample-3 10', Sample-4 2', Sample-4 6', Sample-4 10', Sample-5 2', Sample-5 6', Sample-5 10', Sample-6 Surface, Sample-7 Surface, and Sample-8 Surface) were collected from and in the vicinity of the existing excavation utilizing a hand auger. Soil samples were submitted to the laboratory and analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) using EPA Method SW 846-8021B, Total Petroleum Hydrocarbons (TPH) using EPA Method SW 846-8015M, and chloride using EPA Method E 300.0. A review of laboratory analytical results indicated additional vertical and horizontal delineation activities were necessary.

On April 5, 2016, delineation of the impacted soil with heavy equipment began at the Release Site. Six (6) soil samples (Sample-1 @ 21', T-SSW-1 @ 6', T-NSW-1 @ 7', T-WSW-1 @ 11', Sample-2 @ 20', and Sample-10 @ 2.5') were collected, field screened for concentrations of chloride and submitted to the laboratory for BTEX, TPH, and chloride analysis. Please reference Figure 2 for site details and soil sampling locations.

On May 16, 2016, representatives of ETC (formerly SUGS and Regency) and TRC met with a NMOCD representative and submitted the "Proposed Remediation Workplan" (Workplan) for NMOCD consideration. The Workplan summarized remedial activities to date and detailed a closure strategy designed to progress the Release Site toward an NMOCD approved closure status. ETC received written (email) NMOCD approval to proceed with the activities outlined in the Workplan.

On May 31, 2016, TRC commenced excavation activities from the west wall of the existing remediation project to the east, north, and south. Chloride field screening was utilized to guide the excavation activities. Excavated soil was stockpiled to the west of the excavation, pending final disposition of the soil.

On June 7, 2016, TRC began transporting the excavated material to Sundance concurrent with excavation activities. Approximately 16,672 cubic yards of excavated soil was transported to Sundance Services, Inc. The Sundance Disposal Tickets are provided as Appendix C (included on the provided disc).

On June 27, 2016, fifteen (15) soil samples (West Excavation Floor-1 @ 20', West Excavation SSW-1 @ 19', West Excavation NSW-1 @ 19', West Excavation ESW-1 @ 19', West Excavation

Floor-2 @ 20', West Excavation SSW-2 @ 19', West Excavation NSW-2 @ 19', West Excavation Floor-3 @ 20', West Excavation SSW-3 @ 19', West Excavation NSW-3 @ 19', West Excavation WSW-3 @ 19', West Excavation Floor-4 @ 20', West Excavation ESW-4 @ 19', West Excavation WSW-4 @ 19', West Excavation NSW-4 @ 19', and West Excavation Floor-5 @ 15') were collected from the floor and side walls of the excavated area. The soil samples were submitted to the laboratory and analyzed for concentrations of Total Petroleum Hydrocarbons (TPH) using EPA Method SW 846-8015M and chloride using EPA Method E 300.0. The analytical results indicated TPH concentrations were less than the laboratory Method Detection Limit (MDL) of 15 mg/Kg for all collected soil samples, with the exception of West Excavation SSW-2 @ 19', which exhibited a TPH concentration of 608.7 mg/Kg. In addition, analytical results indicated chloride concentrations ranged from less than laboratory MDL of 10 mg/Kg for soil sample West Excavation SSW-2 @ 19' to 1,600 mg/Kg for soil sample West Excavation ESW-1 @ 19'. A review of laboratory analytical results indicated additional excavation activities were necessary toward the north, south, and west. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Analytical reports are provided as Appendix A.

On June 28, 2016, one (1) soil sample (West Excavation Floor-6 @ 25') was collected from the floor of the excavated area. Soil sample West Excavation Floor-6 @ 25' was collected approximately 25 feet below ground surface (bgs). The soil sample was submitted to the laboratory and the analytical results indicated soil sample West Excavation Floor-6 @ 25' exhibited a TPH concentrations of 2,154 mg/Kg and a chloride concentration below laboratory MDL of 10 mg/Kg.

An additional composite soil sample (West Excavation Stockpile-1) was collected from the overburdened non-impacted soil excavated during remediation activities. The soil sample was submitted to the laboratory for TPH and chloride analysis. Laboratory analytical results indicated TPH concentrations were below laboratory MDL of 14.9 mg/Kg and exhibited a chloride concentration of 177 mg/Kg, which are below NMOCD guidelines. At the request of the landowner, excavated material will not be used as backfill and was transported for disposal at Sundance.

Based on field observations and information provided by the landowner, no additional excavation activities can be conducted northwest of the excavation due to the presence of a buried drilling pit.

On July 15, 2016, following additional excavation activities in the area represented by soil sample West Excavation Floor-6 @ 25, two (2) soil samples (West Excavation Floor-6 @ 32' and ESW-6 @ 28') were collected and submitted to the laboratory for TPH and chloride analysis. A review of laboratory analytical results indicated TPH concentrations were below the laboratory MDL of 15 mg/Kg and chloride concentrations did not exceed 46 mg/Kg, which are below NMOCD guidelines.

On July 20 through 22, 2016, based on increasing chloride concentrations on the northeast excavation sidewall, excavation activities were halted and additional chloride field screen activities were conducted with a hand auger to delineate the vertical and horizontal extent of the impacted area northeast of the excavation. The auger samples were collected approximately twenty (20) feet north east of the north wall at depths of five (5) feet bgs, ten (10) feet bgs, and fifteen (15) feet bgs. On July 21, 2016, nine (9) soil samples (NW AH-1 @ 5' through NW AH-1 @ 15', NC AH-1 @ 5' through NC AH-1 @ 15', and NE AH-1 @ 5' through NE AH-1 @ 15') were collected during hand auger activities and submitted to the laboratory to confirm chloride

field screen results. A review of laboratory analytical results indicated chloride concentrations for the samples collected at five (5) feet bgs ranged from 712 mg/Kg for soil sample NW AH-1 @ 5' to 881 mg/Kg for soil sample NC AH-1 @ 5'. Chloride concentrations for soil samples collected at ten (10) feet bgs ranged from 284 mg/Kg for soil sample NW AH-1 @ 10' to 355 mg/Kg for soil sample NC AH-1 @ 10'. Chloride concentrations for soil samples collected at fifteen (15) feet bgs ranged from 15 mg/Kg for soil sample NC AH-1 @ 15' to 308 mg/Kg for soil sample NE AH-1 @ 15'.

On August 22 through September 9, 2016, excavation activities resumed, moving in a northeast direction from the northeast side wall. Six (6) soil samples (NW Floor @ 5', NC Wall @ 4', NC Floor @ 5', NE Floor A @ 5', NE Floor B @ 5', and NE Wall @ 4') were collected from the recently excavated northeast section and submitted for chloride analysis. Laboratory analytical results indicated chloride concentrations for soil samples NC Floor @ 5' and NE Floor A @ 5' were below NMOCD guidelines. Chloride concentrations for soil samples NW Floor @ 5', NC Wall @ 4', NE Floor B @ 5', and NE Wall @ 4' ranged from 271 mg/Kg for soil samples NW Floor @ 5' to 423 mg/Kg for soil sample NE Wall @ 4'.

On October 5, 2016, representatives of ETC, TRC, and the landowner met at the Site to discuss the project. During the meeting, a representative of TRC and an environmental contractor retained by the landowner, collected and split confirmation soil samples from the excavation. TRC submitted twenty-five (25) confirmation soil samples (Confirmation Floor-1 @ 32', Confirmation Floor-2 @ 28', Confirmation Floor-3 @ 20', Confirmation SW-1 @ 19', Confirmation SW-2 @ 19', Confirmation Floor-4 @ 20', Confirmation Floor-5 @ 20', Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', Confirmation EW-3 @ 19', Confirmation NW-1 @ 19', Confirmation Floor-7 @ 20', Confirmation Floor-6 @ 20', Confirmation NW-2 @ 19', Confirmation WW-1 @ 19', Confirmation WW-2 @ 19', Confirmation NW-3 @ 7.5', Confirmation NW-4 @ 10', Confirmation NW-5 @ 12', Confirmation WW-3 @ 19') to Xenco Laboratories in Midland, Texas and analyzed the soil samples for BTEX, TPH, and chloride using Method E-300.1. A review of laboratory analytical results indicated TPH and BTEX concentrations for all submitted soil samples were below the laboratory MDL and NMOCD guidelines. Laboratory results indicated chloride concentrations for all collected soil samples ranged from below the laboratory MDL of 5 mg/Kg for soil samples Confirmation Floor-2 @ 28', Confirmation Floor-3 @ 20', and Confirmation Floor-7 @ 20' to 134 mg/Kg for soil sample Confirmation Floor-5 @ 20', with the exception of soil samples Confirmation NW-2 @ 19', Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', Confirmation EW-3 @ 19, Confirmation WW-2 @ 19', Confirmation WW-3 @ 19', and Confirmation SW-1 @ 19'. Soil sample Confirmation NW-2 @ 19' exhibited a chloride concentration of 263 mg/Kg. A review of laboratory results indicated chloride concentrations for soil samples Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', Confirmation EW-3 @ 19', collected from the eastern sidewall, were 808 mg/Kg, 383 mg/Kg, and 671 mg/Kg, respectively. Laboratory results indicated chloride concentrations for soil samples Confirmation WW-2 @ 19' and Confirmation WW-3 @ 19', collected from the western sidewall in close proximity to a buried drilling pit, were 272 mg/Kg and 2,670 mg/Kg, respectively. Laboratory analytical results indicated chloride concentrations for Confirmation SW-1 @ 19', collected from the southern sidewall in close proximity to the John H. Hendrix Corporation Lee # 2 Well location and pump iack.

Based on the laboratory results from the sampling event on October 5, 2016, no additional excavation activities can be conducted in the areas represented by soil samples Confirmation WW-

2 @ 19' and Confirmation WW-3 @ 19' due to the close proximity of a buried drilling pit and the risk of encroaching on the pit boundaries.

In addition, no additional excavation activities can be conducted in the area represented by soil sample Confirmation SW-1 @ 19' due to the close proximity of the John H. Hendrix Corporation Lee #2 Well Location due to well and pump jack stability safety concerns.

In addition, the areas represented by soil samples Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', and Confirmation EW-3 @ 19', will be remediated at a later date and submitted under a separate cover (Boyd 4-Inch Historical East Site #1RP-4278).

On October 14, 2016, Mr. Irvin Boyd verbally granted ETC permission to backfill the existing excavation with locally obtained caliche and topsoil purchased from the landowner.

Pending NMOCD approval, ETC will backfill the existing excavation with non-impacted soil purchased from the landowner. On completion of backfilling activities, the impacted area will be contoured to fit the surrounding area and be reseeded with vegetation approved by the landowner.

#### SITE CLOSURE REQUEST

Based on the analytical results and landowner approval to backfill the excavation, ETC requests NMOCD permission to backfill the Boyd 4 Historical West excavation and grant Site Closure Status to the Boyd 4 Inch (Historical) West incident.

#### **LIMITATIONS**

TRC has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of ETC Field Services, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or ETC Field Services, LLC.

## **DISTRIBUTION**

Copy 1: Jamie Keyes

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division (District 1)

1625 French Drive

Hobbs, New Mexico 88240

Copy 2: Rose Slade

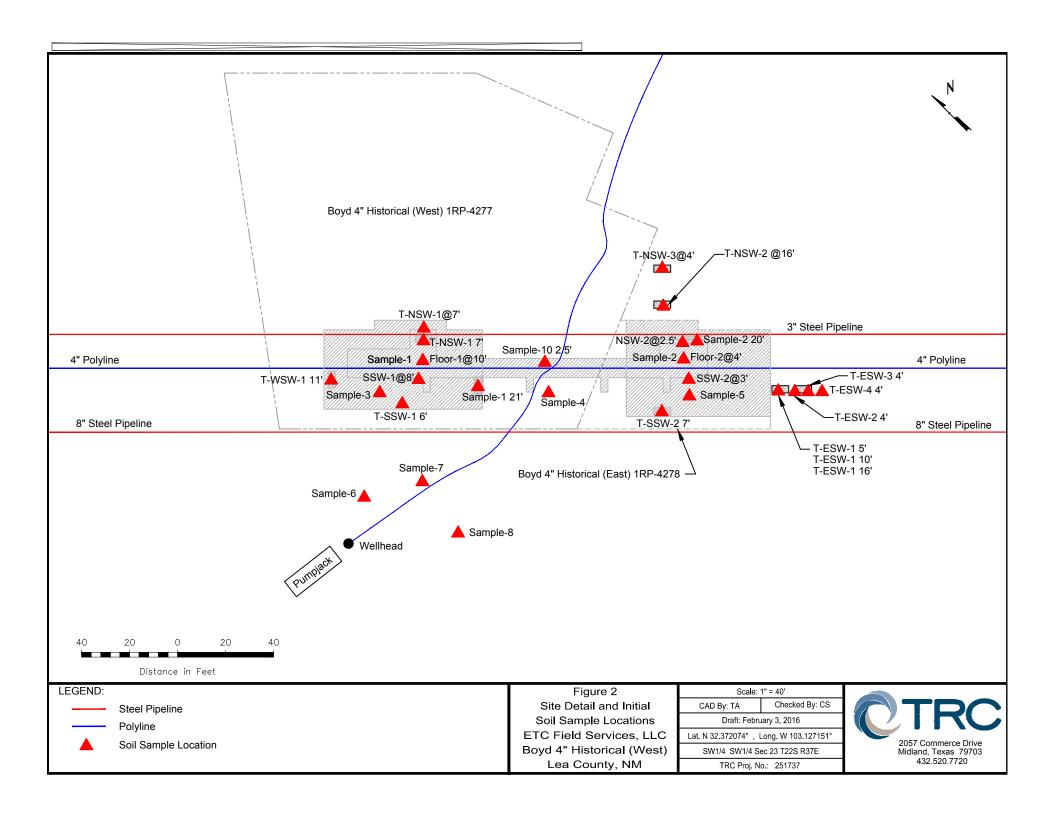
ETC Field Services, LLC

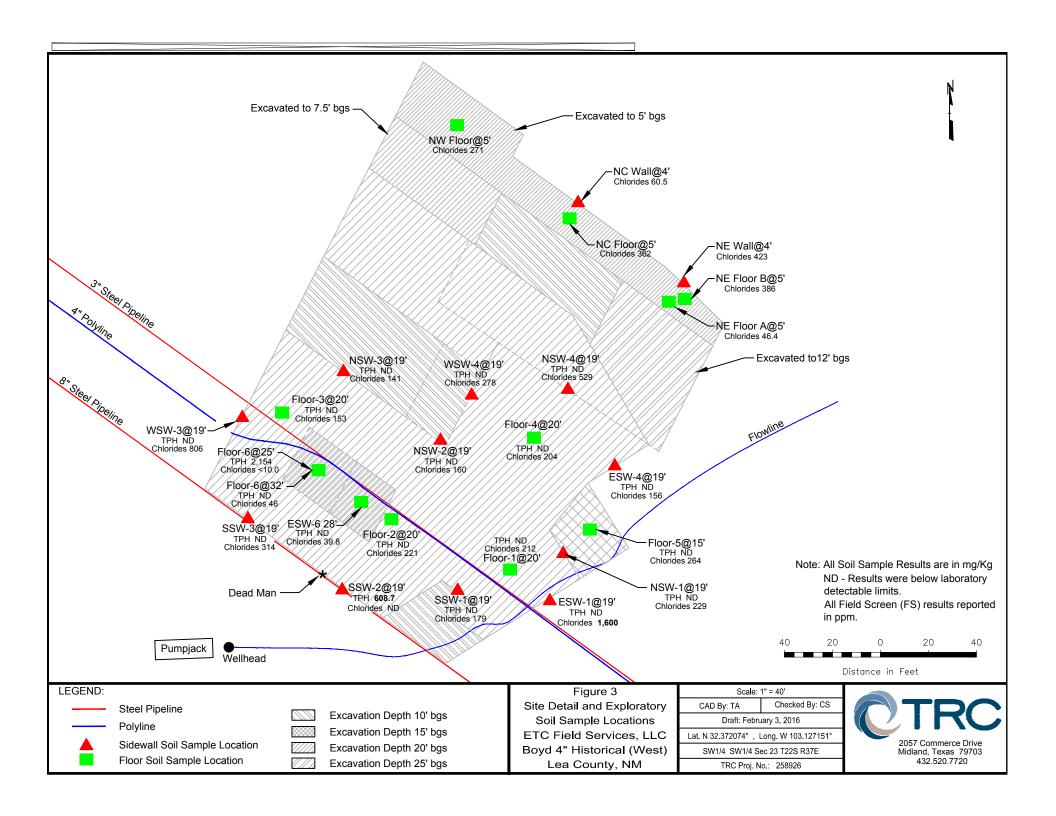
800 East Sonterra

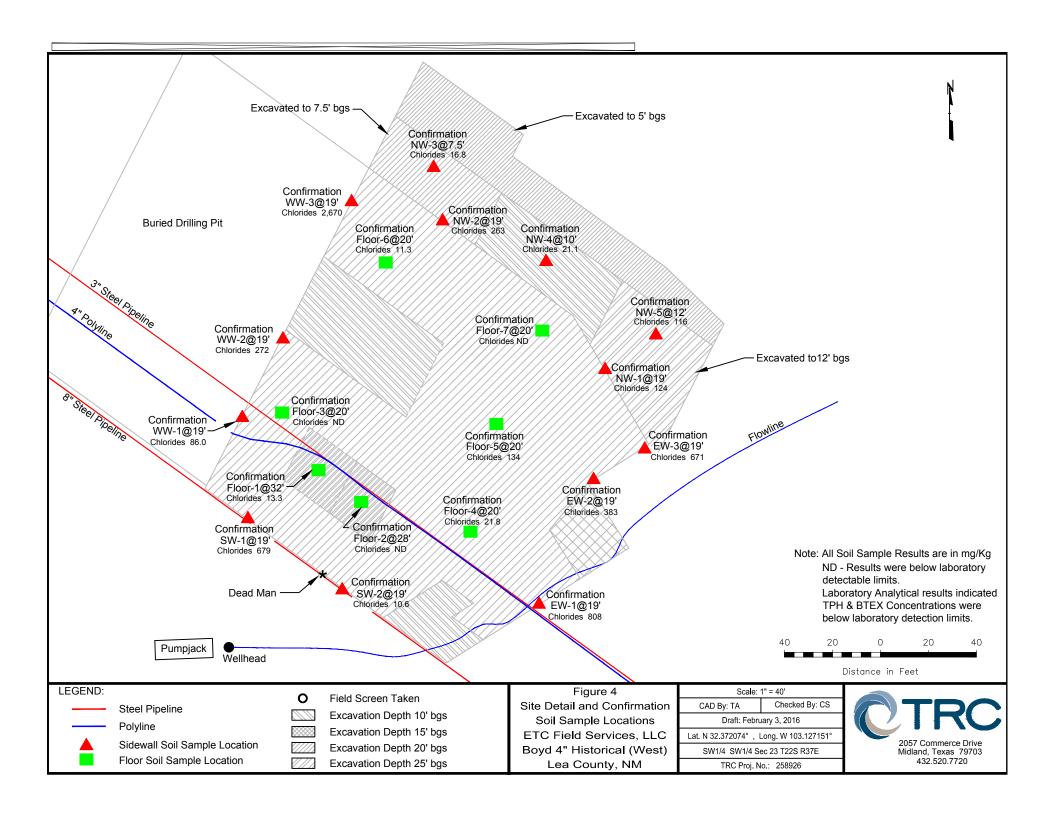
San Antonio, Texas 78258

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2057 Commerce Street Midland, Texas 79703







