

# REMEDIATION SUMMARY, RISK-BASED SOIL STRATEGY PROPOSAL, AND SITE CLOSURE REQUEST

## ETC FIELD SERVICES, LLC Boyd 4-Inch Historical East Lea County, New Mexico UNIT LTR "P", Section 23, Township 22 South, Range 37 East Latitude 32.372074° North, Longitude 103.127151° West NMOCD Reference # 1RP-4278

Prepared For:

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# **1.0 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 Proposed Risk-Based Soil Strategy for the Release Site known as Boyd 4-Inch Historical East. 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 32.372074° North and 103.127151° West. Please reference Figure 1 for the Site Location Map and Figure 3 for the Site Details and Confirmation Soil Sample Locations. The Release Notification and Corrective Action (Form C-141) is provided as Appendix E.

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). However, on May 12, 2016, ETC filed a C-141 NMOCD Form documenting the release. At this time, information as to the volume and date of the release is not available. General photographs of the site are provided as Appendix C.

## 2.0 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 indicated hydrocarbon impact existed at approximately twenty (20) feet bgs. Based on the NMOCD site classification system, twenty (20) points was assigned to the Boyd 4-Inch Historical East 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 was 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 was assigned to the subject area ranking as a result of this criterion.

The NMOCD guidelines indicate the Boyd 4-Inch Historical East 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)

## 3.0 SUMMARY OF RECENT FIELD ACTIVITIES

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

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

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

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

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

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

In addition to the soil sample locations described above, three (3) surface soil samples (Sample-6 Surface, Sample-7 Surface, and Sample 8 Surface) were collected from near or on the caliche well pad located immediately south of the Boyd 4-Inch Historical West Release Site.

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

Sample-1 BOE 8.5'. TPH concentrations ranged from 15 mg/Kg for soil sample Sample-1 BOE 2' to 3,458 mg/Kg for soil sample Sample-1 BOE 8.5'. Chloride concentrations were less than the applicable laboratory MDL and NMOCD regulatory guidelines.

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

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

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

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

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

On April 5, 2016, delineation of the impacted soil began at the site utilizing an excavator. Soil samples were periodically collected, field screened for concentrations of chloride, and select soil samples were submitted to the laboratory for analysis. Please reference Figure 2 for site details.

On April 5, 2016, multiple trenches were advanced adjacent to and within the existing excavation to investigate the vertical depth of impact at the Boyd 4-Inch Historical West Release Site. Four (4) preliminary soil status samples (Sample-1 @ 21', T-SSW-1 @ 6', T-NSW-1 @ 7', and T-WSW-1 @ 11') were collected at approximately twenty-one (21) feet bgs, approximately six (6) feet bgs, approximately seven (7) feet bgs, and approximately eleven (11) feet bgs, respectively. The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method E-300.1. The analytical results indicated all benzene and BTEX concentrations were less than the applicable laboratory MDL and NMOCD regulatory guidelines. All TPH concentrations were less than the laboratory MDL, with the exception of soil

sample T-WSW-1 @ 11', which exhibited a TPH concentration of 51.7 mg/Kg. Chloride concentrations ranged from 3.65 mg/Kg for soil sample T-NSW-1 @ 7' to 35.6 mg/Kg for soil sample T-WSW-1 @ 11'.

In addition, two (2) preliminary soil status samples (Sample-2 @ 20' and Sample-10 @ 2.5') were collected from multiple trenches within the existing excavation, to investigate the vertical depth of impact at the Boyd 4-Inch Historical East Release Site. Soil samples Sample-2 @ 20' and Sample-10 @ 2.5' were collected at approximately twenty (20) feet bgs and two and one half (2.5) feet bgs, respectively. The analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory MDL, with the exception of soil sample Sample-2 @ 20', which exhibited a benzene concentration of 0.0264 mg/kg and a BTEX concentration of 0.5736 mg/Kg. All TPH concentrations were less than the laboratory MDL, with the exception of soil sample Sample-2 @ 20', which exhibited a TPH concentration of 2,390.1 mg/Kg. Chloride concentrations for soil samples Sample-2 @ 20' and Sample-10 @ 2.5' were 32.3 mg/Kg and 40.9 mg/Kg, respectively.

Based on the analytical results of the investigation trench advanced on April 5, 2016, vertical delineation of the Release Site could not be achieved using an excavator.

On April 6, 2016, delineation of the Boyd 4-Inch Historical East Release Site continued. Soil sample T-SSW-2 @ 7' represented delineation activities conducted in the vicinity of the southwest sidewall of the existing west excavation. The soil sample was collected approximately seven (7) feet bgs.

Vertical delineation activities conducted in the vicinity of the southeast sidewall of the existing west excavation were represented by soil samples T-ESW-1 @ 5', T-ESW-1 @ 10', and T-ESW-1 @ 16' and horizontal delineation activities were represented by soil samples T-ESW-2 @ 4', T-ESW-3 @ 4', and T-ESW-4 @ 4'. Soil samples collected during vertical delineation activities were collected at approximately five (5) feet bgs, ten (10) feet bgs, and sixteen (16) feet bgs, respectively. Soil samples collected during horizontal delineation activities were collected at approximately four (4) feet bgs.

Vertical and horizontal delineation activities conducted in the vicinity of the northeast sidewall of the existing excavation were represented by soil samples T-NSW-2 @ 16', T-NSW-3 @ 4'. Soil samples were collected at approximately sixteen (16) feet bgs and four (4) feet bgs, respectively.

The analytical results indicated soil samples T-SSW-2 @ 7', T-ESW-1 @ 5', T-ESW-1 @ 10', T-ESW-1 @ 16', T-NSW-2 @ 16', T-NSW-3 @ 4', and T-ESW-2 @ 4' exhibited benzene, BTEX, and TPH concentrations less than the applicable laboratory MDL and NMOCD regulatory guidelines, with the exception of T-ESW-1 @ 10', which exhibited a TPH concentration of 58.8 mg/Kg. Chloride concentrations for soil samples T-ESW-1 @ 16', T-ESW-1 @ 10', and T-NSW-3 @ 4' were 14.1 mg/Kg, 168 mg/Kg, and 246 mg/Kg, respectively, and below NMOCD regulatory guidelines. Chloride concentrations for soil samples T-ESW-1 @ 5', T-NSW-2 @ 16', T-ESW-2 @ 4', T-ESW-3 @ 4', and T-ESW-4 @ 4' ranged from 304 mg/Kg for soil samples T-ESW-2 @ 4' to 1,440 mg/Kg for soil sample T-NSW-2 @ 16'.

Around May 12, 2016, ETC opted to remediate the 4-Inch Boyd Historical Release Site as two (2) distinct releases. On May 12, 2016, ETC Field Services filed a NMOCD form C-141 for the Boyd 4-Inch Historical West Release (1RP-4277) and the Boyd 4-Inch Historical East Release (1RP-4278). Please reference the "Boyd 4-Inch Historical West Remediation Summary and Site Closure Request" for additional remediation details.