#### TABLE 1

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

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

All concentrations are reported in mg/Kg

					METHODS:	SW 846-8021b		METHOD: SW 8015M					E 300.1
CAMPLE LOCATION	SAMPLE	SOIL			ETHYL-			TOTAL	TPH	ТРН	TPH	TOTAL	
SAMPLE LOCATION	DATE	STATUS	BENZENE	TOLUENE	l .	m, p - XYLENES	o - XYLENE	BTEX	GRO	DRO	ORO	TPH	CHLORIDE
					BENZENE	AYLENES	AYLENE	BIEA	$C_{6}$ - $C_{12}$	$C_{12}$ - $C_{28}$	$C_{28}$ - $C_{35}$	C <sub>6</sub> -C <sub>35</sub>	1
**Floor-1 @ 10'	01/29/16	Excavated	< 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	Excavated	< 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	Excavated	< 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	Excavated	< 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	Excavated	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.0	469	<15.0	469	17.8
**NSW-2 @ 2.5'	01/29/16	Excavated	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<14.9	151	<14.9	151	7.69
Sample-1 BOE 2'	03/08/16	Excavated	< 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	Excavated	< 0.0149	0.177	1.49	6.40	1.20	9.267	613	2,810	35.0	3,458	<9.67
Sample-1 BOE 10'	03/08/16	Excavated	< 0.0149	0.100	0.681	2.81	0.934	4.525	338	1,800	31.6	2,169.6	<9.88
*Sample-2 BOE 2'	03/08/16	1RP-4278	< 0.00746	< 0.00994	0.273	0.813	0.745	1.831	237	1,430	43.5	1,710.5	<9.98
*Sample-2 BOE 4'	03/08/16	1RP-4278	< 0.0150	0.512	1.50	4.99	1.53	8.532	1,020	5,600	115	6,735	<9.96
*Sample-2 BOE 4.6'	03/08/16	1RP-4278	< 0.0150	0.307	0.881	2.85	1.40	5.438	376	2,420	46.8	2,842.8	<10.0
Sample-3 2'	03/08/16	Excavated	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	1,590
Sample-3 6'	03/08/16	Excavated	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	27.3	<15.0	27.3	1,200
Sample-3 10'	03/08/16	Excavated	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<14.9	20.6	<14.9	20.6	616
Sample-4 2'	03/08/16	Excavated	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	506
Sample-4 6'	03/08/16	Excavated	< 0.00150	< 0.00200	< 0.00200	< 0.000200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	102
Sample-4 10'	03/08/16	Excavated	< 0.00150	< 0.00200	< 0.00200	< 0.000200	< 0.00299	< 0.00299	<15.0	28.1	<15.0	28.1	22.7
*Sample-5 2'	03/08/16	1RP-4278	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<14.9	<14.9	<14.9	<14.9	627
*Sample-5 6'	03/08/16	1RP-4278	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	472
*Sample-5 10'	03/08/16	1RP-4278	< 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	In-Situ	-	-	-	-	-	-	24.0	1,200	116	1,340	43.7
Sample-7 Surface	03/08/16	In-Situ	-	-	-	-	-	-	19.1	630	99.8	748.9	22.7
Sample-8 Surface	03/08/16	In-Situ	-	-	-	-	-	-	165	10,700	152	11,017	1,400
Sample-1 @ 21'	04/05/16	Excavated	< 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	Excavated	< 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	Excavated	< 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	Excavated	< 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	1RP-4278	0.0264	0.0132	0.160	0.315	0.059	0.5736	444	1,920	26	2,390.1	32.3
Sample -10 @ 2.5'	04/05/16	Excavated	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	40.9
					West Ex	xcavation							
West Excavation Floor-1 @ 20'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	212
West Excavation SSW-1 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	179
West Excavation NSW-1 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	229
*West Excavation ESW-1 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	1,600

#### TABLE 1

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

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

All concentrations are reported in mg/Kg

						SW 846-8021b	, 0				E 300.1		
SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	METHOD: 8  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
West Excavation Floor-2 @ 20'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	221
West Excavation SSW-2 @ 19'	06/27/16	Excavated	-	-	-	-	-	-	25.7	583	<15.0	608.7	<10.0
West Excavation NSW-2 @ 19'	06/27/16	Excavated	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	160
West Excavation Floor-3 @ 20'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	153
West Excavation SSW-3 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	314
West Excavation NSW-3 @ 19'	06/27/16	Excavated	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	141
West Excavation WSW-3 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	806
West Excavation Floor-4 @ 20'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	204
*West Excavation ESW-4 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	156
West Excavation WSW-4 @ 19'	06/27/16	Excavated	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	278
West Excavation NSW-4 @ 19'	06/27/16	Excavated	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	529
West Excavation Floor-5 @ 15'	06/27/16	Excavated	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	264
West Excavation Floor-6 @ 25'	06/28/16	Excavated	-	-	-	-	-	-	174.0	1,980	<15.0	2,154	<10.0
West Excavation Stockpile-1	06/28/16	-	-	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	177
West Excavation Floor-6 @ 32'	07/15/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	46
ESW-6 @ 28'	07/15/16	In-Situ	-	-	-	-	1	-	<15.0	<15.0	<15.0	<15.0	39.8
NW AH-1 @ 5'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	712
NW AH-1 @ 10'	07/20/16	Excavated	-	-	_	_	_	-	-	_	-	-	284
NW AH-1 @ 15'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	271
NC AH-1 @ 5'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	881
NC AH-1 @ 10'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	355
NC AH-1 @ 15'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	155
NE AH-1 @ 5'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	764
NE AH-1 @ 10'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	352
NE AH-1 @ 15'	07/20/16	Excavated	-	-	-	-	-	-	-	-	-	-	308
NW Floor @ 5'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	271
NC Wall @ 4'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	362
NC Floor @, 5'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	60.5
NE Floor A @ 5'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	46.4
NE Floor B @, 5'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	386
NE Wall @ 4'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	423
Confirmation Floor-1 @ 32'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	13.3
Confirmation Floor-2 @ 28'	10/05/16	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<14.9	<14.9	<14.9	<14.9	< 5.00
Confirmation Floor-3 @ 20'	10/05/16	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	< 5.00

#### TABLE 1

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

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

All concentrations are reported in mg/Kg

			METHODS: SW 846-8021b METHOD: SW 8015M								E 300.1		
SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	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
Confirmation SW-1 @ 19'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	679
Confirmation SW-2 @ 19'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	10.6
Confirmation Floor-4 @ 20'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	21.8
Confirmation Floor-5 @ 20'	10/05/16	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	134
*Confirmation EW-1 @ 19'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	808
*Confirmation EW-2 @ 19'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	383
*Confirmation EW-3 @ 19'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	671
Confirmation NW-1 @ 19'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	124
Confirmation Floor-7 @ 20'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	< 5.00
Confirmation Floor-6 @ 20'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	11.3
Confirmation NW-2 @ 19'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	263
Confirmation WW-1 @ 19'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	86.0
Confirmation WW-2 @ 19'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	272
Confirmation NW-3 @ 7.5'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	16.8
Confirmation NW-4 @ 10'	10/05/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	21.1
Confirmation NW-5 @ 12'	10/05/16	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	116
Confirmation WW-3 @ 19'	10/05/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<14.9	<14.9	<14.9	<14.9	2,670

<sup>\*\* =</sup> Soil sample results do not appear to be representative

<sup>\* =</sup> Soil samples are associated with the Boyd 4-Inch Historical East Release Site (1RP-4278), which will be remediated at a later date and submitted under separate cover.

# **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

Knis Hoah

Project Manager

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# **Sample Cross Reference 524056**



# TRC Solutions, Inc, Midland, TX

Boyd 4 Inch Historical

Sample Id Matrix Date Collected Sample Depth Lab Sample Id



## **CASE NARRATIVE**



Client Name: TRC Solutions, Inc Project Name: Boyd 4 Inch Historical

Project ID: ETC Field Services Report Date: 08-FEB-16 Work Order Number(s): 524056 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** Lea County, NM **Project Location:** 

**Date Received in Lab:** Mon Feb-01-16 04:38 pm

**Report Date:** 08-FEB-16 Project Manager: Kelsey Brooks

	Lab Id:	524056-0	001	524056-0	002	524056-0	003	524056-0	004	524056-	005	524056-	006
	Field Id:	Floor-1 @	0 10'	SSW-1 @	8'	NSW-1 (	ā 7'	Floor-2 @	0, 4'	SSW-2	ā, 3'	NSW-2 (a	2.5'
Analysis Requested	Depth:	10 ft		8 ft		7 ft		4 ft		3 ft		2.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	,
	Sampled:	Jan-29-16 1	14:00	Jan-29-16 1	4:05	Jan-29-16	14:10	Jan-29-16	14:30	Jan-29-16	14:35	Jan-29-16	14:40
BTEX by EPA 8021B	Extracted:	Feb-03-16	17:30	Feb-03-16 1	17:30	Feb-03-16	17:30	Feb-03-16	17:30	Feb-03-16	17:30	Feb-03-16	17:30
DIEM OF EIM OF				Feb-03-16 2				Feb-04-16		Feb-03-16			
	Analyzed:	Feb-04-16				Feb-03-16						Feb-03-16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00100		0.000996		0.000992		0.000998		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		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
Inorganic Anions by EPA 300/300.1	Extracted:	Feb-04-16	13:00	Feb-04-16 1	13:00	Feb-04-16	13:00	Feb-04-16	13:00	Feb-04-16	13:00	Feb-04-16	13:00
	Analyzed:	Feb-04-16	23:25	Feb-04-16 2	23:43	Feb-05-16	00:01	Feb-05-16	00:18	Feb-05-16	00:36	Feb-05-16	01:29
	Units/RL:	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
TPH By SW8015B Mod	Extracted:	Feb-07-16	17:00	Feb-07-16 1	17:00	Feb-07-16	17:00	Feb-07-16	17:00	Feb-07-16	17:00	Feb-07-16	17:00
	Analyzed:	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
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND			14.9	ND	15.0	ND	15.0	ND	15.0	ND	14.9
C10-C28 Diesel Range Hydrocarbons		ND	ND 15.0		14.9	ND	15.0	35.0	15.0	469	15.0	151	14.9
C28-C35 Oil Range Hydrocarbons		ND	ND 15.0		14.9	ND	15.0	ND	15.0	ND	15.0	ND	14.9
otal 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



# Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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# Form 2 - Surrogate Recoveries

**Project Name: Boyd 4 Inch Historical** 

Work Orders: 524056, Project ID: ETC Field Services

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **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



# Form 3 - MS Recoveries

**Project Name: Boyd 4 Inch Historical** 



**Project ID:** ETC Field Services

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



**Project Name: 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

# Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713

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Relinquished by:	Kerinquisnee	Relinquishe	Bill to Rose	ecial											LAB # (lab use only)	RDEF	(lab use only)							1
ned by: Date		Daily barry	*	Special Instructions:					NSW-2 @ 2.5	SSW-2 @ 3'	Floor-2 @ 4'	NSW-1 @ 7	SSW-1 @ 8'	Floor-1 @ 10'	FIELD CODE	ORDER #: 504056	only)		Sampler Signature:	Telephone No: 432;\$20.77 <b>2</b> 0/	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Curt Stanley
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Time	me	W.		8											Ending Depth		L	¥						
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7		7 Ohn							1440	1435	1430	1410	1405	1400	Time Sampled			SHOT SHOP (CONTRACTOR)	e-mail:	Fax No:				
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		h		11000			H	-	-			_	-		Total #. of Containers	Н		0	_	432.520.7701			i	
					-	-	H		×	×	×	×	×	×	Ice HNO <sub>3</sub>	Pre		rose.slade@er	cdst	520.7				
		- 1					-					Н	one o	-	HCI	Preservation			anie	7701				
									-					H	H <sub>2</sub> SO <sub>4</sub>	ation		ğ	8					
														T	NaOH	% # of		iie	trcs					
															Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	# of Containers		nergytransfer.com	trcsolutions.com					
		20								201					None	ainers	-	ans	ions					
Date	€ at	Date			_										Other ( Specify)	Щ		9	S		l	ļ		
, u		6 .							Soil	Soil	Soil	Soil	Soil	Soil	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid	≤a		읡	3	Ŋ				
		=	İ						≌.	≌.	⊇i	≝	S:	≌	NP=Non-Potable Specify Other	Matrix		Ļ		Report Format:		<b>.</b>		P
Time	lime								×	Х	×	×	×	×	TPH: 418.1 (8015M) 80	15B	<u>C</u>	-[	0+	- B) (	C3	উ	P	Project Name:
		Q'													TPH: TX 1005 TX 1006	=3				mat	B	ect Loc:	Project #:	Nar
Tem	Sam	Cust Cust	Sam	Lab											Cations (Ca, Mg, Na, K)			ı		••	PO #:	8	#	ne:
Temperature Upon Receipt	Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Sample Containers Intact? VOCs Free of Headspace?	Laboratory Comments:		_					- 20				Anions (CI, SO4, Alkalinity)	TOTAL:	TCI							
ture	mple	seals	Cont ee or	ž									-		SAR / ESP / CEC		TCLP:		1	Standard				
Upo	", CE	ntain s on s on	aine f He	ŝ		-		-	_					_	Metals: As Ag Ba Cd Cr Pb Hg Volatiles	Se	Н	Ana		dard			-	
n Re	ent R	er(s) cont	rs Int	men				-95					Sie		Semivolatiles	-		Analyze	H				Boy	
ceip	ος eg a	aine er(s)	ace'	છું					×	×	×	×	×	×	BTEX 8021B/5030 or BTEX 820	60 x	H	FOL				Lea	4	CF
17	PHC ?	r(s)								pe 23	75676	9 T	ground's	ac di	RCI		Н					Lea County, NM	Inch	ield
				ı											N.O.R.M.	Ť		Į		TRRP		, <del>†</del>		Ser
1	FedEx			Ì					×	×	×	×	×	×	Chlorides E 300.1						13	₹	Boyd 4 Inch Historica	ETC Field Services
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2	N Lone Star	zzz	<b>-</b> -					Щ						$\Box$						NPDES		1		
ဂ	Star		<i>L L</i>	- }			H			6.0	2020	15.55	1000	week	RUSH TAT (Pre-Schedule) 24,	48, 72	hrs	1		ΣES	1			
			-						×	×	×	×	×	×	Standard TAT	Į					1	1	1	



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

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

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

Work Order #: 524056

Temperature Measuring device used: r8

	Sample Receipt Checklist	Comments
#1 *Tomporature of cooler(a)?	Sample Receipt Shecklist	9
#1 *Temperature of cooler(s)? #2 *Shipping container in good condition	3	9 Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle		N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?	or eactedy.	No
#10 Chain of Custody signed when relind	guished/ received?	Yes
#11 Chain of Custody agrees with sample		Yes
#12 Container label(s) legible and intact		Yes
#13 Sample matrix/ properties agree with		Yes
#14 Samples in proper container/ bottle?	•	Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicat	ed test(s)?	Yes
#18 All samples received within hold time	e?	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 HI		N/A
samples for the analysis of HEM or HEM- analysts.	SGT which are verified by the	
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
· ·		
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Carley Owens	
Checklist Completed by.	Carley Owens	Date: 02/02/2016
	235, 3	
Checklist reviewed by:	Knur Boah	
S. Samot fortuned by	muz goan	Date: 02/02/2016
	Keisey Brooks	

# **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

Knis Hoah

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 OUALITY

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



# **Sample Cross Reference 526570**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id	Matrix	<b>Date Collected</b>	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: Report Date: 15-MAR-16
Work Order Number(s): 526570 Date Received: 03/09/2016

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** 

S BORATOR!

Project Id: Contact:

**Project Location:** 

Nikki Green

Lea County, NM

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

**Report Date:** 15-MAR-16

Project Manager: Kelsey Brooks

	Lab Id:	526570-	001	526570-0	002	526570-0	003	526570-	004	526570-0	005	526570-0	006		
Analysis Requested	Field Id:	Sample-1	BOE	Sample-1	BOE	Sample-1	BOE	Sample-2	BOE	Sample-2	вое	Sample-2	BOE		
Analysis Kequesieu	Depth:	2 ft		8.5 ft		10 ft		2 ft		4 ft		4.6 ft			
	Matrix:	SOIL	_	SOIL		SOIL		SOIL		SOIL		SOIL			
	Sampled:	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		
BTEX by EPA 8021B	Extracted:	Mar-10-16	17:30	Mar-10-16	10:15	Mar-10-16	10:15	Mar-10-16	10:15	Mar-10-16	Mar-10-16 10:15		Mar-10-16 10:15		10:15
	Analyzed:	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		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.00150	ND	0.0149	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		
Inorganic Anions by EPA 300/300.1	Extracted:	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 17:0			
SUB: TX104704215	Analyzed:	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		
	Units/RL:	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		
TPH By SW8015B Mod	Extracted:	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		
	Analyzed:	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		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C10 Gasoline Range Hydrocarbons		ND 15.		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		
otal 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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager

Knis Roah



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# **Certificate of Analysis Summary 526570**

## TRC Solutions, Inc, Midland, TX

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

**Report Date:** 15-MAR-16 **Project Manager:** Kelsey Brooks

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

	Lab Id:	526570-0	007	526570-	800	526570-	009	526570-0	010	526570-0	011	526570-	012
Analysis Paguested	Field Id:	Sample-	-3	Sample	-3	Sample	-3	Sample-	-4	Sample-	-4	Sample	-4
Analysis Requested	Depth:	2 ft		6 ft		10 ft		2 ft		6 ft		10 ft	
	Matrix:	SOIL		SOIL	,	SOIL		SOIL		SOIL		SOIL	,
	Sampled:	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
BTEX by EPA 8021B	Extracted:	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
	Analyzed:	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
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00150	ND	0.00149	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
Inorganic Anions by EPA 300/300.1	Extracted:	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
SUB: TX104704215	Analyzed:	Mar-11-16	20:29	Mar-11-16	20:44	Mar-11-16	20:58	Mar-11-16 2	21:13	Mar-11-16 2	21:27	Mar-11-16	22:39
	Units/RL:	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
TPH By SW8015B Mod	Extracted:	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
	Analyzed:	Mar-10-16	18:29	Mar-10-16	18:57	Mar-10-16	19:25	Mar-10-16	19:52	Mar-10-16 2	20:51	Mar-10-16	21:20
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	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

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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id: Contact:** 

**Project Location:** 

# **Certificate of Analysis Summary 526570**

## TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical

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

Report Date: 15-MAR-16 Project Manager: Kelsey Brooks



	Lab Id:	526570-0	)13	526570-0	014	526570-	)15	526570-0	16	526570-0	17	526570-0	18
Analosis Danas satal	Field Id:	Sample-	-5	Sample	-5	Sample	-5	Sample-6 St	ırface	Sample-7 Su	ırface	Sample-8 Su	rface
Analysis Requested	Depth:	2 ft		6 ft		10 ft							
	Matrix:	SOIL		SOIL	,	SOIL		SOIL		SOIL		SOIL	
	Sampled:	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 1	7:00
BTEX by EPA 8021B	Extracted:	Mar-10-16	17:30	Mar-10-16	17:30	Mar-10-16	10:15						
	Analyzed:	Mar-11-16	09:50	Mar-11-16	09:34	Mar-11-16	12:06						
	Units/RL:	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						
Inorganic Anions by EPA 300/300.1	Extracted:	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 1	7:00
SUB: TX104704215	Analyzed:	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 0	0:06
	Units/RL:	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
TPH By SW8015B Mod	Extracted:	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 1	1:00
	Analyzed:	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 0	0:14
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	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
228-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

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



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical

 Work Orders: 526570,
 Project ID:

 Lab Batch #: 990033
 Sample: 526570-001 / SMP
 Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 14:43	SU	RROGATE RI	ECOVERY S	STUDY	
	ТРН В	sy SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		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 Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 126 99.7 126 70-130 o-Terphenyl 58.5 49.9 117 70-135

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	<b>Date Analyzed:</b> 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-Chlorooct	1-Chlorooctane			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	<b>Date Analyzed:</b> 03/10/16 18:01	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooc	1-Chlorooctane			99.7	123	70-130		
o-Terphenyl			57.0	49.9	114	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570,
Lab Batch #: 990033
Sample: 526570-007 / SMP
Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 03/10/16 18:29 SURROGATE RECOVERY STUDY							
TPH By SW8015B Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]		
1-Chloroocta	ane		110	99.8	110	70-130	
o-Terphenyl			54.8	49.9	110	70-135	

**Units:** mg/kg **Date Analyzed:** 03/10/16 18:57 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 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 STUD							
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorood	ctane		108	99.9	108	70-130	
o-Terpheny	yl		54.1	50.0	108	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 20:51	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	tane	•	97.5	99.7	98	70-130		
o-Terpheny	1		48.9	49.9	98	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570, Lab Batch #: 990033 Sample: 526570-012 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 03/10/16 21:20 SURROGATE RECOVERY STUDY								
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chloroocta	ane		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 Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 89.7 99.6 90 70-130 o-Terphenyl 44.7 49.8 90 70-135

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	<b>Date Analyzed:</b> 03/10/16 22:47	SURROGATE RECOVERY STUDY					
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooc	ctane		92.4	99.9	92	70-130		
o-Terpheny	yl		45.9	50.0	92	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 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-Chlorooc	tane		88.4	99.9	88	70-130		
o-Terpheny	ıl		45.9	50.0	92	70-135	'	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570,
Lab Batch #: 990033
Sample: 526570-016 / SMP
Batch: 1 Matrix: Soil

Units:	Units: mg/kg Date Analyzed: 03/11/16 07:03 SURROGATE RECOVERY STUDY								
TPH By SW8015B Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]				
1-Chlorooct	ane		111	99.8	111	70-130			
o-Terphenyl			52.4	49.9	105	70-135			

**Units:** mg/kg Date Analyzed: 03/11/16 07:29 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 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	<b>Date Analyzed:</b> 03/11/16 07:55	SURROGATE RECOVERY STUDY					
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluor	robenzene		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	<b>Date Analyzed:</b> 03/11/16 08:00	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	ane		96.9	100	97	70-130		
o-Terphenyl			56.5	50.0	113	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

 Work Orders: 526570,
 Project ID:

 Lab Batch #: 990116
 Sample: 526570-008 / SMP
 Batch: 1 Matrix: Soil

Units:	mg/kg <b>Date Analyzed:</b> 03/11/16 08:1	1 SU	SURROGATE RECOVERY STUDY						
	BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0288	0.0300	96	80-120				
4-Bromoflu	orobenzene	0.0293	0.0300	98	80-120				

**Units:** mg/kg Date Analyzed: 03/11/16 08:28 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0292 0.0300 97 80-120 4-Bromofluorobenzene 0.03080.0300 103 80-120

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 #: 990116Sample: 526570-011 / SMPBatch: 1Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 09:01	SURROGATE RECOVERY STUDY					
	вте	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluor	robenzene		0.0285	0.0300	95	80-120		
4-Bromoflu	uorobenzene		0.0295	0.0300	98	80-120		

Lab Batch #: 990116 Sample: 526570-012 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 09:18	SURROGATE RECOVERY STUDY					
	ВТЕ	X 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-Bromoflu	4-Bromofluorobenzene			0.0300	102	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

 Work Orders: 526570,
 Project ID:

 Lab Batch #: 990116
 Sample: 526570-014 / SMP
 Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 09:34	SURROGATE RECOVERY STUDY						
	BTEX	by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorobenzene		0.0246	0.0300	82	80-120				
4-Bromofluorobenzene			0.0286	0.0300	95	80-120			

**Units:** mg/kg **Date Analyzed:** 03/11/16 09:50 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 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	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluor	robenzene		0.0244	0.0300	81	80-120		
4-Bromoflu	uorobenzene		0.0251	0.0300	84	80-120		

Units: mg/kg	<b>Date Analyzed:</b> 03/11/16 18:06	SURROGATE RECOVERY STUDY					
В	STEX 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		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

 Work Orders:
 526570,
 Project ID:

 Lab Batch #:
 990191
 Sample:
 526570-005 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg <b>Date Analyzed:</b> 03/11/10	6 18:23 SI	SURROGATE RECOVERY STUDY						
	BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0247	0.0300	82	80-120				
4-Bromoflu	orobenzene	0.0281	0.0300	94	80-120				

**Units:** mg/kg Date Analyzed: 03/11/16 18:39 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 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 Amount True Control TPH By SW8015B Mod Found Amount Recovery Limits Flags [B] %R %R [A] [D] **Analytes** 1-Chlorooctane 109 70-130 109 100 o-Terphenyl 53.9 50.0 108 70-135

Lab Batch #: 990116 Sample: 706268-1-BLK / BLK Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 19:08	SURROGATE RECOVERY STUDY					
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluor	obenzene	Timuly eco	0.0274	0.0300	91	80-120		
4-Bromoflu	4-Bromofluorobenzene			0.0300	92	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570,
Lab Batch #: 990191
Sample: 706321-1-BLK / BLK
Batch: 1 Matrix: Solid

Units: mg/kg	<b>Date Analyzed:</b> 03/11/16 11:50	SURROGATE RECOVERY STUDY					
ВТЕХ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
	Analytes			[-]			
1,4-Difluorobenzene		0.0269	0.0300	90	80-120		
4-Bromofluorobenzene	4-Bromofluorobenzene			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 Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 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	<b>Date Analyzed:</b> 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-Difluoro	benzene		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	<b>Date Analyzed:</b> 03/10/16 14:14	SU	RROGATE RE	ECOVERY S	STUDY	
TPH By SW8015B Mod  Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	tane	Analytes	119	100	119	70-130	
o-Terpheny	·l		53.0	50.0	106	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570,
Lab Batch #: 990116
Sample: 706268-1-BSD / BSD
Batch: 1 Matrix: Solid

Units: mg	g/kg	<b>Date Analyzed:</b> 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-Difluorobenze		Analytes	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	<b>Date Analyzed:</b> 03/11/16 10:40	SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluorobenzene		0.0296	0.0300	99	80-120					
4-Bromoflu	4-Bromofluorobenzene			0.0300	110	80-120				

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	

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 18:19	SURROGATE RECOVERY STUDY								
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluoro	benzene		0.0317	0.0300	106	80-120					
4-Bromoflu	4-Bromofluorobenzene			0.0300	111	80-120					

Lab Batch #: 990191 Sample: 526570-015 S/MS Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 10:56	SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluoro	benzene		0.0302	0.0300	101	80-120				
4-Bromoflu	orobenzene		0.0341	0.0300	114	80-120				

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 526570, Lab Batch #: 990033 Sample: 526570-001 SD / MSD Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 15:39	SU	RROGATE RI	ECOVERY S	STUDY	
	ТРН І	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			117	99.8	117	70-130	
o-Terpheny	/l		52.1	49.9	104	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 18:36	SU	RROGATE RI	ECOVERY S	STUDY	
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenzene		0.0301	0.0300	100	80-120		
4-Bromoflu	4-Bromofluorobenzene			0.0300	105	80-120	

**Units:** mg/kg Date Analyzed: 03/11/16 11:13 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B **Found** Recovery Limits Flags Amount %R %R [A] [B] [D] **Analytes** 1,4-Difluorobenzene 99 0.0296 0.0300 80-120 4-Bromofluorobenzene 0.0321 0.0300 107 80-120

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **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

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00150	0.100	0.0837	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

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	-0.00150	0.100	0.0024	02	0.100	0.0000	0.1	2	70.120	2.5	
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	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
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 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Alialytes			. ,	. ,	. ,	. ,	. ,				
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



#### Form 3 - MS / MSD Recoveries



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

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00150	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

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00150	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



#### 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:03/11/2016Date Prepared:03/11/2016Analyst:DEP

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[-]	[D]	[E]	(-)	[G]		,,,	,,,,,,	
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

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	

# 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

Reinquisned by:	Relinquished by	Relinquish	BIII to R	Special											LAB # (lab use only)	ORDER #:	(lab use only)	2						
led by:	ned by:	Coll Sum	BIII to Rose Slade at Energy Transfer. TPH Extended 35	Special instructions:	Sample-4	Sample-3	Sample-3	Sample-3	Sample-2 BOE	Sample-2 BOE	Sample-2 BOE	Sample-1 BOE	Sample-1 BOE	Sample-1 BOE	FIELD CODE	# UXWU 10			Sampler Signature:	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Nikki Green
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# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Phone: 432-563-1800
Odessa, Texas 79765 Fax: 432-563-1713

Relinquished by:	Relinquished	Bill to Ro										LAB # (lab use only)	ORDER #:	(lab use only)							
ed by:	The Man	structions:		vampie-o ounace	Sample-7 Surface	Sample-6 Surface	Sample-5	Sample-5	Sample-5	Sample-4	Sample-4	FIELD CODE	# 500570			Sampler Signature:	Telephone No: 432.520.772	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Nikki Green
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### **XENCO Laboratories** Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

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

Checklist reviewed by:

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

Work Order #: 526570

Temperature Measuring device used: r8

Work Order #: 526570	remperature w	leasuring c	levice used . To
	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 conta	iner/ 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 relinqui	shed/ received?	Yes	
#11 Chain of Custody agrees with sample I	abel(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with C	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 (le	ess than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO samples for the analysis of HEM or HEM-SC analysts.		N/A	
#22 >10 for all samples preserved with Na/	AsO2+NaOH, ZnAc+NaOH?	N/A	
* Must be completed for after-hours deliv	ery of samples prior to placing in	the refrige	erator
Analyst:	PH Device/Lot#:		
Checklist completed by:	auley Owense	Date: <u>03/1</u>	0/2016

Date: 03/10/2016

## **Analytical Report 528239**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical

14-APR-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)





14-APR-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 528239

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) 528239. 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. 528239 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

Knis Hoah

Project Manager

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

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## **Sample Cross Reference 528239**



## TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Sample -1 @ 21'	S	04-05-16 10:45	- 21 ft	528239-001
T-SSW-1 @ 6'	S	04-05-16 11:09	- 6 ft	528239-002
T-NSW-1@7'	S	04-05-16 11:34	- 7 ft	528239-003
T-WSW-1 @11'	S	04-05-16 11:45	- 11 ft	528239-004
Sample-2 @ 20'	S	04-05-16 14:00	- 20 ft	528239-005
Sample-10 @ 2.5'	S	04-05-16 15:00	- 2.5 ft	528239-006
T-SSW-2 @7'	S	04-06-16 10:00	- 7 ft	528239-007
T-ESW-1 @ 5'	S	04-06-16 10:30	- 5 ft	528239-008
T-ESW-1 @ 10'	S	04-06-16 10:50	- 10 ft	528239-009
T-ESW-1 @16'	S	04-06-16 11:20	- 16 ft	528239-010
T-NSW-2 @ 16'	S	04-06-16 13:30	- 16 ft	528239-011
T-NSW-3 @4'	S	04-06-16 14:00	- 4 ft	528239-012
T-ESW-2 @ 4'	S	04-06-16 14:25	- 4 ft	528239-013
T-ESW-3 @4'	S	04-06-16 14:45	- 4 ft	528239-014
T-ESW-4 @ 4'	S	04-06-16 15:20	- 4 ft	528239-015





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: Sample -1 @ 21' Matrix: Soil Sample Depth: 21 ft

Lab Sample Id: 528239-001 Date Collected: 04.05.16 10.45 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	9.07	2.00	0.341	mg/kg	04.13.16 21:01	1

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.86	mg/kg	04.11.16 19:47	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.86	mg/kg	04.11.16 19:47	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.86	mg/kg	04.11.16 19:47	U	1
Total TPH	PHC635	ND		9.86	mg/kg	04.11.16 19:47	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	107	70 - 130	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

РЈВ

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 18:18	U	1
Toluene	108-88-3	ND	0.00199	0.000994	mg/kg	04.11.16 18:18	U	1
Ethylbenzene	100-41-4	ND	0.00199	0.000487	mg/kg	04.11.16 18:18	U	1
m_p-Xylenes	179601-23-1	ND	0.00199	0.00169	mg/kg	04.11.16 18:18	U	1
o-Xylene	95-47-6	ND	0.00298	0.000840	mg/kg	04.11.16 18:18	U	1
Total Xylenes	1330-20-7	ND		0.000840	mg/kg	04.11.16 18:18	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 18:18	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	92	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-SSW-1 @ 6' Matrix: Soil Sample Depth: 6 ft

Lab Sample Id: 528239-002 Date Collected: 04.05.16 11.09 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MNR

Analyst: MNR % Moist: Tech:

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	20.0	10.0	1.70	mg/kg	04.13.16 21:42	5

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.85	mg/kg	04.11.16 21:11	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.85	mg/kg	04.11.16 21:11	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.85	mg/kg	04.11.16 21:11	U	1
Total TPH	PHC635	ND		9.85	mg/kg	04.11.16 21:11	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	101	70 - 130	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

РЈВ

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 19:07	U	1
Toluene	108-88-3	ND	0.00198	0.000992	mg/kg	04.11.16 19:07	U	1
Ethylbenzene	100-41-4	ND	0.00198	0.000486	mg/kg	04.11.16 19:07	U	1
m_p-Xylenes	179601-23-1	ND	0.00198	0.00169	mg/kg	04.11.16 19:07	U	1
o-Xylene	95-47-6	ND	0.00298	0.000839	mg/kg	04.11.16 19:07	U	1
Total Xylenes	1330-20-7	ND		0.000839	mg/kg	04.11.16 19:07	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 19:07	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	112	80 - 120	%		
4-Bromofluorobenzene	113	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-NSW-1@7' Matrix: Soil Sample Depth: 7 ft

Lab Sample Id: 528239-003 Date Collected: 04.05.16 11.34 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	3.65	2.00	0.341	mg/kg	04.13.16 22:02	1

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.87	mg/kg	04.11.16 21:38	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.87	mg/kg	04.11.16 21:38	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.87	mg/kg	04.11.16 21:38	U	1
Total TPH	PHC635	ND		9.87	mg/kg	04.11.16 21:38	U	
C28-C35 Oil Range Hydrocarbons		ND		9.87	mg/kg	04.11.16 21:38	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	101	70 - 130	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

PJB

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 19:23	U	1
Toluene	108-88-3	ND	0.00200	0.000998	mg/kg	04.11.16 19:23	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000489	mg/kg	04.11.16 19:23	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 19:23	U	1
o-Xylene	95-47-6	ND	0.00299	0.000844	mg/kg	04.11.16 19:23	U	1
Total Xylenes	1330-20-7	ND		0.000844	mg/kg	04.11.16 19:23	U	
Total BTEX		ND		0.000335	mg/kg	04.11.16 19:23	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-WSW-1 @11' Matrix: Soil Sample Depth: 11 ft

Lab Sample Id: 528239-004 Date Collected: 04.05.16 11.45 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	35.6	10.0	1.70	mg/kg	04.13.16 22:22	5

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.87	mg/kg	04.11.16 22:06	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	51.7	15.0	9.87	mg/kg	04.11.16 22:06		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.87	mg/kg	04.11.16 22:06	U	1
Total TPH	PHC635	51.7		9.87	mg/kg	04.11.16 22:06		

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	116	70 - 130	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

РЈВ

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 19:40	U	1
Toluene	108-88-3	ND	0.00198	0.000992	mg/kg	04.11.16 19:40	U	1
Ethylbenzene	100-41-4	ND	0.00198	0.000486	mg/kg	04.11.16 19:40	U	1
m_p-Xylenes	179601-23-1	ND	0.00198	0.00169	mg/kg	04.11.16 19:40	U	1
o-Xylene	95-47-6	ND	0.00298	0.000839	mg/kg	04.11.16 19:40	U	1
Total Xylenes	1330-20-7	ND		0.000839	mg/kg	04.11.16 19:40	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 19:40	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	110	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: Sample-2 @ 20' Matrix: Soil Sample Depth: 20 ft

Lab Sample Id: 528239-005 Date Collected: 04.05.16 14.00 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag	r
Chloride	16887-00-6	32.3	2.00	0.341	mg/kg	04.13.16 22:42	1	

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219 Date Prep: 04.11.16 15.00

Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	444	15.0	9.86	mg/kg	04.11.16 22:34		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	1920	15.0	9.86	mg/kg	04.11.16 22:34		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	26.1	15.0	9.86	mg/kg	04.11.16 22:34		1
Total TPH	PHC635	2390		9.86	mg/kg	04.11.16 22:34		

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	109	70 - 130	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: PJB % Moist:

Tech: PJB

Seq Number: 992159 Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.0264	0.00149	0.000333	mg/kg	04.11.16 21:33		1
Toluene	108-88-3	0.0132	0.00199	0.000994	mg/kg	04.11.16 21:33		1
Ethylbenzene	100-41-4	0.160	0.00199	0.000487	mg/kg	04.11.16 21:33		1
m_p-Xylenes	179601-23-1	0.315	0.00199	0.00169	mg/kg	04.11.16 21:33		1
o-Xylene	95-47-6	0.0590	0.00298	0.000840	mg/kg	04.11.16 21:33		1
Total Xylenes	1330-20-7	0.374		0.000840	mg/kg	04.11.16 21:33		
Total BTEX		0.574		0.000333	mg/kg	04.11.16 21:33		

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	115	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: Sample-10 @ 2.5' Matrix: Soil Sample Depth: 2.5 ft

Lab Sample Id: 528239-006 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	40.9	10.0	1.70	mg/kg	04.13.16 23:03	5

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Date Prep: 04.11.16 15.00 Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.88	mg/kg	04.11.16 23:02	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.88	mg/kg	04.11.16 23:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.88	mg/kg	04.11.16 23:02	U	1
Total TPH	PHC635	ND		9.88	mg/kg	04.11.16 23:02	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	111	70 - 130	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

РЈВ

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 19:56	U	1
Toluene	108-88-3	ND	0.00199	0.000994	mg/kg	04.11.16 19:56	U	1
Ethylbenzene	100-41-4	ND	0.00199	0.000487	mg/kg	04.11.16 19:56	U	1
m_p-Xylenes	179601-23-1	ND	0.00199	0.00169	mg/kg	04.11.16 19:56	U	1
o-Xylene	95-47-6	ND	0.00298	0.000840	mg/kg	04.11.16 19:56	U	1
Total Xylenes	1330-20-7	ND		0.000840	mg/kg	04.11.16 19:56	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 19:56	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	110	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-SSW-2 @7' Matrix: Soil Sample Depth: 7 ft

Lab Sample Id: 528239-007 Date Collected: 04.06.16 10.00 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	99.0	20.0	3.41	mg/kg	04.14.16 00:03	10

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.86	mg/kg	04.11.16 23:30	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.86	mg/kg	04.11.16 23:30	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.86	mg/kg	04.11.16 23:30	U	1
Total TPH	PHC635	ND		9.86	mg/kg	04.11.16 23:30	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	105	70 - 130	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

PJB

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 20:12	U	1
Toluene	108-88-3	ND	0.00200	0.000998	mg/kg	04.11.16 20:12	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000489	mg/kg	04.11.16 20:12	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 20:12	U	1
o-Xylene	95-47-6	ND	0.00299	0.000844	mg/kg	04.11.16 20:12	U	1
Total Xylenes	1330-20-7	ND		0.000844	mg/kg	04.11.16 20:12	U	
Total BTEX		ND		0.000335	mg/kg	04.11.16 20:12	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	92	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-1 @ 5' Matrix: Soil Sample Depth: 5 ft

Lab Sample Id: 528239-008 Date Collected: 04.06.16 10.30 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	875	100	17.0	mg/kg	04.14.16 00:24	50

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Date Prep: 04.11.16 15.00 Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.85	mg/kg	04.11.16 23:59	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.85	mg/kg	04.11.16 23:59	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.85	mg/kg	04.11.16 23:59	U	1
Total TPH	PHC635	ND		9.85	mg/kg	04.11.16 23:59	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	88	70 - 130	%		
o-Terphenyl	89	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

PJB

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 20:28	U	1
Toluene	108-88-3	ND	0.00198	0.000992	mg/kg	04.11.16 20:28	U	1
Ethylbenzene	100-41-4	ND	0.00198	0.000486	mg/kg	04.11.16 20:28	U	1
m_p-Xylenes	179601-23-1	ND	0.00198	0.00169	mg/kg	04.11.16 20:28	U	1
o-Xylene	95-47-6	ND	0.00298	0.000839	mg/kg	04.11.16 20:28	U	1
Total Xylenes	1330-20-7	ND		0.000839	mg/kg	04.11.16 20:28	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 20:28	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-1 @ 10' Matrix: Soil Sample Depth: 10 ft

Lab Sample Id: 528239-009 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	168	40.0	6.82	mg/kg	04.14.16 00:44	20

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Date Prep: 04.11.16 15.00 Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.85	mg/kg	04.12.16 00:27	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	58.8	15.0	9.85	mg/kg	04.12.16 00:27		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.85	mg/kg	04.12.16 00:27	U	1
Total TPH	PHC635	58.8		9.85	mg/kg	04.12.16 00:27		

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	120	70 - 130	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

PJB

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 20:45	U	1
Toluene	108-88-3	ND	0.00200	0.000998	mg/kg	04.11.16 20:45	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000489	mg/kg	04.11.16 20:45	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 20:45	U	1
o-Xylene	95-47-6	ND	0.00299	0.000844	mg/kg	04.11.16 20:45	U	1
Total Xylenes	1330-20-7	ND		0.000844	mg/kg	04.11.16 20:45	U	
Total BTEX		ND		0.000335	mg/kg	04.11.16 20:45	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	104	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-1 @16' Matrix: Soil Sample Depth: 16 ft

Lab Sample Id: 528239-010 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	14.1	10.0	1.70	mg/kg	04.14.16 01:04	5

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist: Tech: ARM

Seq Number: 992219 Date Prep: 04.11.16 15.00

Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.85	mg/kg	04.12.16 00:56	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.85	mg/kg	04.12.16 00:56	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.85	mg/kg	04.12.16 00:56	U	1
Total TPH	PHC635	ND		9.85	mg/kg	04.12.16 00:56	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	110	70 - 130	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: PJB % Moist: Tech: PJB

Seq Number: 992159 Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 21:00	U	1
Toluene	108-88-3	ND	0.00200	0.000998	mg/kg	04.11.16 21:00	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000489	mg/kg	04.11.16 21:00	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 21:00	U	1
o-Xylene	95-47-6	ND	0.00299	0.000844	mg/kg	04.11.16 21:00	U	1
Total Xylenes	1330-20-7	ND		0.000844	mg/kg	04.11.16 21:00	U	
Total BTEX		ND		0.000335	mg/kg	04.11.16 21:00	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	107	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-NSW-2 @ 16' Matrix: Soil Sample Depth: 16 ft

Lab Sample Id: 528239-011 Date Collected: 04.06.16 13.30 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	1440	100	17.0	mg/kg	04.14.16 01:25	50

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Date Prep: 04.11.16 15.00 Prep seq: 707587

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.87	mg/kg	04.12.16 01:52	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.87	mg/kg	04.12.16 01:52	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.87	mg/kg	04.12.16 01:52	U	1
Total TPH	PHC635	ND		9.87	mg/kg	04.12.16 01:52	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	95	70 - 130	%		
o-Terphenyl	96	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

РЈВ

Seq Number: 992159

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.12.16 12:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.12.16 12:44	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.12.16 12:44	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.12.16 12:44	U	1
o-Xylene	95-47-6	ND	0.00300	0.000845	mg/kg	04.12.16 12:44	U	1
Total Xylenes	1330-20-7	ND		0.000845	mg/kg	04.12.16 12:44	U	
Total BTEX		ND		0.000335	mg/kg	04.12.16 12:44	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	103	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-NSW-3 @4' Matrix: Soil Sample Depth: 4 ft