On June 27, 2016, during excavation activities at the Boyd 4-Inch Historical West Release Site, fifteen (15) preliminary soil status samples were collected. The southeast sidewall of the Boyd 4-Inch Historical West Release Site correlated with the northwest sidewall of the Boyd 4-Inch Historical East Release Site and was represented by soil samples West Excavation ESW-1 @ 19' and West Excavation ESW-4 @ 19'. The laboratory analytical results for soil samples West Excavation ESW-1 @ 19' and West Excavation ESW-4 @ 19' indicated TPH concentrations were less than applicable laboratory MDL and NMOCD regulatory guidelines. Chloride concentrations for soil sample West Excavation ESW-1 @ 19' and West Excavation ESW-1 @ 19' and West Excavation ESW-1 @ 19' and West Excavation ESW-4 @ 19' indicated TPH concentrations were less than applicable laboratory MDL and NMOCD regulatory guidelines. Chloride concentrations for soil sample West Excavation ESW-1 @ 19' and West Excavation ESW-4 @ 19' were 1,600 mg/Kg and 156 mg/Kg, respectively.

On September 8, 2016, one (1) soil boring (SB-1) was advanced at the Boyd 4-Inch Historical East Release Site. Please reference Figure 3 for the location of the soil boring and Figure SB-1 for the soil boring log. The soil boring was advanced to approximately thirty three (33) feet bgs. Soil samples were collected at five (5) foot drilling intervals and field screened using a Photo-Ionization Detector (PID) and chloride field test kit. Selected soils samples were submitted to the laboratory for determination of TPH and/or chloride concentrations. Soil samples collected at ten (10) feet bgs, fifteen (15) feet bgs, and twenty (20) feet bgs were submitted to the laboratory for analysis. The analytical results indicated TPH concentrations for soil samples SB-1 @ 10' and SB-1 @ 15' were 37.9 mg/Kg and less than the applicable laboratory MDL, respectively, and below NMOCD regulatory guidelines. Chloride concentrations for soil samples SB-1 @ 15' and SB-1 @ 20' were 293 mg/Kg and 129 mg/Kg, respectively. Based on the analytical results, vertical delineation of chloride in soil boring SB-1 was achieved at approximately twenty (20) feet bgs.

On October 5, 2015, representatives of TRC and an environmental contractor retained by the landowner, collected and split confirmation soil samples from the Boyd 4-Inch Historical West Release Site. Twenty five (25) confirmation soil samples were collected and submitted to the laboratory for BTEX, TPH, and chloride analysis. The southeast wall of the Boyd 4-Inch Historical East Release Site and were represented by soil samples Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', and Confirmation EW-3 @ 19'. The laboratory MDL and NMOCD regulatory guidelines. Chloride concentrations for soil samples Confirmation EW-1 @ 19', Confirmation EW-2 @ 19', and Confirmation EW-3 @ 19' ranged from 383 mg/Kg for soil samples Confirmation EW-2 @ 19', and Confirmation EW-3 @ 19' ranged from 383 mg/Kg for soil samples Confirmation EW-2 @ 19', and Confirmation EW-3 @ 19' ranged from 383 mg/Kg for soil samples Confirmation EW-2 @ 19', to 808 mg/Kg for soil samples Confirmation EW-1 @ 19'.

On October 20, 2016, representatives of ETC (formerly SUGS and Regency) and TRC met with a NMOCD representative and submitted the "Boyd 4-Inch Historical East Release Site Proposed Remediation Workplan" (Workplan) for NMOCD consideration and approval. The Workplan summarized remedial activities to date and detailed a closure strategy designed to progress the Release Site toward an NMOCD approved closure status. On October 24, 2016, ETC received written (email) NMOCD approval to proceed with the activities outlined in the Workplan.

On October 21, 2016, representatives of ETC and TRC met with a NMOCD representative at the Boyd 4-Inch Historical West Release Site and discussed the "Boyd 4-Inch Historical West Release Site Remediation Summary and Site Closure Request" (Site Closure Request). The Site Closure Request summarized remedial activities to date and requested NMOCD approval to backfill the excavated area and closure status. On October 24, 2016, ETC received written (email) NMOCD approval to backfill the excavation to receive NMOCD closure status. Please reference the email correspondence approving backfill activities in Appendix A.

On November 1, 2016, TRC commenced excavation activities from the east wall of the Boyd 4-Inch Historical Release Site to the east and south. Chloride field screening was utilized to guide excavation activities. Excavated soil was stockpiled to the south of the excavation, pending final disposition of the soil.

On November 2, 2016, one (1) soil sample (Baseline-1 @ 20') was collected to confirm chloride field screens results. The laboratory analytical results indicated the chloride concentrations was 915 mg/Kg.

On November 16, 2016, TRC began transporting the excavated material to Sundance Services, Inc. (Sundance) concurrent with excavation activities. To date, approximately 13,300 cubic yards of excavated soil has been transported to Sundance. The Sundance Disposal Manifest are provided as Appendix D (included on the provided disc).

On November 29, 2016, five (5) soil samples (Floor-1 @ 20', Floor-2 @ 20', Eastwall-1 @ 20', Eastwall-2 @ 20', Northwall-1 @ 19') were collected from the floor and sidewalls of the excavated area. The soil samples were submitted to the laboratory and analyzed for concentrations of chloride using EPA Method E 300.0. The analytical results indicated chloride concentrations ranged from 218 mg/Kg for soil sample Floor-2 @ 20' to 444 mg/Kg for soil sample Eastwall-2 @ 20'. A review of laboratory analytical results indicated additional excavation activities were necessary toward the east. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Please reference Figure 3 for soil samples locations. Analytical reports are provided as Appendix B.

On December 6, 2016, following additional excavation activities to the south, two (2) soil samples (South Wall-1 @ 19' and Floor-3 @ 20') were collected from the floor and side wall of the excavated area and submitted to the laboratory. The analytical results indicated TPH concentrations for soil samples South Wall-1 @ 19' and Floor-3 @ 20' were less than laboratory MDL of 15.0 mg/Kg and 7,620 mg/Kg, respectively. In addition, analytical results indicated chloride concentrations were 519 mg/Kg and 218 mg/Kg, respectively.

On December 13, 2016, following additional excavation activities in the area represented by soil samples Floor-3 @ 20', one (1) soil sample (Floor-3a @ 30') was collected and submitted to the laboratory. The laboratory analytical results indicated TPH and chloride concentrations for soil sample Floor-3a @ 30' were 1,406.1 mg/Kg and 157 mg/Kg, respectively.

On December 30, 2016, an additional soil sample (Floor-3b @ 30') was collected from the area represented by soil sample Floor-3a @ 30' and submitted to the laboratory for TPH analysis. Laboratory analytical results indicated the TPH concentration was 2,080 mg/Kg.

On December 28, 2016, following the four (4) foot advancement of a trench in the area represented by soil sample Floor-3b @ 30', one (1) soil sample (Floor-3c @ 34') was collected and submitted to the laboratory for TPH and BTEX analysis. A review of laboratory analytical results indicated benzene, ethylbenzene and xylene concentrations were below the laboratory MDL, with the exception of the toluene concentration of 0.00324 mg/Kg. TPH concentration for soil sample Floor-3c @ 34' was 2,283 mg/Kg.

On January 10, 2017, representatives of ETC and TRC met with the landowner at the Boyd 4-Inch Historical East Release Site to discuss site remediation activities. During the discussion, ETC requested and received landowner approval to submit a "Remediation Summary and Risk-Based Strategy Proposal" to the NMOCD for consideration.

On January 24, 2017, eleven (11) soil samples (Floor-1 @ 20', Northwall-1 @ 19', Eastwall-1a @ 19', Floor-2 @ 20', Eastwall-2a @ 20', Floor-4 @ 20', Floor-3c @ 34', Northwall-2 @ 29', Eastwall-3 @ 29', Southwall-1b @ 29', and Westwall-1 @ 29') were collected from the floor and sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for TPH, BTEX, and/or chloride analysis. A review of laboratory analytical results indicated TPH and BTEX concentrations were below the laboratory MDL for all soil samples submitted for TPH and BTEX analysis. A review of laboratory analytical results indicated chloride concentrations ranged from 13.2 mg/Kg for soil sample Floor-4 @ 20' to 645 mg/Kg for soil sample Eastwall-3 @ 29'.

The excavated area measured approximately one hundred and sixty-seven (167) feet in width and approximately two hundred (200) feet in length, and ranged from approximately nineteen (19) to thirty (30) feet in depth.

# 4.0 PROPOSED SOIL CLOSURE STRATEGY AND SITE CLOSURE REQUEST

Based on verbal communications with the landowner, ETC proposes to leave in place a limited volume of hydrocarbon impacted soil at a depth of approximately thirty (30) feet bgs. On NMOCD concurrence with the landowner approval, the excavation will be backfilled with locally purchased, like material. On completion of backfilling activities, the excavated area will be contoured to fit the surrounding area and, at a time of the landowner's choosing, the disturbed area will be reseeded with vegetation approved by the landowner. On completion of the above referenced activities, ETC request the NMOCD grant site closure status to the Boyd 4-Inch Historical East Release Site

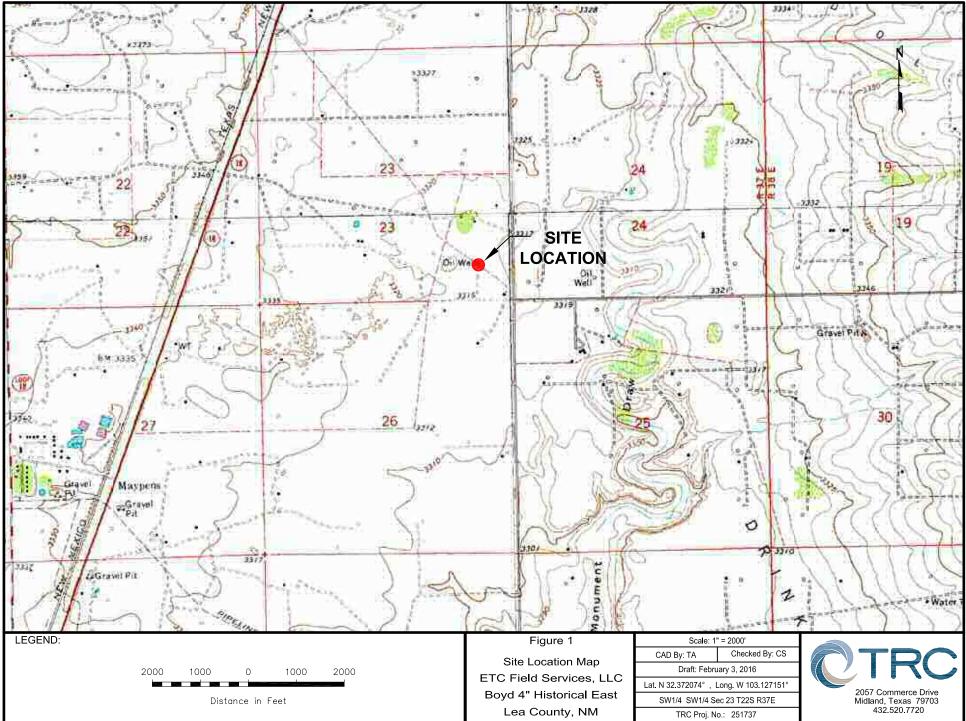
## 5.0 LIMITATIONS

TRC Environmental Corporation has prepared this Report on behalf of, and for the sole and exclusive use of ETC Field Services, LLC. This report was prepared by TRC Environmental Corporation for the benefit of ETC Field Services, LLC. The information contained in this Report may be released to third parties, who may use and rely upon the information at their discretion. However, any use of or reliance upon the information by a party other than specifically named above shall create no rights, obligations, or liabilities on the part of TRC Environmental Corporation with respect to any such party. The information shall not be used or relied upon by a party that does not agree to be bound by the above statement.

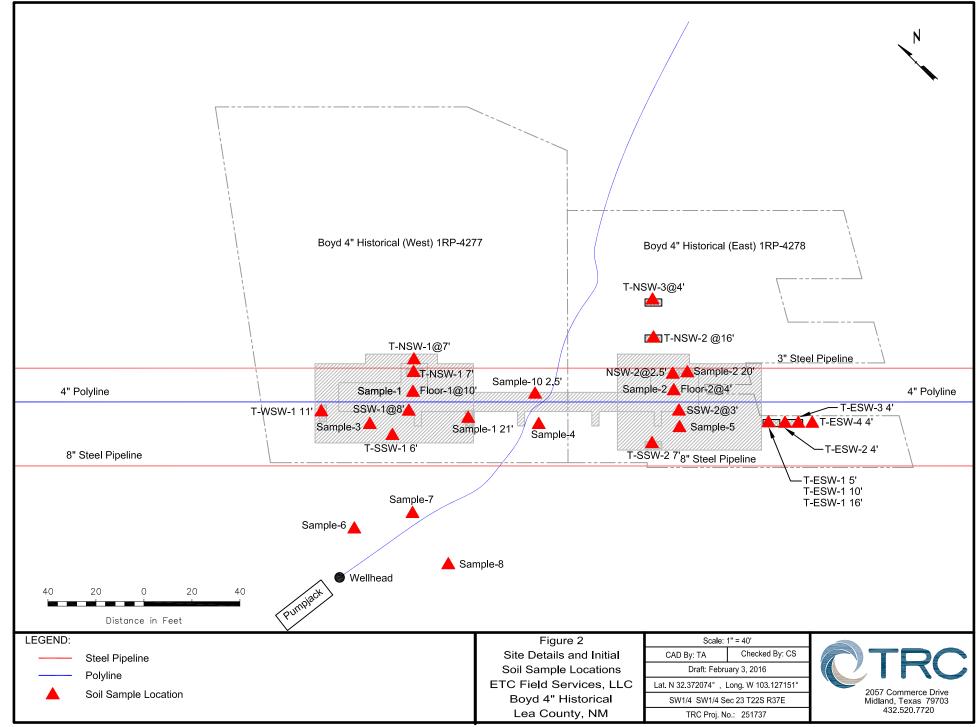
In preparing this Report, TRC Environmental Corporation may have obtained and relied upon information from multiple sources including the ETC Field Services, LLC, and other consultants working for the ETC Field Services, LLC, or other parties. Unless specifically stated, TRC Environmental Corporation has made no attempt to verify the accuracy or completeness of such information.