Lab Sample Id: 528239-012 Date Collected: 04.06.16 14.00 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	246	20.0	3.41	mg/kg	04.14.16 02:05	10

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.86	mg/kg	04.12.16 02:21	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.86	mg/kg	04.12.16 02:21	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.86	mg/kg	04.12.16 02:21	U	1
Total TPH	PHC635	ND		9.86	mg/kg	04.12.16 02:21	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	99	70 - 130	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

PJB

Analyst: PJB Seq Number: 992302

Date Prep: 04.11.16 20.00

Prep seq: 707618

% Moist:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00149	0.000333	mg/kg	04.11.16 23:42	U	1
Toluene	108-88-3	ND	0.00199	0.000994	mg/kg	04.11.16 23:42	U	1
Ethylbenzene	100-41-4	ND	0.00199	0.000487	mg/kg	04.11.16 23:42	U	1
m_p-Xylenes	179601-23-1	ND	0.00199	0.00169	mg/kg	04.11.16 23:42	U	1
o-Xylene	95-47-6	ND	0.00298	0.000840	mg/kg	04.11.16 23:42	U	1
Total Xylenes	1330-20-7	ND		0.000840	mg/kg	04.11.16 23:42	U	
Total BTEX		ND		0.000333	mg/kg	04.11.16 23:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-2 @ 4' Matrix: Soil Sample Depth: 4 ft

Lab Sample Id: 528239-013 Date Collected: 04.06.16 14.25 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	304	20.0	3.41	mg/kg	04.14.16 02:25		10

Analytical Method: TPH By SW8015B Mod

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

Seq Number: 992219

Prep seq: 707587

Date Prep: 04.11.16 15.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.87	mg/kg	04.12.16 02:49	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.87	mg/kg	04.12.16 02:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.87	mg/kg	04.12.16 02:49	U	1
Total TPH	PHC635	ND		9.87	mg/kg	04.12.16 02:49	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1-Chlorooctane	102	70 - 130	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Tech:

Analyst: PJB

% Moist:

PJB

Seq Number: 992302

Date Prep: 04.11.16 20.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 23:58	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.11.16 23:58	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.11.16 23:58	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 23:58	U	1
o-Xylene	95-47-6	ND	0.00300	0.000845	mg/kg	04.11.16 23:58	U	1
Total Xylenes	1330-20-7	ND		0.000845	mg/kg	04.11.16 23:58	U	
Total BTEX		ND		0.000335	mg/kg	04.11.16 23:58	U	

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	104	80 - 120	%		
4-Bromofluorobenzene	92	80 - 120	%		





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-3 @4' Matrix: Soil Sample Depth: 4 ft

Lab Sample Id: 528239-014 Date Collected: 04.06.16 14.45 Date Received: 04.08.16 15.23

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: MNR % Moist: Tech: MNR

Seq Number: 992431 Date Prep: 04.13.16 16.00

Prep seq: 707674

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	321	40.0	6.82	mg/kg	04.14.16 02:46	20
Sample Id: T-ESW-4 @ 4'		Matrix:	Soil		Sample	e Depth: 4 ft	
Lab Sample Id: 528239-015		Date Collecte	ed: 04.06.16 1	5.20	Date R	eceived: 04.08.	16 15.23
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	lethod: E300P	
Analyst: MNR		% Moist:			Tech:	MNR	

Seq Number: 992431 Date Prep: 04.13.16 16.00

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Dil Factor Flag
Chloride	16887-00-6	361	20.0	3.41	mg/kg	04.14.16 03:06	10





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: 707546-1-BLK Matrix: Solid Sample Depth:

Lab Sample Id: 707546-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: PJB % Moist: Tech: PJB

Seq Number: 992159 Date Prep: 04.11.16 11.00

Prep seq: 707546

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 12:26	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.11.16 12:26	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.11.16 12:26	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 12:26	U	1
o-Xylene	95-47-6	ND	0.00300	0.000845	mg/kg	04.11.16 12:26	U	1

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		

Sample Id: 707587-1-BLK Matrix: Solid Sample Depth:

Lab Sample Id: 707587-1-BLK Date Collected: Date Received:

Analytical Method: TPH By SW8015B Mod

1-Chlorooctane

o-Terphenyl

Prep Method: 1005

Analyst: ARM % Moist:

Tech: ARM

%

%

70 - 130 70 - 135

Seq Number: 992219 Date Prep: 04.11.16 15.00

Prep seq: 707587

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Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0	9.88	mg/kg	04.11.16 18:20	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0	9.88	mg/kg	04.11.16 18:20	U	1
Total TPH	PHC635	ND		9.88	mg/kg	04.11.16 18:20	U	
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag





#### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: 707618-1-BLK Matrix: Solid Sample Depth: Lab Sample Id: 707618-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: PJB

PJB

Tech:

Date Prep: 04.11.16 20.00 Seq Number: 992302

Prep seq: 707618

% Moist:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 23:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.11.16 23:25	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.11.16 23:25	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.16 23:25	U	1
o-Xylene	95-47-6	ND	0.00300	0.000845	mg/kg	04.11.16 23:25	U	1

Surrogate	% Recovery	Limits	Units	<b>Analysis Date</b>	Flag
1,4-Difluorobenzene	99	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		

Sample Id: Matrix: Solid Sample Depth: 707674-1-BLK Lab Sample Id: 707674-1-BLK Date Collected: Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

% Moist: Analyst: MNR

Tech: MNR

Date Prep: 04.13.16 16.00 Seq Number: 992431

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	2.00	0.341	mg/kg	04.13.16 20:00	U	1



#### XENCO Laboratories CHRONOLOGY OF HOLDING TIMES



Analytical Method : <u>Inorganic Anions by EPA 300/300.1</u>	Client: TRC Solutions, Inc
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Work Order #: **528239** Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracte d (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Sample -1 @ 21'	Apr. 5, 2016	Apr. 8, 2016				Apr.13, 2016	28	8	P
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	P
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016				Apr.13, 2016	28	8	P
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016				Apr.13, 2016	28	8	P
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016				Apr.13, 2016	28	8	P
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016				Apr.13, 2016	28	8	P
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	P
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-ESW-3 @4'	Apr. 6, 2016	Apr. 8, 2016				Apr.14, 2016	28	8	P
T-ESW-4 @ 4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	P



# **XENCO** Laboratories



Analytical Method : TPH By SW8015B Mod	Client: TRC Solutions, Inc
Work Order #: <b>528239</b>	Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracte d (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Sample -1 @ 21'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6 .	Apr.11, 2016	14	0	P
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6 .	Apr.11, 2016	14	0	P
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	P
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	P
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	P
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	P
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.11, 2016	14	0	P
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.11, 2016	14	0	P
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5 .	Apr.12, 2016	14	1	P
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	P
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	P
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5 .	Apr.12, 2016	14	1	P
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	P



# **XENCO** Laboratories CHRONOLOGY OF HOLDING TIMES



Analytical Method : BTEX by EPA 8021B	Client: TRC Solutions, Inc
Work Order #: 528239	Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracte d (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Sample -1 @ 21'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	P
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016				Apr.12, 2016	14	6	P
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	P

 $F = These \ samples \ were \ analyzed \ outside \ the \ recommended \ holding \ time.$   $P = Samples \ analyzed \ within \ the \ recommended \ holding \ time.$ 



# Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Analytical Method: BTEX by EPA 8021B Batch #: 992159

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

Client Name: TRC Solutions, Inc WO Number: 528239

Client Sample Id	Lab Sample Id	QC Types
Sample -1 @ 21'	528239-001	SMP
Sample-10 @ 2.5'	528239-006	SMP
Sample-2 @ 20'	528239-005	SMP
T-ESW-1 @ 10'	528239-009	SMP
T-ESW-1 @ 5'	528239-008	SMP
T-ESW-1 @16'	528239-010	SMP
T-NSW-1@7'	528239-003	SMP
T-NSW-2 @ 16'	528239-011	SMP
T-SSW-1 @ 6'	528239-002	SMP
T-SSW-2 @7'	528239-007	SMP
T-WSW-1 @11'	528239-004	SMP
	528243-002 S	MS
	528243-002 SD	MSD
	707546-1-BKS	BKS
	707546-1-BLK	BLK
	707546-1-BSD	BSD



Analytical Method: TPH By SW8015B Mod Batch #: 992219

Project Name: Energy Transfer Boyd 4" Historical Project ID: 
Client Name: TRC Solutions, Inc WO Number: 528239

Client Sample Id	Lab Sample Id	QC Types
Sample -1 @ 21'	528239-001	SMP
Sample-10 @ 2.5'	528239-006	SMP
Sample-2 @ 20'	528239-005	SMP
T-ESW-1 @ 10'	528239-009	SMP
T-ESW-1 @ 5'	528239-008	SMP
T-ESW-1 @16'	528239-010	SMP
T-ESW-2 @ 4'	528239-013	SMP
T-NSW-1@7'	528239-003	SMP
T-NSW-2 @ 16'	528239-011	SMP
T-NSW-3 @4'	528239-012	SMP
T-SSW-1 @ 6'	528239-002	SMP
T-SSW-2 @7'	528239-007	SMP
T-WSW-1 @11'	528239-004	SMP
	528239-001 S	MS
	528239-001 SD	MSD
	707587-1-BKS	BKS
	707587-1-BLK	BLK
	707587-1-BSD	BSD



Analytical Method:	BTEX by EPA 8021B		Batch #:	992302	
Project Name:	Energy Transfer Boyd 4"	Historical	Project ID:		
Client Name:	TRC Solutions, Inc		WO Number:	528239	
Client Sar	nple Id	Lab Sample	e <b>Id</b>	QC Types	
T-ESW-2 (	@ 4'	528239-013		SMP	
T-NSW-3	@4'	528239-012		SMP	
		528239-013	S	MS	_
		528239-013	SD	MSD	_
		707618-1-B	KS	BKS	
		707618-1-B	LK	BLK	
		707618-1-B	SD	BSD	



Analytical Method: Inorganic Anions by EPA 300/300.1 Batch #: 992431

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

Client Name: TRC Solutions, Inc WO Number: 528239

Client Sample Id	Lab Sample Id	QC Types
Sample -1 @ 21'	528239-001	SMP
Sample-10 @ 2.5'	528239-006	SMP
Sample-2 @ 20'	528239-005	SMP
T-ESW-1 @ 10'	528239-009	SMP
T-ESW-1 @ 5'	528239-008	SMP
T-ESW-1 @16'	528239-010	SMP
T-ESW-2 @ 4'	528239-013	SMP
T-ESW-3 @4'	528239-014	SMP
T-ESW-4 @ 4'	528239-015	SMP
T-NSW-1@7'	528239-003	SMP
T-NSW-2 @ 16'	528239-011	SMP
T-NSW-3 @4'	528239-012	SMP
T-SSW-1 @ 6'	528239-002	SMP
T-SSW-2 @7'	528239-007	SMP
T-WSW-1 @11'	528239-004	SMP
	528239-001 S	MS
	528239-011 S	MS
	707674-1-BKS	BKS
	707674-1-BLK	BLK
	707674-1-BSD	BSD
	=	



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 528239,
Lab Batch #: 992159
Sample: 707546-1-BKS / BKS
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 11:05	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 992159 Sample: 707546-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 11:21	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Units: mg/kg Date Analyzed: 04/11/16 11:37 SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Units: mg/kg Date Analyzed: 04/11/16 11:54	Date Analyzed: 04/11/16 11:54 SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0321	0.0300	107	80-120		
4-Bromofluorobenzene	0.0332	0.0300	111	80-120		

Lab Batch #: 992159 Sample: 707546-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 12:26	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes	. ,	. ,	[D]				
1,4-Difluorobenzene	0.0303	0.0300	101	80-120			
4-Bromofluorobenzene	0.0271	0.0300	90	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 528239,
Lab Batch #: 992302 Sample: 707618-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 22:05	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0302	0.0300	101	80-120			
4-Bromofluorobenzene	0.0306	0.0300	102	80-120			

Lab Batch #: 992302 Sample: 707618-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 22:20	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0299	0.0300	100	80-120		
4-Bromofluorobenzene	0.0307	0.0300	102	80-120		

**Lab Batch #:** 992302 **Sample:** 528239-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg Date Analyzed: 04/11/16 22:37	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0323	0.0300	108	80-120			
4-Bromofluorobenzene	0.0305	0.0300	102	80-120			

Units: mg/kg Date Analyzed: 04/11/16 22:53	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0324	0.0300	108	80-120			
4-Bromofluorobenzene	0.0310	0.0300	103	80-120			

Lab Batch #: 992302 Sample: 707618-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 23:25	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes	. ,	. ,	[D]				
1,4-Difluorobenzene	0.0296	0.0300	99	80-120			
4-Bromofluorobenzene	0.0271	0.0300	90	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical

Work Orders: 528239,
Lab Batch #: 992219
Sample: 707587-1-BLK / BLK
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 18:20	SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes	. ,	. ,	[D]			
1-Chlorooctane	117	100	117	70-130		
o-Terphenyl	60.5	50.0	121	70-135		

Lab Batch #: 992219 Sample: 707587-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/11/16 18:50	SURROGATE RECOVERY STUDY						
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	128	100	128	70-130			
o-Terphenyl	61.6	50.0	123	70-135			

Lab Batch #: 992219 Sample: 707587-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 04/11/16 19:19	SURROGATE RECOVERY STUDY						
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	126	100	126	70-130			
o-Terphenyl	60.9	50.0	122	70-135			

Units: mg/kg Date Analyzed: 04/11/16 20:15	SURROGATE RECOVERY STUDY						
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes		. ,	[D]				
1-Chlorooctane	116	100	116	70-130			
o-Terphenyl	53.9	50.0	108	70-135			

Units: mg/kg Date Analyzed: 04/11/16 20:42	SURROGATE RECOVERY STUDY						
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	118	99.8	118	70-130			
o-Terphenyl	54.4	49.9	109	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **BS / BSD Recoveries**



Project Name: Energy Transfer Boyd 4" Historical

Work Order #: 528239 Project ID:

Analyst: PJB Date Prepared: 04/11/2016 Date Analyzed: 04/11/2016

Lab Batch ID: 992159 Sample: 707546-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000335	0.100	0.0968	97	0.100	0.0922	92	5	70-130	35	
Toluene	< 0.00100	0.100	0.0967	97	0.100	0.0935	94	3	70-130	35	
Ethylbenzene	< 0.000490	0.100	0.105	105	0.100	0.101	101	4	71-129	35	
m_p-Xylenes	< 0.00170	0.200	0.205	103	0.200	0.199	100	3	70-135	35	
o-Xylene	< 0.000845	0.100	0.0975	98	0.100	0.0949	95	3	71-133	35	

Analyst: PJB Date Prepared: 04/11/2016 Date Analyzed: 04/11/2016

Lab Batch ID: 992302 Sample: 707618-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.000335	0.100	0.0981	98	0.100	0.0854	85	14	70-130	35	
Toluene	< 0.00100	0.100	0.0991	99	0.100	0.0855	86	15	70-130	35	
Ethylbenzene	< 0.000490	0.100	0.107	107	0.100	0.0952	95	12	71-129	35	
m_p-Xylenes	< 0.00170	0.200	0.213	107	0.200	0.189	95	12	70-135	35	
o-Xylene	< 0.000845	0.100	0.103	103	0.100	0.0926	93	11	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 #: 528239 Project ID:

Analyst: MNR Date Prepared: 04/13/2016 Date Analyzed: 04/13/2016

Lab Batch ID: 992431 Sample: 707674-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

	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		[12]	رکا	[D]	լեյ	icsuit [1]	[6]				
Chloride	< 0.341	50.0	49.4	99	50.0	49.7	99	1	90-110	20	

Analyst: ARM Date Prepared: 04/11/2016 Date Analyzed: 04/11/2016

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	[B]	Result [C]	%R [D]	[E]	Duplicate Result [F]	%R [G]	%	%R	%RPD	
C6-C10 Gasoline Range Hydrocarbons	<9.88	1000	931	93	1000	931	93	0	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<9.88	1000	1010	101	1000	994	99	2	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



# Form 3 - MS Recoveries



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

Work Order #: 528239 Lab Batch #: 992431

**Inorganic Anions by EPA 300** 

**Analytes** 

 Date Analyzed:
 04/13/2016
 Date Prepared: 04/13/2016
 Analyst: MNR

 QC- Sample ID:
 528239-001 S
 Batch #: 1
 Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY											
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag						
9.07	50.0	56.7	95	80-120							

**Project ID:** 

**Lab Batch #:** 992431

Chloride

 Date Analyzed:
 04/14/2016
 Date Prepared: 04/13/2016
 Analyst: MNR

 QC- Sample ID:
 528239-011 S
 Batch #: 1
 Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUD							
Parent Sample Result	Spike Added	Result	%R	Control Limits	Flag		
[A]	[B]	[C]	[12]	7010			
1440	2500	3900	98	80-120	1		
	Sample Result [A]	Sample Spike Result Added [A] [B]	Sample Spike Result Added [A] [B]	Sample Spike Result %R Added [C] [D]	Sample Spike Result   %R Limits		

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: Energy Transfer Boyd 4" Historical

Work Order #: 528239 Project ID:

**Lab Batch ID:** 992159 **QC- Sample ID:** 528243-002 S **Batch #:** 1 **Matrix:** Soil

 Date Analyzed:
 04/11/2016
 Date Prepared:
 04/11/2016
 Analyst:
 PJB

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.000333	0.0992	0.103	104	0.100	0.0755	76	31	70-130	35	
Toluene	< 0.000992	0.0992	0.106	107	0.100	0.0745	75	35	70-130	35	
Ethylbenzene	< 0.000486	0.0992	0.116	117	0.100	0.0801	80	37	71-129	35	F
m_p-Xylenes	< 0.00169	0.198	0.229	116	0.200	0.161	81	35	70-135	35	
o-Xylene	< 0.000839	0.0992	0.110	111	0.100	0.0873	87	23	71-133	35	

**Lab Batch ID:** 992302 **QC- Sample ID:** 528239-013 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.000335	0.0998	0.0739	74	0.0992	0.0726	73	2	70-130	35	
Toluene	<0.000998	0.0998	0.0748	75	0.0992	0.0719	72	4	70-130	35	
Ethylbenzene	< 0.000489	0.0998	0.0817	82	0.0992	0.0803	81	2	71-129	35	
m_p-Xylenes	< 0.00170	0.200	0.163	82	0.198	0.160	81	2	70-135	35	
o-Xylene	< 0.000844	0.0998	0.0790	79	0.0992	0.0780	79	1	71-133	35	



# Form 3 - MS / MSD Recoveries



Project Name: Energy Transfer Boyd 4" Historical

Work Order #: 528239 Project ID:

**Lab Batch ID:** 992219 **QC- Sample ID:** 528239-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/11/2016 Date Prepared: 04/11/2016 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	<9.88	1000	849	85	998	858	86	1	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<9.88	1000	904	90	998	898	90	1	75-125	25	

# **Attachment A** Laboratory Data Package Cover Page

Project 1	Project Name: Energy Transfer Boyd 4" Histo Laboratory Number: 528239									
This Da	ta package consists of:	Laboratory Batch	No(s)							
This sig	nature page, the laboratory	review checklist, and the follow	ring reportable data:							
R1	Field chain-of-custody d	ocumentation;								
R2	Sample identification cross-	reference;								
☐ R3	R3 Test reports (analytical data sheets) for each environmental sample that includes:  a) Items consistent with NELAC 5  b) dilution factors, c) preparation methods, d) cleanup methods, and e) if required for the project, tentatively identified compounds (TICs).									
R4	Surrogate Recovery data a) Calculated recovery (b) The laboratory's surr	(%R), and								
☐ R5	Test reports/summary fo	rms for blank samples;								
R6	Test reports/summary forms for a) LCS spiking amounts, b) Calculated %R for each ana c) The laboratory's LCS QC lin		ding:							
R7	<ul><li>a) Samples associated with</li><li>b) MS/MSD spiking amou</li><li>c) Concentration of each M</li></ul>	MS/MSD analyte measured in the pa ative percent differences (RPDs) and	rent and spiked samples,							
R8	Laboratory anaytical duplica a) the amount of analyte m b) the calculated RPD, and c) the laboratory's QC limit	d	ision:							
R9 matri	*	ts (MQLs) and detectability check sampl	e results for each analyte for each	method and						
R10	Other problems or anomalie	es.								
		Not Reviewed (NR)" item in Laboratory loes not hold NELAC accreditation unde								
in the Exercise the except when the except when the problem is a second control of the except when the Texas are the Texas are the Texas are the Exercise the Exe	Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies, observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.									
Reports	on (enter date of last inspendence). The offical signing the	poratory meets an exception under 3 ection). Any findings affecting the decover page of the report in which the above release statement is true.	ata in this laboratory data pac	kage are noted in the Exception						
		Mana & Manada								
Kelsey I Name (F		Knur Hoah Signature	Project Manager Official Title (printed)	<u>14-APR-16</u> Date						
- (-	,	<i>-</i>	· (L							

A1

- 1. Items identified by the letter "R" must be included in the laboratory data package submitted to the TCEQ-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report Identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Attachment A (cont'd): Laboratory Review Checklist: Exception Reports								
Laboratory Name: XENCO LABORATORIES	LRC Date: 14-APR-16							
Project Name: Energy Transfer Boyd 4" Historical	Laboratory Job Number: 528239							
Reviewer Name: KEB	Batch Number(s):							
ER# 1 DESCRIPTION								

<sup>1</sup> ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No is checked on the LRC).