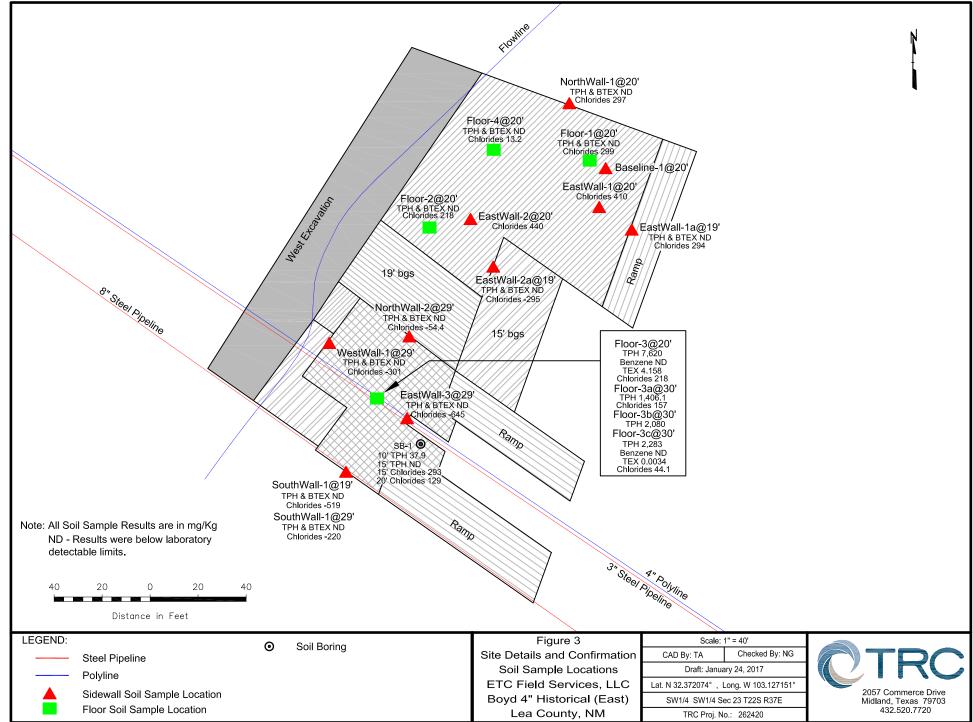
# 6.0 **DISTRIBUTION:**

- Copy 1: 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 E. Sonterra Suite #2 San Antonio, Texas 78258
- Copy 3: TRC Environmental Corporation 2057 Commerce Street Midland, Texas 79703



#### DRAWING NAME: H:\Nova\Project Files\ETC Field Services\Boyd 4 Inch Historical\CAD\ Pumpjack MapInitial with irp numbers.dwg --- PLOT DATE: February 06, 2017 - 12:20PM --- LAYOUT: Layout1





DRAWING NAME: H:\Nova\Project Files\ETC Field Services\Boyd 4 Inch Historical\CAD\ SB-1.dwg --- PLOT DATE: February 06, 2017 - 12:16PM --- LAYOUT: Model

# Soil Boring Log SB-1

Depth (reet)       Soil       PID Columns       Chloride Reading       Chloride Odor       Soil Description       Soil Description         0'	Upper       Columns       Reading       Odor       Field Screen       Soil Description         0       0       0       Field Screen       Soil Description       0       33.1         0       0       0       0       0.4' 8' - Previously Excavated.       0       0         0       0       0       0       0       0       0       0       0         10       2.5       None       300       9' 6'-14' - Dark Brown Sity Dry Sand.       0	Deptitie       Soil       PID       Chloride         (feet)       Columns       Reading       Odor       Field Screen       Soil Description         0'	1									
(feet)       Columns       Reading       Odor       Field Screen       Soil Description         0       0       0       1-14-2016       Detb Inited       1-14-2016         0       0       0-4' 8" - Previously Excavated.       Detb Inited       1-14-2016         5'       None       4' 8"-6' - White-Tan Silty Dry Sand.       Detb Inited       1-14'-2016         10'       2.5       None       6'-9' 6" - White Hard Dry Caliche.       Completion Notes         110'       2.5       None       336       14'-18' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged came day. Using Air Rotary drilling Technique.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       1. Soil boring was plugged came day. Using Air Rotary drilling Technique.         20'       1.0       None       144       18'-25' - Light Tan Silty Dry Sand.       3. Oo       Indicates Samples submitted to Laboratory for analysis.         25'       1.5       None       120       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Modules.       30'-25'-28' - Light Tan Silty Dry Sand with Fine Pebble Rocks.         30'       1.6       None       232       30'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.       30'-30' - White Silty Dry Sand with Fine Pebble Rocks.         30'	(reet)       Columns       Reading       Odor       Field Screen       Soil Description       14-201.         0       0       0       0       0       33.1       Date Drilled       1.4-201.         0       0       0       0       0       33.1       Desch of Explorationy Well       33.1         0       0       0       4*8*6       White-Tan Silty Dry Sand.       0       0         10'       2.5       None       300       9*6*14* - Dark Brown Silty Dry Sand.       0       0         15'       2.0       None       336       14*18* - Light Tanish White Sandy Dry Clay.       2.       0.0000       Indicates Samples submitted to Laboratory for analysis.         16'       None       142       18*25* - Light Tan Silty Dry Sand.       2.       0.0000       Indicates Samples submitted to Laboratory for analysis.         20'       1.6       None       120       25*28* - Light Tan Silty Dry Sand.       2.       0.000       Indicates Samples submitted to Laboratory for analysis.         25'       1.6       None       120       25*28* - Light Tan Silty Dry Sand with Free Pable Rocks.       30*32* With Free Pable Rocks.       30*32* With Free Pable Rocks.         35'       1.6       None       172       32*28* With Free Pab	(feet)       Columns       Reading       Odor       Field Screen       Soil Description         0'	Depth	Soil	PID		Chlorido			Soil	<u> 3oring Details</u>	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0°       0°       1-14-2016         0°       0-4' 8" - Previously Excavated.       Bepth to Water         10°       2.6' 8" - Previously Excavated.         10°       2.6' 8" - White Hard Dry Caliche.         0.4' 8" - Previously Excavated.       Completion Notes         10°       2.6' None       300         9' 6''-14' - Dark Brown Silty Dry Sand.       1. Soll Doring vas plugged same day. Using Air Retary drilling Technique.         15'       2.0' None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. Goo Indicates Samples submitted to Laboratory for analysis.         20'       1.0 None       144         18'-25' - Light Tan Silty Dry Sand with Pebble. Sized Modulas.       3. Goo Indicates Samples submitted to Laboratory for analysis.         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       232         30'       1.6       None       232         30'       1.6       None       232         30'       32' 8''.33''. Wight Fand Dry Calares and with Prebble Si	0' Date Drilled 1-14-2016   Depth of Exploratory Well 33 ft   Depth to Water N/A     5' None   4' 8"-6' - White-Tan Silty Dry Sand.     None 6'-9' 6'' - White Hard Dry Caliche.				Odor			Soil Description			
0°       0.4' 8" - Previously Excavated.         5'       None       4' 8"-6' - White-Tan Silty Dry Sand.         10'       2.5       None       6'-9' 6" - White Hard Dry Caliche.         10'       2.5       None       300         9' 6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. O.O.       Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'-25' - Light Tan Silty Dry Sand,       15' Sized Nodules.       16'''' Sized Nodules.         30'       1.6       None       22''''         1.6       None       120         25'-25' - Light Tan Silty Dry Sand with Pine Pebble Rocks.       30''''         1.6       None       120         25'-25' - Light Tan Silty Dry Sand with Pine Pebble Rocks.       30'''''         1.6       None       120         25'-25' - Light Tan Silty Dry Sand with Fine Pebble Rocks.       30''''''''''''''''''''''''''''''''''''	Or       Depth to Water       NA         5'       None       4'8'-9' Previously Excavated.         5'       None       4'8'-9' - White-Tan Sitty Dry Sand.         10'       2.5       None       6'-9' 6'' - White Hard Dry Caliche.         9' 6''-14' - Dark Brown Sitty Dry Sand.       1.5       Soil boring was plugged same day. Using Air Rotary driling Technique.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       1.5       Soil boring was plugged same day. Using Air Rotary driling Technique.         20'       1.0       None       144'-18' - Light Tanish White Sandy Dry Clay.       3.       0.0       Indicates Samples adumtided to Laboratory for analysis.         20'       1.5       None       120       25'-28' - Light Tan Sitty Dry Sand.       3.       0.0       Indicates Samples adumtided to Laboratory for analysis.         30'       1.6       None       22       23'-29' - Rot Dry Coarses aduwtith Fine Pabble Rocks. Sized Nodules.       32'-32' - White Hard Dry Caliche with Rounded Gravel. 32'-32' - Circ Field Services       State Iow       Coarse?/To         LEGEND:       Figure SB-1 Soil Boring Log Details       State Iow       State Iow       Coarse?/To	0'       Depth to Water       N/A         - 5'       None       4' 8"-6' - White-Tan Silty Dry Sand.         None       6'-9' 6" - White Hard Dry Caliche.			<u> </u>				<b>.</b>	Date Drilled		
5'       None       4'8"-6' - White-Tan Silty Dry Sand.         10'       2.5       None       6'.9'6" - White Hard Dry Caliche.         10'       2.5       None       300         9'6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Afrechard pdiling Technique.         15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ①① Indicates Samples submitted to Laboratory for analysis.         20'       1.5       None       120         25'       1.5       None       120         25'       1.6       None       25'-26' - Light Tan Silty Dry Sand.         30'       1.6       None       22         30'       1.6       None       120         25'-26' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       30'-32' - White Silght Damp Silty Sand/Caliche         30'       1.6       None       122         1.6       None       122         25'-26' - Light Tan Silty Dry Sand with Pine Pebble Rocks. 30'-32' - White Silght Damp Silty Sand/Caliche       16	5'       None       4' 8' - Previously Excavated.         5'       None       4' 8' - 6' - White Hard Dry Caliche.         10'       2:5       None       6'-9' 6'' - White Hard Dry Caliche.         10'       2:5       None       300         9' 6''-14' - Dark Brown Silty Dry Sand.       1. Soll boring was plugged same day. Using Air Rotary drilling Technique.         2:0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ① ① Indicates Samples submitted to Laboratory for analysis.         2:0'       1.5       None         1:6       None       22         30'       1.6       None         1:7       None       232         2:7:28' - Light Tan Silty Dry Sand.       25':28' - Light Tan Silty Dry Sand.         2:5'-28' - Light Tan Silty Dry Sand.       25':28' - Light Tan Silty Dry Sand.         2:5'-28' - Light Tan Silty Dry Sand.       25':28' - Light Tan Silty Dry Sand.         2:5'-28' - Light Tan Silty Dry Sand.       25':28' - Light Tan Silty Dry Sand.         3:0'       1.6       None       232         3:0'       1.6       None       232         3:0'       1.6       None       22         3:0'       1.6       None       22         3:	Depth to Water   Depth to Water Depth to Water NA Depth to Water Depth to Wa	0'									