# **DCS Summary**

528239



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

# Xenco Laboratories

Relinquished by Relinquished by: Bill to Rose Slade at Energy Transfer. TPH Extended 35 Relinquished by: Special Instructions: ORDER #: (lab use only) The Environmental Lab of Texas LAB # (lab use only) Sampler Signature: Telephone No: City/State/Zip: Company Address: Company Name Project Manager: Sample-10 @ 2.5' T-ESW-1 @16' T-ESW-1 @ 10' Sample-2 @ 20' T-WSW-1 @11' Sample-1 @ 21 T-ESW-1 @ 5' T-SSW-2 @ 7" T-NSW-1 @ 7' T-SSW-1 @ 6' FIELD CODE 2057 Commerce 432.520.7720 Midland, TX 79703 TRC Solutions, Inc Nikki Green Date Beginning Depth Time lime Ending Depth Received by ELOT: Received by Received by: 4/6/2016 4/6/2016 4/6/2016 4/6/2016 4/5/2016 4/5/2016 4/5/2016 4/5/2016 4/5/2016 4/5/2016 Date Sampled 1400 1120 1050 1030 1000 1500 1145 1134 1109 1045 Fax No: Time Sampled e-mail: ield Filtered Total #. of Containers 432.520.7701 × × rose.slade@energytransfer.com × × Odessa, Texas 79765 12600 West I-20 East ngreen@trcsolutions.com HNO<sub>3</sub> HCI H<sub>2</sub>SO<sub>4</sub> CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 52823 NaOH Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 1-8-16 Date Date Other (Specify) DW=Drinking Water SL=Sludge Soil Soil Soil Soil Soil Soil Soil Soil Report Format: 8:28 NP=Non-Potable Specify Other Project Name: ſime Time Project Loc: × × × × 418.1 8015M 8015B Sample Hand Delivered by Sampler/Client Rep. ?
by Courier? Une DHI F Project #: TX 1005 TX 1006 PO #: Custody seals on container(s) VOCs Free of Headspace? Sample Containers Intact? Labels on container(s) Laboratory Comments: Cations (Ca, Mg, Na, K) Anions (CI, SO4, Alkalinity) TOTAL TCLP: SAR / ESP / CEC Standard Energy Transfer Boyd 4" Historical Metals: As Ag Ba Cd Cr Pb Hg Se Phone: 432-563-1800 Fax: 432-563-1713 Analyze For: \_ea County, NM × × × × × × × × BTEX 8021B/5030 or BTEX 8260 RCI TRRP IR ID:R-8 N.O.R.M. FedEx Lone Star × × Chlorides E 300.1 **イイイイイ** NPDES ZZZZZZ RUSH TAT (Pre-Schedule) 24, 48, 72 hrs × × × × × Standard TAT

Page 40 of 42

Final 1.000

Corrected Temp:

# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

	Relinquished by:	Bill to Rose	Special In										LAB#(lab use only)	ORDER #:	(lab use only)							į
	ad by:  Date	Bill to Rose Slade at Energy Transfer. TPH Extended 35	Special Instructions:				C	T-ESW-4 @ 4'	T-ESW-3 @ 4'	T-ESW-2 @ 4'	T-NSW-3 @ 4'	T-NSW-2 @ 16'	FIELD CODE	7#	only)	Sampler Signature: THAN J	Telephone No: 432,520,7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc.	Project Manager: Nikki Green	A DOI HEXAS
-	3000				+		+						Beginning Depth	-		MA	> >					
	Time	Time		H	+		$\dagger$					-	Ending Depth	1		2						
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Cyr.0 13°C IR IL	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS DH	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?							1			$\dashv$	Semivolatiles		Analyze For:				_		Z.	e: 4 4
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Final 1.000



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

**Date/ Time Received:** 04/08/2016 03:23:00 PM

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

Work Order #: 528239

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		13
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ntainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relind	quished/ received?	Yes
#12 Chain of Custody agrees with sampl	e label(s)?	Yes
#13 Container label(s) legible and intact?		Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicate	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		No
#21 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-analysts.		N/A
#23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Mary alexis Negron  Mary Negron	Date: 04/11/2016
Checklist reviewed by:	Mus froak Kelsey Brooks	Date: <u>04/11/2016</u>

# **Analytical Report 532437**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

07-JUL-16

Collected By: Client





# 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





07-JUL-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 532437

**Energy Transfer Boyd 4" Historical (West)** 

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) 532437. 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. 532437 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

Knis Hoah

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 OUALITY

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



# **Sample Cross Reference 532437**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
West Excavation Floor-1 @ 20'	S	06-27-16 13:00	- 20 ft	532437-001
West Excavation SSW-1 @ 19'	S	06-27-16 13:05	- 19 ft	532437-002
West Excavation NSW-1 @ 19'	S	06-27-16 13:10	- 19 ft	532437-003
West Excavation ESW-1 @ 19'	S	06-27-16 13:15	- 19 ft	532437-004
West Excavation Floor-2 @ 20'	S	06-27-16 13:20	- 20 ft	532437-005
West Excavation SSW-2 @ 19'	S	06-27-16 13:25	- 19 ft	532437-006
West Excavation NSW-2 @ 19'	S	06-27-16 13:30	- 19 ft	532437-007
West Excavation Floor-3 @ 20'	S	06-27-16 13:35	- 20 ft	532437-008
West Excavation SSW-3 @ 19'	S	06-27-16 13:40	- 19 ft	532437-009
West Excavation NSW-3 @ 19'	S	06-27-16 13:45	- 19 ft	532437-010
West Excavation WSW-3 @ 19'	S	06-27-16 13:50	- 19 ft	532437-011
West Excavation Floor-4 @ 20'	S	06-27-16 13:55	- 20 ft	532437-012
West Excavation ESW-4 @ 19'	S	06-27-16 14:00	- 19 ft	532437-013
West Excavation WSW-4 @ 19'	S	06-27-16 14:05	- 19 ft	532437-014
West Excavation NSW-4 @ 19'	S	06-27-16 14:10	- 19 ft	532437-015
West Excavation Floor-5 @ 15'	S	06-27-16 14:15	- 15 ft	532437-016



# **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

07-JUL-16 Project ID: Report Date: Work Order Number(s): 532437 Date Received: 06/28/2016

332437	Date Received. 00/20/2010
Sample receipt non conformances and comments:	

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# Certificate of Analysis Summary 532437

# TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical (West)

**Date Received in Lab:** Tue Jun-28-16 01:45 pm

Report Date: 07-JUL-16

Project Manager: Kelsey Brooks

	Lab Id:	532437-0	01	532437-0	02	532437-0	03	532437-0	04	532437-0	05	532437-0	06
An aloris Donoradad								West Excavation E					
Analysis Requested	Depth:	20 ft		19 ft		19 ft		19 ft		20 ft		19 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-27-16 1	-27-16 13:00 Jun-		3:05	Jun-27-16 1	3:10	Jun-27-16 1	3:15	Jun-27-16 1	3:20	Jun-27-16 1	3:25
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-01-16 1	-01-16 18:00 Jul-0		8:00	Jul-01-16 1	8:00	Jul-01-16 1	8:00	Jul-01-16 1	8:00	Jul-01-16 1	8:00
	Analyzed:	Jul-02-16 0	Jul-02-16 00:48 Ju		Jul-02-16 00:56 Jul-02-16 01:19		Jul-02-16 01:27		Jul-02-16 01:35		Jul-02-16 01:42		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		212	10.0	179	50.0	229	50.0	1600	100	221	50.0	ND	10.0
TPH By SW8015B Mod	Extracted:	Jun-28-16 1	6:00	Jun-28-16 1	6:00	Jun-28-16 1	6:00	Jun-28-16 1	6:00	Jun-28-16 1	6:00	Jun-28-16 1	6:00
	Analyzed:	Jun-29-16 (	1:17	Jun-29-16 0	1:41	Jun-29-16 02:05		Jun-29-16 02:54		Jun-29-16 03:18		Jun-29-16 0	3:41
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	25.7	15.0
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	583	15.0
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	609	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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Knis Roah Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id: Contact:** 

**Project Location:** 

# Certificate of Analysis Summary 532437

## TRC Solutions, Inc, Midland, TX

**Date Received in Lab:** Tue Jun-28-16 01:45 pm

Report Date: 07-JUL-16 Project Manager: Kelsey Brooks

Project Name: Energy Transfer Boyd 4" Historical (West)

	Lab Id:	532437-0	07	532437-0	08	532437-0	09	532437-0	10	532437-0	11	532437-0	12
Analysis Requested	Field Id:	West Excavation N	ISW-2 @	West Excavation F	loor-3 @ 2	West Excavation S	SSW-3 @	West Excavation N	SW-3 @	West Excavation V	WSW-3 @	West Excavation F	loor-4 @ 2
Analysis Requesieu	Depth:	19 ft		20 ft		19 ft		19 ft		19 ft		20 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-27-16 1	3:30	Jun-27-16 1	3:35	Jun-27-16 1	3:40	Jun-27-16 1	3:45	Jun-27-16 1	3:50	Jun-27-16 1	3:55
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-01-16 1	8:00	Jul-01-16 1	8:00	Jul-01-16 1	8:00	Jul-06-16 10	0:00	Jul-06-16 1	0:00	Jul-06-16 10:00	
	Analyzed:	Jul-02-16 0	1:50	Jul-02-16 0	1:58	Jul-02-16 0	2:06	Jul-06-16 1:	5:36	Jul-06-16 1	5:44	Jul-06-16 1	5:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		160	10.0	153	50.0	314	50.0	141	10.0	806	100	204	50.0
TPH By SW8015B Mod	Extracted:	Jun-28-16 16:00		Jun-28-16 16:00		Jun-28-16 1	6:00	Jun-28-16 1	6:00	Jun-28-16 16:00		Jun-28-16 16:00	
	Analyzed:	Jun-29-16 (	4:05	Jun-29-16 0	4:28	Jun-29-16 0	4:52	Jun-29-16 0	5:17	Jun-29-16 0	5:42	Jun-29-16 0	6:06
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0

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Kuns Roah Kelsey Brooks Project Manager



**Project Id:** 

# **Certificate of Analysis Summary 532437**

# TRC Solutions, Inc, Midland, TX

**Project Name: Energy Transfer Boyd 4" Historical (West)** 

Date Received in Lab: Tue Jun-28-16 01:45 pm

Contact:Nikki GreenReport Date:07-JUL-16Project Location:Lea County, NMProject Manager:Kelsey Brooks

	Lab Id:	532437-0	)13	532437-0	14	532437-0	15	532437-0	16	
Analysis Requested	Field Id:	West Excavation I	ESW-4 @ 1	West Excavation V	VSW-4@	West Excavation N	ISW-4 @	West Excavation F	loor-5 @	
Anatysis Kequesteu	Depth:	19 ft		19 ft		19 ft		15 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		
	Sampled:	Jun-27-16	Jun-27-16 14:00		4:05	Jun-27-16 1	4:10	Jun-27-16 1	4:15	
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-06-16 1	0:00	Jul-06-16 12	2:00	Jul-06-16 12	2:00	Jul-06-16 1	2:00	
	Analyzed:	Jul-06-16 1	6:00	Jul-06-16 1	9:07	Jul-06-16 18	8:43	Jul-06-16 1	9:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		156	50.0	278	100	529	50.0	264	50.0	
TPH By SW8015B Mod	Extracted:	Jun-29-16	14:00	Jun-29-16 1	4:00	Jun-29-16 1	4:00	Jun-29-16 1	4:00	
	Analyzed:	Jun-29-16	18:19	Jun-29-16 1	8:46	Jun-29-16 1	9:12	Jun-29-16 1	9:38	
	Units/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	15.0	ND	15.0	
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	

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Kelsey Brooks Project Manager

Knis Roah



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532437, 532437
 Project ID:

 Lab Batch #:
 997172
 Sample:
 532437-001 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 01:17	SU	RROGATE RI	ECOVERY S	STUDY	
	ТРН Е	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		96.2	99.9	96	70-130	
o-Terphenyl			44.1	50.0	88	70-135	

Lab Batch #: 997172 Sample: 532437-002 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg Date Analyzed: 06/29/16 01:41 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 97.9 99.7 98 70-130 o-Terphenyl 45.5 49.9 91 70-135

Units: mg/kg Date Analyzed: 06/29/16 02:05 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.0	99.7	95	70-130	
o-Terphenyl	41.1	49.9	82	70-135	

Lab Batch #: 997172 Sample: 532437-004 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 02:54	SU	RROGATE RI	ECOVERY S	STUDY	
	TPH :	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		94.2	99.9	94	70-130	
o-Terpheny	1		43.4	50.0	87	70-135	

Lab Batch #: 997172 Sample: 532437-005 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 03:18	SU	RROGATE RI	ECOVERY S	STUDY	
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	etane	Timuly tes	98.3	99.8	98	70-130	
o-Terpheny	yl		45.6	49.9	91	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532437, 532437
 Project ID:

 Lab Batch #:
 997172
 Sample:
 532437-006 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 03:41	SU	RROGATE RI	ECOVERY	STUDY	
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		101	99.8	101	70-130	
o-Terpheny	1		48.1	49.9	96	70-135	

Lab Batch #: 997172 Sample: 532437-007 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg **Date Analyzed:** 06/29/16 04:05 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 99.0 99.9 99 70-130 o-Terphenyl 45.3 50.0 91 70-135

Units: mg/kg Date Analyzed: 06/29/16 04:28 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-130	
o-Terphenyl	47.0	50.0	94	70-135	

Lab Batch #: 997172Sample: 532437-009 / SMPBatch: 1Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 04:52	SU	RROGATE RE	ECOVERY S	STUDY	
	TPH :	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		99.5	100	100	70-130	
o-Terpheny			45.9	50.0	92	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 05:17	SURROGATE RECOVERY STUDY						
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	tane		99.4	100	99	70-130			
o-Terpheny	·l		45.9	50.0	92	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532437, 532437
 Project ID:

 Lab Batch #:
 997172
 Sample:
 532437-011 / SMP
 Batch:
 1
 Matrix:
 Soil

Units: mg/kg Date Analyzed: 06/29/16 05:42 SURROGATE RECOVERY STUDY							
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		97.8	99.8	98	70-130	
o-Terpheny	1		45.8	49.9	92	70-135	

Lab Batch #: 997172 Sample: 532437-012 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg **Date Analyzed:** 06/29/16 06:06 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 97.4 99.9 97 70-130 o-Terphenyl 45.1 50.0 90 70-135

Units: mg/kg Date Analyzed: 06/29/16 18:19 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.5	99.9	94	70-130	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 997250Sample: 532437-014 / SMPBatch: 1Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 18:46	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	ane		96.8	100	97	70-130		
o-Terpheny	l		48.3	50.0	97	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 19:12	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	tane		97.3	99.8	97	70-130		
o-Terpheny	l		48.2	49.9	97	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532437, 532437
 Project ID:

 Lab Batch #:
 997250
 Sample:
 532437-016 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	Juits: mg/kg Date Analyzed: 06/29/16 19:38 SURROGATE RECOVERY STUDY								
	ТРН Е	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ane		102	99.8	102	70-130			
o-Terphenyl			51.1	49.9	102	70-135			

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

**Units:** mg/kg **Date Analyzed:** 06/28/16 13:32 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 110 100 110 70-130 o-Terphenyl 51.8 50.0 104 70-135

Lab Batch #: 997250 Sample: 710500-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/16 14:19 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-130	
o-Terphenyl	52.2	50.0	104	70-135	

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

Units:	mg/kg	<b>Date Analyzed:</b> 06/28/16 13:56	SURROGATE RECOVERY STUDY					
	ТРН	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	ane		123	100	123	70-130		
o-Terpheny			61.9	50.0	124	70-135		

Lab Batch #: 997250 Sample: 710500-1-BKS/BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/16 14:45 SURROGATE RECOVERY STUDY							
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		124	100	124	70-130	
o-Terphenyl			58.7	50.0	117	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532437, 532437
 Project ID:

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

Units:	mg/kg	<b>Date Analyzed:</b> 06/28/16 14:20	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chloroocta	ine	Analytis	117	100	117	70-130		
o-Terphenyl			59.6	50.0	119	70-135		

Lab Batch #: 997250 Sample: 710500-1-BSD / BSD Batch: 1 Matrix: Solid

**Units:** mg/kg **Date Analyzed:** 06/29/16 15:12 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 130 100 130 70-130 o-Terphenyl 59.2 50.0 118 70-135

Units: mg/kg Date Analyzed: 06/28/16 15:06 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-130	
o-Terphenyl	57.7	50.0	115	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 16:05	SURROGATE RECOVERY STUDY					
	ТРН І	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooc	etane		110	99.9	110	70-130		
o-Terpheny	yl		45.1	50.0	90	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 06/28/16 15:30	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			[12]			
1-Chlorooctane		122	100	122	70-130			
o-Terphenyl			55.1	50.0	110	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders: 532437, 532437
 Project ID:

 Lab Batch #: 997250
 Sample: 532368-021 SD / MSD
 Batch: 1 Matrix: Soil

Units: **Date Analyzed:** 06/29/16 16:32 mg/kg SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Found Amount Recovery Limits Flags [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 109 99.7 109 70-130 o-Terphenyl 46.1 49.9 92 70-135

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **BS / BSD Recoveries**



Project Name: Energy Transfer Boyd 4" Historical (West)

**Work Order #:** 532437, 532437 **Project ID:** 

Analyst: MNR Date Prepared: 07/01/2016 Date Analyzed: 07/01/2016

Lab Batch ID: 997472 Sample: 710609-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<10.0	250	235	94	250	232	93	1	90-110	20	

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

Lab Batch ID: 997589 Sample: 710653-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	236	94	250	232	93	2	90-110	20	

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

Lab Batch ID: 997612 Sample: 710654-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

	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		[2]	[0]	[2]	[E]	result [1]	رق				
Chloride	<10.0	250	236	94	250	228	91	3	90-110	20	

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



### **BS / BSD Recoveries**



Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 532437, 532437 Project ID:

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

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

Units: mg/kg	BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	966	97	1000	903	90	7	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	997	100	1000	962	96	4	75-125	25	

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

Lab Batch ID: 997250 Sample: 710500-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	991	99	1000	1040	104	5	75-125	25	
5 ,				//			-	-			
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1080	108	2	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



### Form 3 - MS Recoveries



Project Name: Energy Transfer Boyd 4" Historical (We

Work Order #: 532437 **Project ID:** Lab Batch #: 997472

**Date Analyzed:** 07/02/2016 **Date Prepared:** 07/01/2016 Analyst: MNR **QC- Sample ID:** 532595-002 S Batch #: Matrix: Soil

Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	177	1250	1300	90	80-120	

Lab Batch #: 997472

**Date Analyzed:** 07/01/2016 **Date Prepared:** 07/01/2016 Analyst: MNR **QC- Sample ID:** 532690-002 S Batch #: Matrix: Soil

Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	879	2500	3290	96	80-120	

997589 Lab Batch #:

**Date Analyzed:** 07/06/2016 **Date Prepared:** 07/06/2016 Analyst: MNR **QC-Sample ID:** 532769-001 S Batch #: Matrix: Soil

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]		. ,		
Chloride	945	2500	3210	91	80-120	

Lab Batch #: 997589

**Date Analyzed:** 07/06/2016 **Date Prepared:** 07/06/2016 Analyst: MNR **QC- Sample ID:** 532769-011 S Batch #: Matrix: Soil

Reporting Units: mg/kg

Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY								
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag			
Chloride	1190	2500	3550	94	80-120				

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

BRL - Below Reporting Limit

Final 1.000 Page 17 of 24



### Form 3 - MS Recoveries



Project Name: Energy Transfer Boyd 4" Historical (We

**Work Order #:** 532437 **Lab Batch #:** 997612 **Project ID:** 

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

 QC- Sample ID:
 532368-009 S
 Batch #: 1
 Matrix: Soil

Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY								
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag			
Analytes	[A]	[B]							
Chloride	441	261	635	74	80-120	X			

**Lab Batch #:** 997612

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

 QC- Sample ID:
 532437-015 S
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Spike Result %R Limits Flag Result Added %R [C] [D] [A] [B] **Analytes** 529 1250 Chloride 1620 87 80-120

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

BRL - Below Reporting Limit



#### Form 3 - MS / MSD Recoveries



Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 532437 Project ID:

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

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

Reporting Units: mg/kg MATRIX SPIKE 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	213	999	1040	83	1000	1060	85	2	75-125	25	
C10-C28 Diesel Range Hydrocarbons	22.0	999	972	95	1000	966	94	1	75-125	25	

**Lab Batch ID:** 997250 **QC- Sample ID:** 532368-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/29/2016 Date Prepared: 06/29/2016 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	<15.6	1040	887	85	1040	880	85	1	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.6	1040	1010	97	1040	1010	97	0	75-125	25	