5'None $4^{\circ}8^{\circ}-6^{\circ} - White-Tan Silty Dry Sand.None6\cdot9^{\circ}6^{\circ} - White Hard Dry Caliche.Completion Notes10'2.5None3009'6"-14' - Dark Brown Silty Dry Sand.1. Soil boring was plugged same day.Using Air Retary drilling Technique.15'2.0None33614'-18' - Light Tanish White Sandy Dry Clay.1. OLubic Feet of Bentonite.10' Laboratory for analysis.20'1.0None14425'-25' - Light Tan Silty Dry Sand.3. OLoboratory for analysis.20'1.5None12025'-28' - Light Tan Silty Dry Sand.1.5'-28' - Light Tan Silty Dry Sand.30'1.6None12230'-32' White Sightly Damp Silty Sand/Calichewith Fine Pebble Sized Grains.$	5'       None       4'8'-6' - White-Tan Silty Dry Sand.         10'       2.5       None       6'-9' 6' - White Hard Dry Caliche.         9' 6'-14' - Dark Brown Silty Dry Sand.       9' 6'-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using AirR was plugged same day. Using AirR was plugged same day.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       1. Soil boring was plugged same day.         20'       1.0       None       14'-18' - Light Tan Silty Dry Sand.       3. One       1.0 Cubic Feet of Bentonite.         20'       1.0       None       14'-18' - Light Tan Silty Dry Sand.       3. One       1.0 Cubic Feet of Bentonite.         25'-28' - Light Tan Silty Dry Sand.       18'-25' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand.       3. One       1.0 Cubic Feet of Bentonite.         30'       1.6       None       22'       25'-28' - Light Tan Silty Dry Sand with Pebble.       32'-32' - White Hard Dry Caliche with Runded Brokes.       32'-32' - White Hard Dry Caliche with Runded Gravel.         30'       1.6       None       22'       27'-32' - Wite Hard Dry Caliche with Runded Gravel.       32'-32' - White Silty Dry Sorted Sand         30'       1.6       None       22'       32'-32' - White Hard Dry Caliche with Runded Gravel.       32'-32' - White Sind Dory Sorted Sand	- 5' None 4' 8"-6' - White-Tan Silty Dry Sand.						0-4' 8" -	Previously Excavated	Depth to Water _	N/A	7
None       6'-9' 6'' - White Hard Dry Caliche.         10'       2.5       None       300         9' 6''-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ① ① Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.5       None       22         30'       1.6       None       22         16       None       172	None       6'.9' 6" - While Hard Dry Caliche.         10'       2.5       None       300         9' 6"-14' - Dark Brown Silty Dry Sand.       9' 6"-14' - Dark Brown Silty Dry Sand.       9' 50' 14' - Dark Brown Silty Dry Sand.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       0' 0) Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.6       None       22         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       172         30'       1.6       None       122         30'       1.6       None       122     <	None     6'-9' 6" - White Hard Dry Caliche.	-					0 + 0				
None       6'-9' 6'' - White Hard Dry Caliche.         10'       2.5       None       300         9' 6''-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ① ① Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.5       None       22         30'       1.6       None       22         16       None       172	None       6'.9' 6" - While Hard Dry Caliche.         10'       2.5       None       300         9' 6"-14' - Dark Brown Silty Dry Sand.       9' 6"-14' - Dark Brown Silty Dry Sand.       9' 50' 14' - Dark Brown Silty Dry Sand.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       0' 0) Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.6       None       22         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       172         30'       1.6       None       122         30'       1.6       None       122     <	None     6'-9' 6" - White Hard Dry Caliche.	-									
None       6'-9' 6'' - White Hard Dry Caliche.         10'       2.5       None       300         9' 6''-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ① ① Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.5       None       22         30'       1.6       None       22         16       None       172	None       6'.9' 6" - While Hard Dry Caliche.         10'       2.5       None       300         9' 6"-14' - Dark Brown Silty Dry Sand.       9' 6"-14' - Dark Brown Silty Dry Sand.       9' 50' 14' - Dark Brown Silty Dry Sand.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       0' 0) Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.6       None       22         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       172         30'       1.6       None       122         30'       1.6       None       122     <	None 6'-9' 6" - White Hard Dry Caliche.										
10'       2.5       None       300       Completion Notes         9' 6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.       2. 10 Cubic Feet of Bentonite.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       3. ①. ①. Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.6       None       22         30'       1.6       None       22         16       None       172	Image: Completion Notes         10'       2.5       None       300       9' 6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       1. O Cubic Feet of Bentonite.         20'       1.0       None       144       18'-25' - Light Tan Silty Dry Sand.       3. @@]       1. @@]       Indicates Samples submitted to Laboratory for analysis.         20'       1.5       None       120       25'-28' - Light Tan Silty Dry Sand.       3. @]       1. @]       Indicates Samples submitted to Laboratory for analysis.         30'       1.6       None       232       30'-32' - White Slightry Damp Silty Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble Rocks. 30'-32' - White Slightry Damp Silty Sand/Calche with Thine Pebble Rocks. 30'-32' - White Slightry Damp Silty Sand/Calche with Cabble Rocks.       22'-22' 6' - White Hard Dry Calche with Rounded Gravel. 32' 6'-33' - Light Tan very Moist Poorly Sorted Sand with Cabble Rocks.         35'       State Nore Usedwidty'' At 10'       State Nore Usedwidty'' At 10'       State Nore Usedwidty'' At 10'					None		4' 8"-6' -	White-Tan Silty Dry Sand.			
10'       2.5       None       300       Completion Notes         9' 6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.       2. 10 Cubic Feet of Bentonite.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       3. ①. ①. Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'       1.6       None       22         30'       1.6       None       22         16       None       172	Image: Completion Notes         10'       2.5       None       300       9' 6"-14' - Dark Brown Silty Dry Sand.       1. Soil boring was plugged same day. Using Air Rotary drilling Technique.         15'       2.0       None       336       14'-18' - Light Tanish White Sandy Dry Clay.       1. O Cubic Feet of Bentonite.         20'       1.0       None       144       18'-25' - Light Tan Silty Dry Sand.       3. @@]       1. @@]       Indicates Samples submitted to Laboratory for analysis.         20'       1.5       None       120       25'-28' - Light Tan Silty Dry Sand.       3. @]       1. @]       Indicates Samples submitted to Laboratory for analysis.         30'       1.6       None       232       30'-32' - White Slightry Damp Silty Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble Rocks. 30'-32' - White Slightry Damp Silty Sand/Calche with Thine Pebble Rocks. 30'-32' - White Slightry Damp Silty Sand/Calche with Cabble Rocks.       22'-22' 6' - White Hard Dry Calche with Rounded Gravel. 32' 6'-33' - Light Tan very Moist Poorly Sorted Sand with Cabble Rocks.         35'       State Nore Usedwidty'' At 10'       State Nore Usedwidty'' At 10'       State Nore Usedwidty'' At 10'											
<ul> <li>10<sup>1</sup> (2.5) None 300</li> <li>9' 6"-14' - Dark Brown Silty Dry Sand.</li> <li>1. Soli boring was plugged same day. Using Air Rotary drilling Technique.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>3. (1.0) Indicates Samples submitted to Laboratory for analysis.</li> <li>20'</li> <li>1.0 None 144</li> <li>18'-25' - Light Tan Silty Dry Sand.</li> <li>25'</li> <li>1.5 None 120</li> <li>25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.</li> <li>30'</li> <li>1.6 None 232</li> <li>28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - With Silty Dry Sand/Caliche with Fine Pebble Sized Grains.</li> </ul>	10'       2.5'       None       300		-			None		6'-9' 6" -	White Hard Dry Caliche.			
<ul> <li>10<sup>1</sup> (2.5) None 300</li> <li>9' 6"-14' - Dark Brown Silty Dry Sand.</li> <li>1. Soli boring was plugged same day. Using Air Rotary drilling Technique.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>3. (1.0) Indicates Samples submitted to Laboratory for analysis.</li> <li>20'</li> <li>1.0 None 144</li> <li>18'-25' - Light Tan Silty Dry Sand.</li> <li>25'</li> <li>1.5 None 120</li> <li>25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.</li> <li>30'</li> <li>1.6 None 232</li> <li>28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - With Silty Dry Sand With Fine Pebble Rocks. with Fine Pebble Rocks.</li> </ul>	10'       2.5'       None       300	Completion Notes	-							Comple	tion Notes	
Light Tanish White Sandy Dry Clay. 2.0 None 336 2.0 None 336 14'-18' - Light Tanish White Sandy Dry Clay. 2.0 None 144 18'-25' - Light Tan Silty Dry Sand. 1.5 None 120 25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 1.6 None 232 28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	LEGEND: Using Air Rotary drilling Technique. 2. 10 Cubic Feet of Bentonite. 2. 10 Cubic Feet of Bentonite. 2. 10 Cubic Feet of Bentonite. 2. 10 Cubic Feet of Bentonite. 3. 0.0.0 Indicates Samples submitted to Laboratory for analysis. 1.5 None 120 25'-29'- Light Tan Silty Dry Sand. 1.5 None 120 26'-29'- Light Tan Silty Dry Sand with Pebble. Sized Nodules. 28'-30'- Red Dry Coarse Sand with Fine Pebble Rocks. 30'-22'-White Hard Dry Caliche with Rounded Gravel. 35' LEGEND: Figure SB-1 Soll Boing Log Detail ETC Field Services Drive 21. 2016	- 10' <u>2.5</u> None 300 <u>- 1</u>	10'		2.5	None	300			<u>·</u>		
<ul> <li>2. 10 Cubic Feet of Bentonite.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>2. 10 Cubic Feet of Bentonite.</li> <li>3. 0.0. Indicates Samples submitted to Laboratory for analysis.</li> <li>20'</li> <li>1.0 None</li> <li>144</li> <li>18'-25' - Light Tan Silty Dry Sand.</li> <li>25'-28' - Light Tan Silty Dry Sand.</li> <li>25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.</li> <li>30'</li> <li>1.6 None</li> <li>232</li> <li>28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.</li> <li>30'-32' White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.</li> </ul>	<ul> <li>2. 10 Cubic Feet of Bentonite.</li> <li>3. 0.0.1 Indicates Samples submitted to Laboratory for analysis.</li> <li>1.0 None 144</li> <li>18'-25' - Light Tan Silty Dry Sand.</li> <li>25'-25' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.</li> <li>30' 1.6 None 232</li> <li>30' 1.6 None 172</li> <li>30' 1.6 None 172</li> <li>32'-32' 6'' - White Hard Dry Caliche with Rounded Gravel.</li> <li>32' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.</li> <li>32' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.</li> <li>35'</li> </ul>	9' 6"-14' - Dark Brown Silty Dry Sand. 1. Soil boring was plugged same day.						9' 6"-14' -	Dark Brown Silty Dry Sand.	1. Soil bo	ing was plugged same day	у.
<ul> <li>15'</li> <li>20 None 336</li> <li>14'-18' - Light Tanish White Sandy Dry Clay.</li> <li>3. (1.0) Indicates Samples submitted to Laboratory for analysis.</li> <li>10 None 144</li> <li>18'-25' - Light Tan Silty Dry Sand.</li> <li>25'</li> <li>1.5 None 120</li> <li>25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.</li> <li>30'</li> <li>1.6 None 232</li> <li>28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.</li> <li>30' - 1.6 None 172</li> <li>28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.</li> <li>30' - 1.6 None 172</li> </ul>	15'       2.0       None       336         14'-18' - Light Tanish White Sandy Dry Clay.       3. ①① Indicates Samples submitted to Laboratory for analysis.         20'       10       None       144         25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232       30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Rocks. Si2'-32' e''' - White Hard Dry Caliche with Rounded Gravel. 32' 6''-33' - Light Tan very Mois Poorly Sorted Sand with Cobble Rocks.         35'       Silt Boring Log Detail ETC Field Services       CAD By: TA CAD By:	Using Air Rotary drilling Technique.								Using A	ar Rotary drilling Technique	е.
14'-18' - Light Tanish White Sandy Dry Clay.       3. ①.① Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         10       None       144         18'-25' - Light Tan Silty Dry Sand.       18'-25' - Light Tan Silty Dry Sand.         25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       16         30'       1.6       None       232         28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.       30'-32' - White Silghtly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	14'-18' - Light Tanish White Sandy Dry Clay.       3. ①① Indicates Samples submitted to Laboratory for analysis.         20'       1.0       None       144         25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble.       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.         30'       1.6       None       232       30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.         30'       1.6       None       172       32'-32' 6''' - White Hard Dry Caliche with Rounded Gravel.         32'-32' 6''' - White Hard Dry Caliche with Coble Rocks.       32'-32' 6''' - White Hard Dry Caliche with Rounded Gravel.       32'-32' 6''' - White Hard Dry Caliche with Rounded Gravel.         35'       1.6       None       120       28'-30' - Red Dry Coarse Sand with Fine Pebble Sized Grains.         2'-32' 6''' - White Hard Dry Caliche with Rounded Gravel.       32'-32' 6''' - White Hard Dry Caliche with Rounded Gravel.       32' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Coble Rocks.         35'       1.6       None       1.7       None       232       12' 6''-33' - Light Coble Rocks.         35'       1.7       None       120       12' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Pebble Sized Grains.       12' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Pebble Sized Rocks.									2. 10 Cub	ic Feet of Bentonite.	
20'       1.0       None       144         25'       1.5       None       120         25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       16         30'       1.6       None       172	LEGEND: Light Tan Silty Dry Sand with Pebble Rocks. 30' 1.6 1.6 To Laboratory for analysis. 1.5 None 1.6 To 1.7 To 1.7 None 1.6 None TO TO TO TO TO TO TO T	— 15' <u>2.0</u> None 336	- 15'		(2.0)	None	336					
20'       1.0       None       144         25'       1.5       None       120         25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         16       None       172	- 20'       1.0       None       144         - 25'       1.5       None       120         - 25'       1.5       None       120         - 30'       1.6       None       232         - 30'       1.6       None       172         - 30'       1.7       None       232         - 35'	14'-18' - Light Tanish White Sandy Dry Clay. 3. 0.0 Indicates Samples submitted						14'-18' - 1	Light Tanish White Sandy Dry Clay	3. 0.0	Indicates Samples su	ubmitted
25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         16       None       172	10       1.5       None       120         1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       172         30'       1.6       None       172         30'       1.7       None       232         32'-32' 6'' - White Hard Dry Caliche with Rounded Gravel.       32'-32' 6'' - White Hard Dry Caliche with Rounded Gravel.         35'       32' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         35'       Figure SB-1       Scale: None         LEGEND:       Figure SB-1       Scale: None         CAD By: TA       Ortected By NG       Ortected By NG         Detrict Settember 21.2016       Ortected By NG       Ortected By NG         Detrict Settember 21.2016       Ortected By NG       Ortected By NG	to Laboratory for analysis.								to Labo	ratory for analysis.	