# Sample Duplicate Recovery



Project Name: Energy Transfer Boyd 4" Historical (West)

**Work Order #:** 532437

 Lab Batch #:
 997472
 Project ID:

 Date Analyzed:
 07/02/2016 00:32
 Date Prepared:
 07/01/2016
 Analyst:
 MNR

 QC- Sample ID:
 532595-002 D
 Batch #:
 1
 Matrix:
 Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: mg/kg Sample Control **Inorganic Anions by EPA 300/300.1** Parent Sample **Duplicate** RPD Result Limits Flag Result %RPD [A] [B] **Analyte** Chloride 177 1450 156 20 F

**Lab Batch #:** 997472

 Date Analyzed: 07/01/2016 22:43
 Date Prepared: 07/01/2016
 Analyst: MNR

 QC- Sample ID: 532690-002 D
 Batch #: 1
 Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: mg/kg **Inorganic Anions by EPA 300/300.1** Parent Sample Sample Control RPD **Duplicate** Limits Result Flag Result %RPD [A] [B] **Analyte** 879 896 Chloride

Lab Batch #: 997589

 Date Analyzed:
 07/06/2016 11:20
 Date Prepared:
 07/06/2016
 Analyst: MNR

 QC- Sample ID:
 532769-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg SAMPLE / SAMPLE DUPLICATE RECOVERY Sample Control **Inorganic Anions by EPA 300/300.1** Parent Sample **Duplicate** RPD Limits Result Flag Result %RPD [A] [B] **Analyte** Chloride 945 943 20

**Lab Batch #:** 997589

 Date Analyzed:
 07/06/2016 14:03
 Date Prepared:
 07/06/2016
 Analyst: MNR

 QC- Sample ID:
 532769-011 D
 Batch #:
 1
 Matrix:
 Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: mg/kg **Inorganic Anions by EPA 300/300.1** Parent Sample Sample Control RPD **Duplicate** Limits Result Flag Result %RPD [A] [B] Analyte 1190 1240 Chloride 20

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

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Final 1.000



# **Sample Duplicate Recovery**



Project Name: Energy Transfer Boyd 4" Historical (West)

**Work Order #:** 532437

 Lab Batch #:
 997612
 Project ID:

 Date Analyzed:
 07/07/2016 07:37
 Date Prepared:
 07/06/2016
 Analyst:
 MNR

 QC- Sample ID:
 532368-009 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Inorganic Anions by EPA 300/300.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	441	440	0	20	

**Lab Batch #:** 997612

 Date Analyzed:
 07/06/2016 18:51
 Date Prepared:
 07/06/2016
 Analyst: MNR

 QC- Sample ID:
 532437-015 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg	SAMPLE / SAMPLE DUPLICATE RECOVERY								
Inorganic Anions by EPA 300/300.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag				
Chloride	529	502	5	20					

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

# Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 1 2 t 1-20 East Phone: 432-563-1800 Fax: 432-563-1742

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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

	· Company	D in a second	Relinquished by:	Bill to Ros	Special In										LAB # (lab use only)	ORDER #:	(lab use only)						
			SILL GREET 6.	Bill to Rose Slade at Energy Transfer. TPH Extended 35	Special Instructions:					West Excavation Floor-5 @ 15	West Excavation NSW-4 @ 19	West Excavation WSW-4 @ 19	West Excavation ESW-4 @ 19	West Excavation Floor-4 @ 20'	FIELD CODE		only)	Sampler Signature: MAMA	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Nikki Green
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# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc.

Date/ Time Received: 06/28/2016 01:45:00 PM

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

Comments

Work Order #: 532437

Temperature Measuring device used: R8

#1 *Temperature of cooler(s)?		3
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ntainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relind	quished/ received?	Yes
#12 Chain of Custody agrees with sampl	e label(s)?	Yes
#13 Container label(s) legible and intact?	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicate	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		No
#21 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-analysts.		N/A
#23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de Analyst:	livery of samples prior to placing in PH Device/Lot#:	the refrigerator
Checklist completed by: Checklist reviewed by:	Mary Negron  Mary Negron  Mary Negron  Kelsey Brooks	Date: 06/28/2016  Date: 06/29/2016
	,	

Sample Receipt Checklist

# **Analytical Report 532595**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

06-JUL-16

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





06-JUL-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 532595

**Energy Transfer Boyd 4" Historical (West)** 

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) 532595. 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. 532595 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

Knis Hoah

Project Manager

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# **Sample Cross Reference 532595**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
West Excavation Floor-6 @25'	S	06-28-16 13:00	- 25 ft	532595-001
West Excavation Stockpile-1	S	06-28-16 13:30		532595-002



### **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: 06-JUL-16 Report Date: Work C

rder Number(s): 532595	Date Received: 06/29/2016
Sample receipt non conformances and comments:	
sample receipt non conformances and comments.	
Sample receipt non conformances and comments per sam	•

None



#### CASE NARRATIVE



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 06-JUL-16
Work Order Number(s): 532595

Report Date: 06-JUL-16
Date Received: 06/29/2016

Batch: LBA-997472 Inorganic Anions by EPA 300/300.1

Lab Sample ID 532690-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. WO in the analytical batch are: 532398,532595,532437

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Page 5 of 15



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# **Certificate of Analysis Summary 532595**

#### TRC Solutions, Inc, Midland, TX





Date Received in Lab: Wed Jun-29-16 12:10 pm



	Lab Id:	532595-0	001	532595-0	02		
Analysis Requested	Field Id:	West Excavation	Floor-6 @2	West Excavation S	tockpile-1		
Anulysis Requesieu	Depth:	25 ft					
	Matrix:	SOIL		SOIL			
	Sampled:	Jun-28-16	13:00	Jun-28-16 1	3:30		
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-01-16 1	8:00	Jul-01-16 18	8:00		
	Analyzed:	Jul-02-16 (	00:17	Jul-02-16 00	0:25		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		ND	10.0	177	50.0		
TPH By SW8015B Mod	Extracted:	Jun-30-16	13:30	Jun-30-16 1	3:30		
	Analyzed:	Jun-30-16	18:00	Jun-30-16 1	8:23		
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C10 Gasoline Range Hydrocarbons		174	15.0	ND	14.9		
C10-C28 Diesel Range Hydrocarbons		1980	15.0	ND	14.9		
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	14.9		
Total TPH		2150	15.0	ND	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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Knis Roah Kelsey Brooks Project Manager



### **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238 (210) 509-3334 (210) 509-3335
1211 W Florida Ave, Midland, TX 79701 (432) 563-1800 (432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282 (602) 437-0330



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 532595,
 Project ID:

 Lab Batch #:
 997250
 Sample:
 532595-001 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	nits: mg/kg Date Analyzed: 06/30/16 18:00  TPH By SW8015B Mod  Analytes  -Chlorooctane		SURROGATE RECOVERY STUDY										
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
		Analytes			[D]								
1-Chlorooct	ane		105	99.9	105	70-130							
o-Terphenyl			59.4	50.0	119	70-135							

Lab Batch #: 997250 Sample: 532595-002 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg **Date Analyzed:** 06/30/16 18:23 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 92.7 99.6 93 70-130 o-Terphenyl 41.1 49.8 70-135 83

Lab Batch #: 997250 Sample: 710500-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/16 14:19 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-130	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 997250 Sample: 710500-1-BKS / BKS Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 14:45	SU	RROGATE RI	ECOVERY S	STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorood	ctane		124	100	124	70-130	
o-Terpheny	yl		58.7	50.0	117	70-135	

Lab Batch #: 997250 Sample: 710500-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/16 15:12 SURROGATE RECOVERY STUDY										
	ТРН І	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chloroocta	ane		130	100	130	70-130				
o-Terphenyl			59.2	50.0	118	70-135				

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders: 532595,
 Project ID:

 Lab Batch #: 997250
 Sample: 532368-021 S / MS
 Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/29/16 16:05 SURROGATE RECOVERY STUDY										
	ТРН В	sy SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chloroocta	ane		110	99.9	110	70-130				
o-Terphenyl			45.1	50.0	90	70-135				

Lab Batch #: 997250 Sample: 532368-021 SD / MSD Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 06/29/16 16:32	SURROGATE RECOVERY STUDY								
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1-Chlorooct	tane		109	99.7	109	70-130					
o-Terpheny	1		46.1	49.9	92	70-135					

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **BS / BSD Recoveries**



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

Work Order #: 532595 Project ID:

Analyst: MNR Date Prepared: 07/01/2016 Date Analyzed: 07/01/2016

Lab Batch ID: 997472 Sample: 710609-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	235	94	250	232	93	1	90-110	20	

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

Lab Batch ID: 997250 Sample: 710500-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	991	99	1000	1040	104	5	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1080	108	2	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



# Form 3 - MS Recoveries



Project Name: Energy Transfer Boyd 4" Historical (We

**Work Order #:** 532595 **Lab Batch #:** 997472 **Project ID:** 

 Date Analyzed:
 07/02/2016
 Date Prepared:
 07/01/2016
 Analyst:
 MNR

 QC- Sample ID:
 532595-002 S
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg	MAT	MATRIX / MATRIX SPIKE RECOVERY STUDY									
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag					
Analytes	[A]	[B]									
Chloride	177	1250	1300	90	80-120						

**Lab Batch #:** 997472

 Date Analyzed:
 07/01/2016
 Date Prepared: 07/01/2016
 Analyst: MNR

 QC- Sample ID:
 532690-002 S
 Batch #: 1
 Matrix: Soil

Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY **Parent** Spiked Sample Control **Inorganic Anions by EPA 300** Sample Spike Result %R Limits Flag Result Added %R [C] [D] [A] [B] **Analytes** 2500 Chloride 879 3290 80-120

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

BRL - Below Reporting Limit



### Form 3 - MS / MSD Recoveries



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

Work Order #: 532595 Project ID:

**Lab Batch ID:** 997250 **QC- Sample ID:** 532368-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/29/2016 Date Prepared: 06/29/2016 Analyst: ARM

Reporting Units: mg/kg 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	<15.6	1040	887	85	1040	880	85	1	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.6	1040	1010	97	1040	1010	97	0	75-125	25	



# **Sample Duplicate Recovery**



Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 532595

 Lab Batch #:
 997472
 Project ID:

 Date Analyzed:
 07/02/2016 00:32
 Date Prepared:
 07/01/2016
 Analyst:
 MNR

 QC- Sample ID:
 532595-002 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg	SAMPLE / SAMPLE DUPLICATE RECOVERY							
Inorganic Anions by EPA 300/300.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag			
Chloride	177	1450	156	20	F			

**Lab Batch #:** 997472

 Date Analyzed:
 07/01/2016 22:43
 Date Prepared:
 07/01/2016
 Analyst: MNR

 QC- Sample ID:
 532690-002 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: mg/kg	SAMPLE / SAMPLE DUPLICATE RECOVERY								
Inorganic Anions by EPA 300/300.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag				
Chloride	879	896	2	20					

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

# Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

	Relinquished by:	Relinquished by		Bill to Ros	Special Instructions:											LAB# (lab use only)		ORDER #:	(lab use only)							
	d by:	d by:		Bill to Rose Slade at Energy Transfer.	structions:									West Excavation Stockpile-1	West Excavation Floor-6 @ 25	FIELD CODE		# しんない	only)	Sampler Signature:	Telephone No: 43	22	ress:	-	Company Name T	Project Manager: N
	Date	Date	T T T T T T T T T T T T T T T T T T T	TPH Exter										n Stockpile-1	Floor-6 @ 25'	ÖDE	(	いって		me line of	432.520.7720	Midland, TX 79703	2057 Commerce	o control of	TRC Solutions Inc	Nikki Green
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# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 06/29/2016 12:10:00 PM

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

Work Order #: 532595

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		5.3
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relind	quished/ received?	Yes
#12 Chain of Custody agrees with sampl	e label(s)?	Yes
#13 Container label(s) legible and intact?	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	•	Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicate	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		No
#21 VOC samples have zero headspace		N/A
#22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-		N/A
analysts. #23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Mary Wexis Negron  Mary Negron	Date: <u>06/30/2016</u>
Checklist reviewed by:	Mmy Hoah  Kelsey Brooks	Date: 06/30/2016

# **Analytical Report 533510**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

20-JUL-16

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





20-JUL-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 533510

**Energy Transfer Boyd 4" Historical (West)** 

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) 533510. 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. 533510 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

Knis Hoah

Project Manager

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Certified and approved by numerous States and Agencies.

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# **Sample Cross Reference 533510**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
West Excavation Floor-6 @32'	S	07-15-16 15:00	- 32 ft	533510-001
ESW-6 @28'	S	07-15-16 15:15	- 28 ft	533510-002



### **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 20-JUL-16
Work Order Number(s): 533510
Date Received: 07/18/2016

ter Number(s): 533510	Date Received: 0//18/2016
Sample receipt non conformances and comments:	
Sample receipt non conformances and comments p	

None



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# Certificate of Analysis Summary 533510

#### TRC Solutions, Inc, Midland, TX



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

Date Received in Lab: Mon Jul-18-16 12:07 pm



	Lab Id:	533510-00	\ 1	533510-00	02			
	Lab la:	333310-00	71	333310-00	02			
Analysis Requested	Field Id:	West Excavation Fl	oor-6 @3	ESW-6 @2	28'			
Analysis Requesieu	Depth:	32 ft		28 ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Jul-15-16 15	5:00	Jul-15-16 1:	5:15			
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-19-16 17	7:00	Jul-19-16 17	7:00			
	Analyzed:	Jul-19-16 19	9:54	Jul-19-16 20	0:01			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		46.0	10.0	39.8	10.0			
TPH By SW8015B Mod	Extracted:	Jul-18-16 13	3:00	Jul-18-16 13	3:00			
	Analyzed:	Jul-18-16 17	7:47	Jul-18-16 19	9:14			
	Units/RL:	mg/kg	RL	mg/kg	RL			
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0			
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0			
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	_		
Total TPH		ND	15.0	ND	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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Knis Roah Kelsey Brooks Project Manager



## Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 (281) 240-4200
 (281) 240-4280

 9701 Harry Hines Blvd, Dallas, TX 75220
 (214) 902 0300
 (214) 351-9139

 5332 Blackberry Drive, San Antonio TX 78238
 (210) 509-3334
 (210) 509-3335

 1211 W Florida Ave, Midland, TX 79701
 (432) 563-1800
 (432) 563-1713

 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282
 (602) 437-0330



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

Work Orders: 533510,
Lab Batch #: 998275
Sample: 533510-001 / SMP
Batch: 1 Matrix: Soil

Units:	Units: mg/kg Date Analyzed: 07/18/16 17:47 SURROGATE RECOVERY STUDY								
	ТРН 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chlorooct	tane		90.8	99.9	91	70-130			
o-Terpheny	1		46.8	50.0	94	70-135			

Lab Batch #: 998275 Sample: 533510-002 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg **Date Analyzed:** 07/18/16 19:14 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Found Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 88.5 99.7 89 70-130 o-Terphenyl 45.2 49.9 91 70-135

Lab Batch #: 998275 Sample: 711071-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 07/18/16 16:21 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.3	100	87	70-130	
o-Terphenyl	45.0	50.0	90	70-135	

Lab Batch #: 998275 Sample: 711071-1-BKS/BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 07/18/16 16:49 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Recovery Found Amount Limits Flags [B] %R %R [A] [D] **Analytes** 1-Chlorooctane 100 106 70-130 106 o-Terphenyl 47.6 50.0 95 70-135

Lab Batch #: 998275 Sample: 711071-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 07/18/16 17:19	SURROGATE RECOVERY STUDY						
	ТРН І	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	tane		108	100	108	70-130			
o-Terpheny	'l		47.7	50.0	95	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders: 533510,
 Project ID:

 Lab Batch #: 998275
 Sample: 533510-001 S / MS
 Batch: 1 Matrix: Soil

Units:	Units: mg/kg Date Analyzed: 07/18/16 18:17 SURROGATE RECOVERY STUDY								
	ТРН І	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chlorooct	ane		109	100	109	70-130			
o-Terpheny	1		50.3	50.0	101	70-135			

Units:	mg/kg	<b>Date Analyzed:</b> 07/18/16 18:46	SU	RROGATE RI	ECOVERY S	STUDY	
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		118	99.9	118	70-130	
o-Terpheny	·1		53.2	50.0	106	70-135	

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **BS / BSD Recoveries**



Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 533510 Project ID:

Analyst: MNR Date Prepared: 07/19/2016 Date Analyzed: 07/19/2016

Lab Batch ID: 998344 Sample: 711135-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	266	106	250	270	108	1	90-110	20	

**Analyst:** ARM **Date Prepared:** 07/18/2016 **Date Analyzed:** 07/18/2016

Lab Batch ID: 998275 Sample: 711071-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	865	87	1000	852	85	2	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	980	98	1000	970	97	1	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



#### Form 3 - MS / MSD Recoveries



#### Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 533510 Project ID:

 Lab Batch ID:
 998344
 QC- Sample ID:
 533504-009 S
 Batch #:
 1
 Matrix:
 Soil

 Date Analyzed:
 07/19/2016
 Date Prepared:
 07/19/2016
 Analyst:
 MNR

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	%R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
Chloride	<10.0	250	263	105	250	253	101	4	80-120	20	

**Lab Batch ID:** 998275 **QC- Sample ID:** 533510-001 S **Batch #:** 1 **Matrix:** Soil

 Date Analyzed:
 07/18/2016
 Date Prepared:
 07/18/2016
 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	1000	818	82	999	834	83	2	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	926	93	999	929	93	0	75-125	25	

# Xenco Laboratories

The Environmental Lab of Texas

Project Manager: Nikki Green

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

Phone: 432-563-1800 Fax: 432-563-1713 533510

Bill to Rose Slade at Energy Transfer. TPH Extended 35 Relinquished by:  Relinquished by:  Date  Relinquished by:  Date	Special Instructions:	LAB # (lab use only)  West Excavation Floor-6A @  ESW-6 @28'	(lab use only) ORDER #:	Telephone No: Sampler Signature:	Company Name Company Address: City/State/Zip:
fer. TPH Extended 35		FIELD CODE avation Floor-6A @ 32' ESW-6 @28'		432.520.7720 MANN De	TRC Solutions, Inc  2057 Commerce  Midland, TX 79703
Time		Beginning Depth		5	
Received by: Received by: Received by ELOT:		Ending Depth  7/15/2016  Ending Depth  7/15/2016			
Ter Sur		Time Sampled		Fax No:	
Temp: 6.0 p IR ID:R-8		Field Filtered  Total #. of Containers  K Ice  HNO <sub>3</sub> HCI  H <sub>2</sub> SO <sub>4</sub>	rose.slade	432.520.7701	
10		H <sub>2</sub> SO <sub>4</sub> NaOH  Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> None  Other ( O )	rose.slade@energytransfer.com	Phrosolutions	
Date Time		Other (Specify)  DW=Drinking Water SL=Sludge  O GW = Groundwater S=Soil/Solid  NP=Non-Potable Specify Other	sfer.com	Repo	J
	×	TPH: TX 1005 TX 1006  Cations (Ca, Mg, Na, K)  Anions (Cl. SOA Alkelieite)		PO #:_ Report Format:	Project Name: Project #: Project Loc:
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 Courier? UPS DH Temperature Upon Receipt:		SAR / ESP / CEC  Metals: As Ag Ba Cd Cr Pb Hg Se  Volatiles	Analyze	Standard	Energy Trai
(s)	×	Semivolatiles	e For	TRRP	nsfer Boyd 4" Hi
c Star	×	RUSH TAT (Pre-Schedule) 24, 48, 721  Standard TAT	hrs	NPDES	Energy Transfer Boyd 4" Historical (west)  Lea County, NM

Page 11 of 12

Final 1.000

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# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

**Date/ Time Received:** 07/18/2016 12:07:41 PM

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

Work Order #: 533510

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		6
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relind	quished/ received?	Yes
#12 Chain of Custody agrees with sampl	e label(s)?	Yes
#13 Container label(s) legible and intact?	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	,	Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicate	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		No
#21 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-analysts.		N/A
#23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de Analyst:	livery of samples prior to placing in PH Device/Lot#:	the refrigerator
	Mary alexis Negron Mary Negron	Date: <u>07/18/2016</u>
Checklist reviewed by:	Mus Moah Kelsey Brooks	Date: <u>07/18/2016</u>

# **Analytical Report 533724**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

26-JUL-16

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





26-JUL-16

Project Manager: Nikki Green

TRC Solutions, Inc 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 533724

**Energy Transfer Boyd 4" Historical (West)** 

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) 533724. 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. 533724 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

Knis Hoah

Project Manager

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# **Sample Cross Reference 533724**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
NW AH-1 @5'	S	07-20-16 09:00	- 5 ft	533724-001
NW AH-1 @10'	S	07-20-16 09:30	- 10 ft	533724-002
NW AH-1 @15'	S	07-20-16 09:45	- 15 ft	533724-003
NC AH-1 @5'	S	07-20-16 10:00	- 5 ft	533724-004
NC AH-1 @10'	S	07-20-16 10:30	- 10 ft	533724-005
NC AH-1 @15'	S	07-20-16 10:45	- 15 ft	533724-006
NE AH-1 @5'	S	07-20-16 11:00	- 5 ft	533724-007
NE AH-1 @10'	S	07-20-16 11:45	- 10 ft	533724-008
NE AH-1 @15'	S	07-20-16 13:30	- 15 ft	533724-009



### **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 26-JUL-16
Work Order Number(s): 533724
Date Received: 07/21/2016

Sample	receint no	n conformances	and	comments:
Sampic	I CCCIPT HO	n comfoi mances	anu	communities.

Sample receipt non conformances and comments per sample:

None



#### CASE NARRATIVE



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 26-JUL-16
Work Order Number(s): 533724
Date Received: 07/21/2016

Batch: LBA-998660 Inorganic Anions by EPA 300/300.1

Lab Sample ID 533724-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 533724-001, -002, -003, -004, -005, -006, -007, -008, -009.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



**Project Id:** 

# Certificate of Analysis Summary 533724

#### TRC Solutions, Inc, Midland, TX

Project Name: Energy Transfer Boyd 4" Historical (West)

Date Received in Lab: Thu Jul-21-16 10:50 am



**Contact:** Nikki Green Report Date: 26-JUL-16 Lea County, NM **Project Location:** Project Manager: Kelsey Brooks

	Lab Id:	533724-0	01	533724-0	02	533724-0	03	533724-0	04	533724-0	05	533724-00	06				
Analysis Requested	Field Id:	NW AH-1	@5'	NW AH-1 @10'		NW AH-1 @15'		NC AH-1 @5'		NC AH-1 @10'		NC AH-1 @	015'				
Anuiysis Kequesieu	Depth:	5 ft		10 ft		15 ft		5 ft		10 ft		15 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jul-20-16 0	Jul-20-16 09:00		Jul-20-16 09:00		Jul-20-16 09:00		9:30	Jul-20-16 0	9:45	Jul-20-16 1	0:00	Jul-20-16 10:30		Jul-20-16 10	0:45
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-25-16 12:00		Jul-25-16 1	2:00	Jul-25-16 1	2:00	Jul-25-16 1	2:00	Jul-25-16 1	2:00	Jul-25-16 12	2:00				
	Analyzed:	Jul-25-16 1	7:16	Jul-25-16 17:24		Jul-26-16 11:47		Jul-25-16 17:55		Jul-25-16 1	8:03	Jul-25-16 18	8:10				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		712	10.0	284	10.0	271	10.0	881	10.0	355	10.0	155	10.0				

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



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# Certificate of Analysis Summary 533724

#### TRC Solutions, Inc, Midland, TX



Project Name: Energy Transfer Boyd 4" Historical (West)

Date Received in Lab: Thu Jul-21-16 10:50 am

Report Date: 26-JUL-16 Project Manager: Kelsey Brooks

	Lab Id:	533724-0	07	533724-0	08	533724-00	09		
Analysis Requested	Field Id:	NE AH-1 (	@5'	NE AH-1 @	10'	NE AH-1 @	£15'		
Anuiysis Kequesieu	Depth:	5 ft		10 ft		15 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Jul-20-16 11:00		Jul-20-16 1	1:45	Jul-20-16 1	3:30		
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-25-16 1	2:00	Jul-25-16 12	2:00	Jul-25-16 12	2:00		
	Analyzed:	Jul-25-16 1	8:18	Jul-25-16 1	8:26	Jul-25-16 18	8:34		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		764	10.0	352	10.0	308	10.0		

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Knis Roah Kelsey Brooks Project Manager



## Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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



## Form 3 - MS / MSD Recoveries



### Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 533724 Project ID:

**Lab Batch ID:** 998660 **QC- Sample ID:** 533522-081 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 07/25/2016 **Date Prepared:** 07/25/2016 **Analyst:** MNR

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	4820	12500	18600	110	12500	17700	103	5	80-120	20	

**Lab Batch ID:** 998660 **QC- Sample ID:** 533724-009 S **Batch #:** 1 **Matrix:** Soil

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	308	250	526	87	250	516	83	2	80-120	20	X

# Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Final 1.000

	Relinquished by:	Relinquished by	Relinquished	Special Instructions:		1										LAB # (lab use only)	ORDER #:	(lab use only)						
	by:	by: Walken	Bill to Rose Slade at Energy Transfer.	structions:		NE AH-1	NE AH-1 @ 10	NE AH-1 @ 5	NC AH-1 @ 15	NO AL	NO ALL	NO AL	NIM AL	NW AH	NW AF	FIELD	7.#	only)	Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:
	Date	7/21/14 Date	sfer.			1 @ 15'	1 @ 10'	-1 @ 5	1 @ 15	NC 4H-1 @ 10.	NC ALL - (@ o	NO AL 4 @ 15	, iii	NW AH-1 @ 10'	NW AH-1 @ 5'	FIELD CODE			July	432.520.7720	Midland, TX 79703	2057 Commerce	TRC Solutions, Inc	Nikki Green
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Temperature Upon Receipt:	Sample Hand Delivered by Sampler/Client Rep. ? by Courier?	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact?		+	+	+	+	+	+	+		+		ingo c	ons (CI, SO4, Alkalinity) R / ESP / CEC	TCLP:	ļ		5		Ĭ.		
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Page 10 of 11



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

**Date/ Time Received:** 07/21/2016 10:50:00 AM

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

Work Order #: 533724

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		6
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping co	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when reline	quished/ received?	Yes
#12 Chain of Custody agrees with samp	le label(s)?	Yes
#13 Container label(s) legible and intact	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicat	ed test(s)?	Yes
#19 All samples received within hold tim	e?	Yes
#20 Subcontract of sample(s)?		No
#21 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HI		N/A
samples for the analysis of HEM or HEM analysts.	-SGT which are verified by the	
#23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for ofter become	livery of complex prior to placing in	the vefuine vetor
* Must be completed for after-hours de	invery or samples prior to placing in	the reingerator
Analyst:	PH Device/Lot#:	
	40	
Checklist completed by:	Mary Olegis Region  Mary Negron	D 1 07/04/0040
Chocking Completed by	Mary Negron	Date: 07/21/2016
	,	
Checklist reviewed by:	Was a March	
•	Kelsey Brooks	Date: 07/22/2016
	Relacy Blooks	

# **Analytical Report 536493**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

15-SEP-16

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



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Case Narrative	5
Certificate of Analysis Summary	7
Explanation of Qualifiers (Flags)	8
LCS / LCSD Recoveries	9
MS / MSD Recoveries	10
Chain of Custody	11
Sample Receipt Conformance Report	12





15-SEP-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 536493

**Energy Transfer Boyd 4" Historical (West)** 

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) 536493. 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. 536493 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

Knis Hoah

Project Manager

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# **Sample Cross Reference 536493**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
NE Wall @ 4'	S	09-08-16 12:05	- 4 ft	536493-001



#### **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 15-SEP-16
Work Order Number(s): 536493
Date Received: 09/09/2016

Sample receipt non conformances and comments:



#### **CASE NARRATIVE**



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 15-SEP-16
Work Order Number(s): 536493
Date Received: 09/09/2016

Sample receipt non conformances and comments per sample:

None



# **Certificate of Analysis Summary 536493**

#### TRC Solutions, Inc, Midland, TX



Project Id: Contact:

**Project Location:** 

Nikki Green Lea County, NM Project Name: Energy Transfer Boyd 4" Historical (West)

Date Received in Lab: Fri Sep-09-16 11:45 am

Report Date: 15-SEP-16

Project Manager: Kelsey Brooks

	Lab Id:	536493-001			
Analysis Requested	Field Id:	NE Wall @ 4'			
Anulysis Kequesieu	Depth:	4 ft			
	Matrix:	SOIL			
	Sampled:	Sep-08-16 12:05			
Inorganic Anions by EPA 300/300.1	Extracted:	Sep-14-16 12:30			
	Analyzed:	Sep-14-16 17:09			
	Units/RL:	mg/kg RL			
Chloride		423 10.0			

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Kelsey Brooks
Project Manager



## Flagging Criteria



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- 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.
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- **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.
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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

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## **BS / BSD Recoveries**



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

Work Order #: 536493 Project ID:

Analyst: MNR Date Prepared: 09/14/2016 Date Analyzed: 09/14/2016

 Lab Batch ID: 1001739
 Sample: 713714-1-BKS
 Batch #: 1
 Matrix: Solid

Units: mg/kg		BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUI	ΟY	
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<10.0	250	258	103	250	260	104	1	90-110	20	

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



## Form 3 - MS / MSD Recoveries



### Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 536493 Project ID:

**Lab Batch ID:** 1001739 **QC- Sample ID:** 536557-001 S **Batch #:** 1 **Matrix:** Soil

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	822	250	1090	107	250	1070	99	2	90-110	20	

**Lab Batch ID:** 1001739 **QC- Sample ID:** 536744-001 S **Batch #:** 1 **Matrix:** Soil

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	11400	5000	16200	96	5000	16500	102	2	90-110	20	

# **Xenco Laboratories**

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713

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	Relinquished by:	Relinquished by:		Relinquished by:	Bill to Rose Slade at Energy Transfer	Special Instructions:												LAB # (lab use only)	ORDER #: 556493							
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# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 09/09/2016 11:45:00 AM

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

Work Order #: 536493

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		1.9
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when reline	quished/ received?	Yes
#12 Chain of Custody agrees with sample	le label(s)?	Yes
#13 Container label(s) legible and intact	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicat	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		N/A
#21 VOC samples have zero headspace		N/A
#22 <2 for all samples preserved with HI samples for the analysis of HEM or HEM-	•	N/A
analysts. #23 >10 for all samples preserved with N	NaAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	elivery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Jessica Kramer	Date: 09/09/2016
Checklist reviewed by:	Kelsey Brooks	Date: 09/09/2016

# **Analytical Report 538137**

# for TRC Solutions, Inc

Project Manager: Nikki Green
Energy Transfer Boyd 4" Historical (West)

#### 11-OCT-16

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





11-OCT-16

Project Manager: Nikki Green

**TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 538137

**Energy Transfer Boyd 4" Historical (West)** 

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) 538137. 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. 538137 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

Knis Hoah

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 OUALITY

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



# **Sample Cross Reference 538137**



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Confirmation Floor-1 @ 32'	S	10-05-16 08:35	- 32 ft	538137-001
Confirmation Floor-2 @ 28'	S	10-05-16 08:36	- 28 ft	538137-002
Confirmation Floor-3 @ 20'	S	10-05-16 08:52	- 20 ft	538137-003
Confirmation SW-1 @ 19'	S	10-05-16 08:58	- 19 ft	538137-004
Confirmation SW-2 @ 19'	S	10-05-16 09:01	- 19 ft	538137-005
Confirmation Floor-4 @ 20'	S	10-05-16 09:04	- 20 ft	538137-006
Confirmation Floor-5 @ 20'	S	10-05-16 09:06	- 20 ft	538137-007
Confirmation EW-1 @ 19'	S	10-05-16 09:08	- 19 ft	538137-008
Confirmation EW-2 @ 19'	S	10-05-16 09:11	- 19 ft	538137-009
Confirmation EW-3 @ 19'	S	10-05-16 09:14	- 19 ft	538137-010
Confirmation NW-1 @ 19'	S	10-05-16 09:18	- 19 ft	538137-011
Confirmation Floor-7 @ 20'	S	10-05-16 09:19	- 20 ft	538137-012
Confirmation Floor-6 @ 20'	S	10-05-16 09:21	- 20 ft	538137-013
Confirmation NW-2 @ 19'	S	10-05-16 09:24	- 19 ft	538137-014
Confirmation WW-1 @ 19'	S	10-05-16 09:27	- 19 ft	538137-015
Confirmation WW-2 @ 19'	S	10-05-16 09:34	- 19 ft	538137-016
Confirmation NW-3 @ 7.5'	S	10-05-16 09:45	- 7.5 ft	538137-017
Confirmation NW-4 @ 10'	S	10-05-16 09:46	- 10 ft	538137-018
Confirmation NW-5 @ 12'	S	10-05-16 09:48	- 12 ft	538137-019
Confirmation WW-3 @ 19'	S	10-05-16 09:55	- 19 ft	538137-020



#### CASE NARRATIVE



Client Name: TRC Solutions, Inc

Project Name: Energy Transfer Boyd 4" Historical (West)

Project ID: Report Date: 11-OCT-16
Work Order Number(s): 538137
Date Received: 10/05/2016

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3001510 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



**Project Id:** 

# **Certificate of Analysis Summary 538137**

#### TRC Solutions, Inc, Midland, TX

Date Received in Lab: Wed Oct-05-16 01:56 pm

**Project Name: Energy Transfer Boyd 4" Historical (West)** 

**Contact:** Nikki Green Report Date: 11-OCT-16 Lea County, NM **Project Location:** Project Manager: Kelsey Brooks

				l						1		1	
	Lab Id:	538137-	001	538137-0	002	538137-0	003	538137-	004	538137-	005	538137-	006
Analysis Requested	Field Id:	Confirmation Fl	oor-1 @ 32	Confirmation Flo	or-2 @ 28'	Confirmation Flo	oor-3 @ 20'	Confirmation S	W-1 @ 19'	Confirmation S	W-2 @ 19'	Confirmation Flo	oor-4 @ 20'
Anutysis Requesteu	Depth:	32 ft		28 ft		20 ft		19 ft		19 ft		20 ft	
	Matrix:	SOIL	_	SOIL		SOIL		SOIL		SOIL		SOIL	_
	Sampled:	Oct-05-16	08:35	Oct-05-16 (	08:36	Oct-05-16	08:52	Oct-05-16	08:58	Oct-05-16	09:01	Oct-05-16	09:04
BTEX by EPA 8021B	Extracted:	Oct-05-16	18:30	Oct-05-16 1	8:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30
	Analyzed:	Oct-06-16	16:03	Oct-06-16 1	6:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00150	ND	0.00149	ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150
Toluene		ND	0.00200	ND	0.00198	ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.00200	ND	0.00198	ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200
m_p-Xylenes		ND	0.00200	ND	0.00198	ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200
o-Xylene		ND	0.00299	ND	0.00298	ND	0.00298	ND	0.00299	ND	0.00300	ND	0.00299
Total Xylenes		ND	0.00200	ND	0.00198	ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200
Total BTEX		ND	0.00150	ND	0.00149	ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-07-16	14:00	Oct-07-16 1	4:00	Oct-07-16	14:00	Oct-07-16	14:00	Oct-07-16	14:00	Oct-07-16	14:00
	Analyzed:	Oct-07-16	18:16	Oct-07-16 1	8:23	Oct-07-16	18:30	Oct-07-16	18:52	Oct-07-16	19:13	Oct-07-16	19:20
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		13.3	5.00	ND	5.00	ND	5.00	679	5.00	10.6	5.00	21.8	5.00
TPH By SW8015B Mod	Extracted:	Oct-05-16	15:00	Oct-05-16 1	5:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00
	Analyzed:	Oct-05-16	17:58	Oct-05-16 1	9:31	Oct-05-16	19:56	Oct-05-16	20:20	Oct-05-16	20:45	Oct-05-16	21:11
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	14.9	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	14.9	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	14.9	ND	15.0	ND	15.0	ND	15.0	ND	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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



**Project Id:** 

# **Certificate of Analysis Summary 538137**

#### TRC Solutions, Inc, Midland, TX



Date Received in Lab: Wed Oct-05-16 01:56 pm

Report Date: 11-OCT-16

**Project Name: Energy Transfer Boyd 4" Historical (West)** 

**Contact:** Nikki Green Lea County, NM **Project Location:** Project Manager: Kelsey Brooks

	Lab Id:	538137-0	007	538137-	008	538137-0	009	538137-0	010	538137-0	)11	538137-	012
Analysis Paguested	Field Id:	Confirmation Flo	oor-5 @ 20'	Confirmation E	W-1 @ 19'	Confirmation E	W-2 @ 19'	Confirmation E	W-3 @ 19'	Confirmation NV	W-1 @ 19'	Confirmation Flo	oor-7 @ 20'
Analysis Requested	Depth:	20 ft		19 ft		19 ft		19 ft		19 ft		20 ft	;
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-05-16	09:06	Oct-05-16	09:08	Oct-05-16	09:11	Oct-05-16	09:14	Oct-05-16	09:18	Oct-05-16	09:19
BTEX by EPA 8021B	Extracted:	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30
	Analyzed:	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150	ND	0.00149	ND	0.00150
Toluene		ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00199	ND	0.00200
Ethylbenzene		ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00199	ND	0.00200
m_p-Xylenes		ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00199	ND	0.00200
o-Xylene		ND	0.00298	ND	0.00298	ND	0.00299	ND	0.00300	ND	0.00299	ND	0.00299
Total Xylenes		ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00199	ND	0.00200
Total BTEX		ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150	ND	0.00149	ND	0.00150
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-07-16	14:00	Oct-07-16	14:00	Oct-07-16	14:00	Oct-07-16	14:00	Oct-07-16	16:00	Oct-07-16	16:00
	Analyzed:	Oct-07-16	19:27	Oct-07-16	19:34	Oct-07-16	19:41	Oct-07-16	19:48	Oct-07-16	20:30	Oct-07-16	20:51
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		134	5.00	808	5.00	383	5.00	671	5.00	124	5.00	ND	5.00
TPH By SW8015B Mod	Extracted:	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00
	Analyzed:	Oct-05-16	21:35	Oct-05-16	22:01	Oct-05-16	22:26	Oct-05-16	22:51	Oct-05-16	23:44	Oct-06-16	00:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0

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Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

# **Certificate of Analysis Summary 538137**

#### TRC Solutions, Inc, Midland, TX

Date Received in Lab: Wed Oct-05-16 01:56 pm



Report Date: 11-OCT-16 Project Manager: Kelsey Brooks

	Lab Id:	538137-	013	538137-0	014	538137-0	)15	538137-	016	538137-	017	538137-	018
	Field Id:	Confirmation Flo	oor-6 @ 20	Confirmation N	W-2 @ 19'	Confirmation W	W-1 @ 19'	Confirmation W	W-2 @ 19'	Confirmation N	W-3 @ 7.5'	Confirmation N	W-4 @ 10'
Analysis Requested	Depth:	20 ft		19 ft		19 ft		19 ft		7.5 ft		10 ft	
	Matrix:	SOIL	,	SOIL		SOIL		SOIL	,	SOIL		SOIL	_
	Sampled:	Oct-05-16	09:21	Oct-05-16	09:24	Oct-05-16	09:27	Oct-05-16	09:34	Oct-05-16	09:45	Oct-05-16	09:46
BTEX by EPA 8021B	Extracted:	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30	Oct-05-16	18:30
	Analyzed:	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03	Oct-06-16	16:03
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00149	ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150	ND	0.00149
Toluene		ND	0.00199	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200	ND	0.00199
Ethylbenzene		ND	0.00199	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200	ND	0.00199
m_p-Xylenes		ND	0.00199	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200	ND	0.00199
o-Xylene		ND	0.00298	ND	0.00299	ND	0.00298	ND	0.00300	ND	0.00299	ND	0.00298
Total Xylenes		ND	0.00199	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200	ND	0.00199
Total BTEX		ND	0.00149	ND	0.00149	ND	0.00149	ND	0.00150	ND	0.00150	ND	0.00149
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-07-16	16:00	Oct-07-16	16:00	Oct-07-16	16:00	Oct-07-16	16:00	Oct-07-16	16:00	Oct-07-16	16:00
	Analyzed:	Oct-07-16	20:58	Oct-07-16 2	21:06	Oct-07-16	21:13	Oct-07-16	21:34	Oct-07-16	21:41	Oct-07-16	21:48
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11.3	5.00	263	5.00	86.0	5.00	272	5.00	16.8	5.00	21.1	5.00
TPH By SW8015B Mod	Extracted:	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00	Oct-05-16	15:00
	Analyzed:	Oct-06-16	00:35	Oct-06-16 (	01:00	Oct-06-16	01:26	Oct-06-16	01:53	Oct-06-16	02:18	Oct-06-16	02:43
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons	•	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0

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Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id:** 

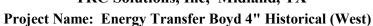
**Project Location:** 

**Contact:** 

Total TPH

# Certificate of Analysis Summary 538137

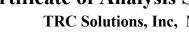
#### TRC Solutions, Inc, Midland, TX



Date Received in Lab: Wed Oct-05-16 01:56 pm

Report Date: 11-OCT-16

Project Manager: Kelsey Brooks



	Lab Id:	538137-	019	538137-0	020		
Analysis Paguestad	Field Id:	Confirmation N	W-5 @ 12'	Confirmation W	W-3 @ 19'		
Analysis Requested	Depth:	12 ft		19 ft			
	Matrix:	SOIL		SOIL	,		
	Sampled:	Oct-05-16	09:48	Oct-05-16	09:55		
BTEX by EPA 8021B	Extracted:	Oct-05-16	18:30	Oct-05-16	18:30		
	Analyzed:	Oct-06-16	16:03	Oct-06-16	16:03		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene	I	ND	0.00149	ND	0.00150		
Toluene		ND	0.00198	ND	0.00200		
Ethylbenzene		ND	0.00198	ND	0.00200		
m_p-Xylenes		ND	0.00198	ND	0.00200		
o-Xylene		ND	0.00298	ND	0.00299		
Total Xylenes		ND	0.00198	ND	0.00200		
Total BTEX		ND	0.00149	ND	0.00150		
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-07-16	16:00	Oct-07-16	16:00		
	Analyzed:	Oct-07-16	21:55	Oct-07-16	22:02		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		116	5.00	2670	25.0		
TPH By SW8015B Mod	Extracted:	Oct-05-16	15:00	Oct-05-16	15:00		
	Analyzed:	Oct-06-16	03:09	Oct-06-16	03:35		
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	14.9		
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	14.9		

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ND

15.0

Kelsey Brooks Project Manager

Knis Roah

ND

14.9



## **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001470
 Sample:
 538137-001 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 17:58	SU	RROGATE RI	ECOVERY	STUDY	
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	ane		108	99.9	108	70-130	
o-Terpheny	1		59.5	50.0	119	70-135	

Lab Batch #: 3001470 Sample: 538137-002 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg Date Analyzed: 10/05/16 19:31 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 102 99.6 102 70-130 o-Terphenyl 56.4 49.8 113 70-135

Units: mg/kg Date Analyzed: 10/05/16 19:56 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.7	108	70-130	
o-Terphenyl	59.7	49.9	120	70-135	

Units:	mg/kg <b>Date Analyzed:</b> 10/05/16 20:20		SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorood	ctane		109	99.7	109	70-130		
o-Terpheny	yl		59.7	49.9	120	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 20:45	SURROGATE RECOVERY STUDY						
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	tane		108	99.8	108	70-130			
o-Terpheny	l		58.7	49.9	118	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001470
 Sample:
 538137-006 / SMP
 Batch:
 1
 Matrix:
 Soil

Units: mg/kg D	<b>Date Analyzed:</b> 10/05/16 21:11	unalyzed: 10/05/16 21:11 SURROGATE RECOVERY ST				
	V8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Ana	lytes			[2]		
1-Chlorooctane		109	99.9	109	70-130	
o-Terphenyl		59.1	50.0	118	70-135	

Lab Batch #: 3001470 Sample: 538137-007 / SMP Batch: 1 Matrix: Soil

**Date Analyzed:** 10/05/16 21:35 **Units:** mg/kg SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 108 99.9 108 70-130 o-Terphenyl 58.5 50.0 117 70-135

Units: mg/kg Date Analyzed: 10/05/16 22:01 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-130	
o-Terphenyl	56.5	50.0	113	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 22:26	SURROGATE RECOVERY STUDY					
	TPH	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	tane		102	100	102	70-130		
o-Terpheny	1		56.2	50.0	112	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 22:51	SURROGATE RECOVERY STUDY						
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	tane	<del>-</del>	108	99.7	108	70-130			
o-Terpheny	·1		59.3	49.9	119	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001470
 Sample:
 538137-011 / SMP
 Batch:
 1
 Matrix:
 Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 10/05/16 23:44	RROGATE RI	ECOVERY	STUDY		
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	103	99.8	103	70-130	
o-Terphenyl	56.5	49.9	113	70-135	

**Units:** mg/kg **Date Analyzed:** 10/06/16 00:10 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 104 99.8 104 70-130 o-Terphenyl 57.1 49.9 114 70-135

Units: mg/kg Date Analyzed: 10/06/16 00:35 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.8	105	70-130	
o-Terphenyl	57.3	49.9	115	70-135	

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 01:00	SURROGATE RECOVERY STUDY						
	ТРН	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	tane		105	99.9	105	70-130			
o-Terpheny	l		57.0	50.0	114	70-135			

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 01:26	SURROGATE RECOVERY STUDY						
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	tane		107	99.7	107	70-130			
o-Terpheny	·l		58.9	49.9	118	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders: 538137, 538137
 Project ID:

 Lab Batch #: 3001470
 Sample: 538137-016 / SMP
 Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/06/16 01:	53 <b>SU</b>	SURROGATE RECOVERY STUDY						
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1-Chlorooctane	103	100	103	70-130				
o-Terphenyl	56.9	50.0	114	70-135				

**Units:** mg/kg **Date Analyzed:** 10/06/16 02:18 SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015B Mod **Found** Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 105 99.8 105 70-130 o-Terphenyl 57.3 49.9 115 70-135

Units: mg/kg Date Analyzed: 10/06/16 02:43 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.9	104	70-130	
o-Terphenyl	56.2	50.0	112	70-135	

Lab Batch #: 3001470 Sample: 538137-019 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/06/16 03:09 SURROGATE RECOVERY STUDY								
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooc	ctane		104	99.8	104	70-130		
o-Terpheny	yl		56.4	49.9	113	70-135		

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 03:35	SURROGATE RECOVERY STUDY					
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	ane		106	99.6	106	70-130		
o-Terphenyl			57.6	49.8	116	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001510
 Sample:
 538137-001 / SMP
 Batch:
 1
 Matrix:
 Soil

Units: mg/	kg <b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0314	0.0300	105	80-120			
4-Bromofluorobenzo	ene	0.0284	0.0300	95	80-120			

**Units:** mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0358 0.0300 119 80-120 4-Bromofluorobenzene 0.02770.0300 92 80-120

Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	вте	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluor	1,4-Difluorobenzene			0.0300	102	80-120			
4-Bromoflu	uorobenzene		0.0276	0.0300	92	80-120			

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY					
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluor	obenzene		0.0339	0.0300	113	80-120		
4-Bromoflu	orobenzene		0.0305	0.0300	102	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001510
 Sample:
 538137-006 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorobenzene			0.0306	0.0300	102	80-120			
4-Bromoflu	orobenzene		0.0289	0.0300	96	80-120			

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY					
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluor	obenzene		0.0319	0.0300	106	80-120		
4-Bromoflu	4-Bromofluorobenzene			0.0300	98	80-120		

Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY					
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluor	1,4-Difluorobenzene			0.0300	108	80-120		
4-Bromoflu	orobenzene		0.0280	0.0300	93	80-120		

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluor	obenzene		0.0340	0.0300	113	80-120			
4-Bromoflu	orobenzene		0.0269	0.0300	90	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001510
 Sample:
 538137-011 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluoro	benzene		0.0334	0.0300	111	80-120			
4-Bromofluo	orobenzene		0.0300	0.0300	100	80-120			

Lab Batch #: 3001510 Sample: 538137-012 / SMP Batch: 1 Matrix: Soil

**Units:** mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Limits Flags **Found** Amount Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0325 0.0300 108 80-120 4-Bromofluorobenzene 0.0271 0.0300 90 80-120

Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

**Lab Batch #:** 3001510 **Sample:** 538137-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	obenzene	1	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene			0.0269	0.0300	90	80-120	

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluor	obenzene		0.0328	0.0300	109	80-120			
4-Bromoflu	orobenzene		0.0269	0.0300	90	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001510
 Sample:
 538137-016 / SMP
 Batch:
 1
 Matrix:
 Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SU	SURROGATE RECOVERY STUDY					
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluoro	benzene		0.0321	0.0300	107	80-120			
4-Bromofluo	orobenzene		0.0281	0.0300	94	80-120			

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluor	obenzene		0.0311	0.0300	104	80-120				
4-Bromoflu	iorobenzene		0.0283	0.0300	94	80-120				

Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Units:	Units: mg/kg Date Analyzed: 10/06/16 16:03 SURROGATE RECOVERY STUDY								
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluoro	benzene	1 kindiy ees	0.0322	0.0300	107	80-120			
4-Bromofluorobenzene			0.0290	0.0300	97	80-120			

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluoro	benzene	1 mary tes	0.0327	0.0300	109	80-120			
4-Bromofluo	orobenzene		0.0282	0.0300	94	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Energy Transfer Boyd 4" Historical (West)

 Work Orders:
 538137, 538137
 Project ID:

 Lab Batch #:
 3001470
 Sample:
 714620-1-BLK / BLK
 Batch:
 1
 Matrix:
 Solid

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 16:23	SURROGATE RECOVERY STUDY					
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes		. ,	[D]			
1-Chloroocta	ane		110	100	110	70-130		
o-Terphenyl			61.7	50.0	123	70-135		

Lab Batch #: 3001510 Sample: 714644-1-BLK / BLK Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SU	RROGATE RI	ECOVERY S	STUDY	
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	robenzene		0.0318	0.0300	106	80-120	
4-Bromoflu	ıorobenzene		0.0253	0.0300	84	80-120	

Lab Batch #: 3001470 Sample: 714620-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/05/16 16:55 SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-130	
o-Terphenyl	63.6	50.0	127	70-135	

Lab Batch #: 3001510 Sample: 714644-1-BKS / BKS Batch: 1 Matrix: Solid

Units:	Units: mg/kg			SURROGATE RECOVERY STUDY									
BTEX by EPA 8021B  Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1,4-Difluoro	benzene	Timing tes	0.0347	0.0300	116	80-120							
4-Bromofluorobenzene			0.0289	0.0300	96	80-120							

Lab Batch #: 3001470 Sample: 714620-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 17:26	SU	SURROGATE RECOVERY STUDY								
	ТРН Е	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooc	tane	- Indiy tes	129	100	129	70-130						
o-Terpheny	ıl .		63.2	50.0	126	70-135						

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



### Form 2 - Surrogate Recoveries

Project Name: Energy Transfer Boyd 4" Historical (West)

Work Orders: 538137, 538137 **Project ID: Lab Batch #:** 3001510 **Sample:** 714644-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B  Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluor	obenzene		0.0298	0.0300	99	80-120					
4-Bromoflu	orobenzene		0.0280	0.0300	93	80-120					

**Lab Batch #:** 3001470 **Sample:** 538137-001 S / MS Batch: 1 Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 18:29	SURROGATE RECOVERY STUDY								
	TPH 1	By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooct	tane	•	125	99.9	125	70-130					
o-Terpheny	l		61.6	50.0	123	70-135					

**Sample:** 538137-002 S / MS Lab Batch #: 3001510 Batch: 1 Matrix: Soil

Date Analyzed: 10/06/16 16:03 **Units:** mg/kg SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

**Lab Batch #:** 3001470 **Sample:** 538137-001 SD / MSD Batch:

Units:	mg/kg	<b>Date Analyzed:</b> 10/05/16 18:59	SURROGATE RECOVERY STUDY									
TPH By SW8015B Mod  Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooct	ane		128	99.8	128	70-130						
o-Terpheny	1		63.1	49.9	126	70-135						

Lab Batch #: 3001510 **Sample:** 538137-002 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY							
	BTEX	by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluoro	benzene		0.0342	0.0300	114	80-120				
4-Bromofluo	orobenzene		0.0312	0.0300	104	80-120				

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



### **BS / BSD Recoveries**



Project Name: Energy Transfer Boyd 4" Historical (West)

**Work Order #:** 538137, 538137 **Project ID:** 

Analyst: PJB Date Prepared: 10/05/2016 Date Analyzed: 10/06/2016

 Lab Batch ID: 3001510
 Sample: 714644-1-BKS
 Batch #: 1
 Matrix: Solid

Units:	mg/kg		BLANK/BL	ANK SPIKE	E / BLAN	K SPIKE	DUPLICATE	RECOVERY	STUDY	
			1							

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00150	0.100	0.0807	81	0.100	0.0830	83	3	70-130	35	
Toluene	< 0.00200	0.100	0.0844	84	0.100	0.0843	84	0	70-130	35	
Ethylbenzene	< 0.00200	0.100	0.0870	87	0.100	0.0860	86	1	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.184	92	0.200	0.183	92	1	70-135	35	
o-Xylene	< 0.00300	0.100	0.0848	85	0.100	0.0847	85	0	71-133	35	

Analyst: MNR Date Prepared: 10/07/2016 Date Analyzed: 10/07/2016

Lab Batch ID: 3001661 Sample: 714720-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	< 5.00	250	270	108	250	258	103	5	90-110	20	

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



### **BS / BSD Recoveries**



**Project Name: Energy Transfer Boyd 4" Historical (West)** 

**Work Order #:** 538137, 538137 **Project ID:** 

Analyst: MNR Date Prepared: 10/07/2016 Date Analyzed: 10/07/2016

 Lab Batch ID: 3001666
 Sample: 714722-1-BKS
 Batch #: 1
 Matrix: Solid

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	274	110	250	274	110	0	90-110	20	

**Analyst:** ARM **Date Prepared:** 10/05/2016 **Date Analyzed:** 10/05/2016

Lab Batch ID: 3001470 Sample: 714620-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	971	97	1000	980	98	1	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1030	103	1000	1010	101	2	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



### Form 3 - MS / MSD Recoveries



Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 538137 Project ID:

**Lab Batch ID:** 3001510 **QC- Sample ID:** 538137-002 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00149	0.0994	0.0776	78	0.0998	0.0785	79	1	70-130	35	
Toluene	< 0.00199	0.0994	0.0774	78	0.0998	0.0783	78	1	70-130	35	
Ethylbenzene	< 0.00199	0.0994	0.0797	80	0.0998	0.0798	80	0	71-129	35	
m_p-Xylenes	< 0.00199	0.199	0.168	84	0.200	0.168	84	0	70-135	35	
o-Xylene	< 0.00298	0.0994	0.0777	78	0.0998	0.0780	78	0	71-133	35	

**Lab Batch ID:** 3001661 **QC- Sample ID:** 538137-003 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Parent Sample	Spike	Spiked Sample Result	Sample		Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chloride	< 5.00	250	273	109	250	273	109	0	90-110	20	

**Lab Batch ID:** 3001661 **QC- Sample ID:** 538139-009 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[0]	[ <b>D</b> ]	[E]		[G]	, ,	/*	,,,	
Chloride	97.3	250	344	99	250	346	99	1	90-110	20	

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



### Form 3 - MS / MSD Recoveries



### Project Name: Energy Transfer Boyd 4" Historical (West)

Work Order #: 538137 Project ID:

 Lab Batch ID:
 3001666
 QC- Sample ID:
 538137-011 S
 Batch #:
 1
 Matrix:
 Soil

### 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
and the	104	250	201	102	2.50	200	106		00.110	20	
Chloride	124	250	381	103	250	389	106	2	90-110	20	

**Lab Batch ID:** 3001470 **QC- Sample ID:** 538137-001 S **Batch #:** 1 **Matrix:** Soil

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	999	954	95	998	1040	104	9	75-125	25	
C10-C28 Diesel Range Hydrocarbons	<15.0	999	1020	102	998	1010	101	1	75-125	25	

## Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

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Standard TAT	RUSH TAT (Pre-Schedule) 24	Chlorides E 300.1	N.O.R.M.	RCI	TEX 8021B/8030 or BTEX 82	Volatiles Semivolatiles	Metals: As Ag Ba Cd Cr Pb Hg	SAR/ESP/CEC	Anions (Cl, SO4, Alkalinity)	Cations (Ca, Mg, Na, K)	TPH: TX 1005 TX 1006	TPH: 418.1 (8015M) 801	NP=Non-Potable Specify Other	GW = Groundwater S=Soil/Solid	DW=Drinking Water SL=Sludge	Other ( Specify)	None	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	NaOH	HCI H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	Ice	otal #. of Containers	ield Filtered	Time Sampled	Date Sampled	inding Depth	Seginning Depth			AB # (lab use only)
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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

	Relinquished by:	Relinquished by	Relinquished by	Special Ir Bill to Ro												LAB # (lab use only)	ORDER #:	(lab use only)				_		_	
	ned by: Date		ned by: Matthew Steen 10-5-16	Special Instructions:  Bill to Rose Slade at Energy Transfer.			Confirmation WW-3 @ 19'	Confirmation NW-5 @ 12'	Confirmation NW-4 @ 10'	Confirmation NW-3 @ 7.5'	Confirmation WW-2 @ 19'	Confirmation WW-1 @ 19'	Confirmation NW-2 @ 19'	Confirmation Floor-6 @ 20'	Confirmation Floor-7 @ 20'	FIELD CODE	# 20010	767	Sampler Signature: //a///new		Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	
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	Time	Time	Time													Ending Depth	2		Comment	•					
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## XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2016 01:56:00 PM

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

Work Order #: 538137

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		11.4
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	in of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relind	quished/ received?	Yes
#12 Chain of Custody agrees with sampl	e label(s)?	Yes
#13 Container label(s) legible and intact?	?	Yes
#14 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicate	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		N/A
#21 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-analysts.		N/A
#23 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing ir	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Jessica Kramer	Date: 10/05/2016
Checklist reviewed by:	Mmy Moah  Kelsey Brooks	Date: 10/05/2016



### 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 southeast
View of excavation
following previous
contractor field
activities.



Photograph No. 2

Date:

April 6, 2016

Description: Looking northwest View of initial delineation activities.





### 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. 3

Date:

September 2, 2016

Description: Looking north View of excavated area.



Photograph No. 4

Date:

September 2, 2016

Description: Looking northwest View of excavated area.



<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexic RECEIVED Energy Minerals and Natural By JKeyes at 12:18 pm, May 12, 2016

per NMOCD guidelines pJXK1613344207

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**

						<b>OPERA</b>	ГOR			ıl Report		Final Report
Name of Co	mpany: E	.T.C. Field S	ervices		(	Contact: Ro	ose Slade					
Address: P.	O. Box 12	26 Jal, NM 8	88252		1	Telephone 1	No.: 210-403-65	525 or 4	432.940.51	47		
Facility Nar	ne: Boyd	4 Inch (Histo	rical) We	est	F	Facility Typ	e: Natural Gas	Gather	ing			
Surface Ow	ner: Irwin	Boyd		Mineral Ow	vner: F	ederal						
				LOCAT	ΓΙΟΝ	OF RE	LEASE					
Unit Letter "P"	Section 23	Township 22 S	Range 37 E	Feet from the	North/S	South Line	Feet from the	East/	West Line	County Lea		
				Latitude: N32.37	′2074°	Longitudo	e: W103.12715	1°				
					JRE (	OF REL						
		oil, Produced		Natural Gas			Release: Unknov			ecovered: U		/n
		h steel pipelin	e			Unknown	Hour of Occurrence	ce:	Unknown	Hour of Disc	overy	
Was Immedi	ate Notice (		Yes 🗵	No Not Requ	uired	If YES, To	Whom?					
By Whom?						Date and H						
Was a Water	course Read	ched?	Yes 🗵	No		If YES, Vo	olume Impacting	the Wat	ercourse.			
If a Watercou	ırse was Im	pacted, Descri	ibe Fully.*	*								
Describe Cau	ise of Probl	em and Remed	dial Action	n Taken.* A release	occuri	red on the 4"	'inch lateral pipe	line and	the release	is historical.		
approximatel The area excr preliminary s observations, remaining so On March 8, collected from March 8, 201 After comple	y 587 cubic avated by the coil status sa, it was dete- il impact at 2016, a han m near or of 6, ETC con- tion of the	c yards (cy) of the previous co amples were co trimined the an the Release S and auger was un the caliche we adducted a soil in	impacted intractor w collected for alytical re- ite. itilized to of vell pad lo investigation, a mee	soil from the area of as left exposed and om the existing excisults from soil sample collect additional so cated immediately son activities designating was scheduled	September 18, 2012 through December 11, 2013, a previous contractor excavated the area of impact. Impacted soil was transported to Sundance Services, Inc., in Eunice, Noted and is referred to as, the existing remediation project. On January 29, 2016, six (6) ting excavation to determine the current levels of impact at the Release Site. Based on the oil samples collected on January 219, 2016 were likely not an accurate representation of tional soil samples for laboratory analysis. In addition, three (3) surface soil samples were diately south of the Release Site. Based on the analytical results of soil samples collected as designed to vertically and horizontally delineate the Release Site.:  Inequality the NMOCD Hobbs District Office and the property landowner. It was agreed to will be transported offsite to a NMOCD approved disposal site. An appropriate number 11, 2013, a previous contractor excavated area area of impact at the release in the samples of the samples o							
soil samples NMOCD per	will be coll mission to	ected and anal	yzed for c cavation a	oncentrations of BT and a Remediation S	TEX, T	PH and Chlo	oride. On complet	tion of t	he remediati	on activities	, ETC	will request
regulations a public health should their of or the environment	Il operators or the envi operations h nment. In a	are required to ronment. The nave failed to a	o report ar acceptance adequately OCD accep	is true and completed/or file certain release of a C-141 report investigate and renatance of a C-141 re	ease no by the nediate	tifications a NMOCD m contaminati	nd perform correct arked as "Final Ricon that pose a thr	ctive act Report" ( reat to g	tions for rele does not reli- round water	eases which neve the operations, surface war	may en ator of ter, hur	ndanger `liability man health
							OIL CON	SERV	/ATION	<u>DIVISI</u> O	N	
Signature: R	sea C Clada											
Printed Name		Slade			A	Approved by	NMOCD:	am X Vhye	^			
		ntal Specialist			A	Approval Da	te: 05/12/2016		Expiration I	Date: 07/12/	2016	
E-mail Addre	ess: rose.sla	de@energytra	nsfer.com				f Approval: Discre			Attached		RP 4277

ate:5/11/2016	Phone: 210.403.6525