25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         16       None       172	10       1.5       None       120         1.5       None       120         25'-28' - Light Tan Silty Dry Sand.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         30'       1.6       None       172         30'       1.6       None       172         30'       1.6       None       172         30'       1.7       None       232         32'-32' 6'' - White Hard Dry Caliche with Rounded Gravel.       32'-32' 6'' - White Hard Dry Caliche with Rounded Gravel.         35'       32' 6''-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         35'       Figure SB-1       Scale: None         LEGEND:       Figure SB-1       Scale: None         CAD By: TA       Ortected By NG       Ortected By NG         Detrict Settember 21.2016       Ortected By NG       Ortected By NG         Detrict Settember 21.2016       Ortected By NG       Ortected By NG		-									
25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         1.6       None       172	LEGEND: 1.5 None 120 25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains. 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks. 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks. LEGEND: Figure SB-1 Soil Boring Log Detail ETC Field Services ETC Field Services	— 20' <u>1.0</u> None 144	- 20'		$\underbrace{1.0}$	None	144					
25'       1.5       None       120         25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.       25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules.         30'       1.6       None       232         1.6       None       172	LEGEND: 1.5 None 120 25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains. 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks. 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks. LEGEND: Figure SB-1 Soil Boring Log Detail ETC Field Services ETC Field Services		-									
25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 30' 1.6 None 232 1.6 None 172 28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	1.6       None       232       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.         30'       1.6       None       232         1.6       None       172         30'       1.7       None         30'       1.8       1.8         1.6       None       1.2         1.7       None       32'         1.8       1.8       1.8         1.9       1.7       1.8         1.9 </td <td>18'-25' - Light Tan Silty Dry Sand.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18'-25' - 🛛</td> <td>Light Tan Silty Dry Sand.</td> <td></td> <td></td> <td></td>	18'-25' - Light Tan Silty Dry Sand.						18'-25' - 🛛	Light Tan Silty Dry Sand.			
25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 	1.6       None       232       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.         30'       1.6       None       232         1.6       None       172         30'       1.7       None         30'       1.6       None         1.6       None       1.2         1.7       None       32'         1.8       1.1       1.1         1.9       1.1       1.1         1.9<											
25'-28' - Light Tan Silty Dry Sand with Pebble. Sized Nodules. 1.6 None 232 28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	1.6       None       232       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. Sized Nodules.         30'       1.6       None       122         1.6       None       172         30'       1.7       None       232         32'-32' 6" - White Slightly Damp Silty Sand/Caliche with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.       32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1       Scale: None         Kele Services         Figure SB-1         Soil Boring Log Detail ETC Field Services       CAD By: TA Checked By: NG Date Setember 21.2016	— 25' 1.5 None 120	- 25'		1.5	None	120					
Sized Nodules.         30'       1.6       None       232       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.         30'       1.6       None       232       30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	Sized Nodules.         30'       1.6       None       232       28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks. 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.         1.6       None       172       32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel. 32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1       Scale: None         LEGEND:       Figure SB-1       CAD By: TA Checked By: NG		-					25'-28' -	Light Tan Silty Dry Sand with Pebb	le		
- 30' 1.6 None 232 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	30'       1.6       None       232       30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.         1.6       None       172       32'-32' 6" - White Hard Dry Caliche with Rounded Gravel.         35'       1.7       None       232         35'       2' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1       Scale: None         CAD By: TA       Checked By: NG         Draft: September 21, 2016       Draft: September 21, 2016	Sized Nodules.						20 20	Sized Nodules.	<i></i>		
- 30' 1.6 None 232 30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.	30'       1.6       None       232       30'-32' - White Slightly Damp Silty Sand/Caliche with Fine Pebble Sized Grains.         1.6       None       172       32'-32' 6" - White Hard Dry Caliche with Rounded Gravel.         35'       1.7       None       232         35'       2' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1       Scale: None         CAD By: TA       Checked By: NG         Draft: September 21, 2016       Draft: September 21, 2016							_				
- 1.6 None 172 with Fine Pebble Sized Grains.	1.6       None       172         35'       1.7       None       232         35'       32'-32' 6" - White Sightly Darith Sitty Sandy-Calche with Rounded Gravel.         32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1         Soil Boring Log Detail ETC Field Services       CAD By: TA         Checked By: NG       Draft: Sentember 21. 2016	28'-30' - Red Dry Coarse Sand with Fine Pebble Rocks.			1.6	None	232	28'-30' -	Red Dry Coarse Sand with Fine Pe	ebble Rocks.		
16 None 172	1.6       None       172         TD       1.7       None       232         35'       1.7       None       232         2'6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.       32'6"-33' - Light Cobble Rocks.         LEGEND:       Figure SB-1       Scale: None         LEGEND:       Figure SB-1       Scale: None         Checked By: NG       Checked By: NG         Draft: September 21. 2016       Draft: September 21. 2016	with Fine Pebble Sized Grains						30-32 -	with Fine Pebble Sized Grains.	liche		
32'-32' 6" - White Hard Dry Caliche with Rounded Gravel	Image: TD       1.7       None       232         32' 6"-33' - Light Tan very Moist Poorly Sorted Sand with Cobble Rocks.         LEGEND:       Figure SB-1         Soil Boring Log Detail ETC Field Services       CAD By: TA         Checked By: NG       Checked By: NG         Draft: September 21, 2016       Or CTRC	L 1.6 None 172 32'-32' 6" - White Hard Dry Caliche with Rounded Gravel	-	20202		None				unded Gravel		
F TD 1.7 None 232	LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: Soil Boring Log Detail ETC Field Services Draf: September 21, 2016 Draf: September 21, 2016	F TD 1.7 None 232	-	TC	o 1.7	None	232					
	LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: LEGEND: Soil Boring Log Detail ETC Field Services Draf: September 21, 2016							J∠ 0 -33				
	Soil Boring Log Detail       CAD By: TA         ETC Field Services       Checked By: NG         Draft: September 21, 2016       Draft: September 21, 2016		- 35									
	Draft: September 21, 2016		LEGEND:						Figure SB-1	Scale: None		
Soil Boring Log Detail CAD By: TA	Draft: September 21, 2016	Soil Boring Log Detail CAD By: TA							Soil Boring Log Detail			
	Boyd 4" Historical (East)								ETC Field Services			
Boyd 4" Historical (East) Lat. N 32.371914°, Long. W 103.126890° Lat. N 32.371914°, Long. W 103.126890° Midland, Texas 79703	Doya - Filotorioar (East)   Lat N 32 371914° Long W 103 126890°   Midland Tayas 70702	Boyd 4" Historical (East)							Boyd 4" Historical (East)		2057 Comp 390° Midland To	merce Drive
	400 500 7700								Lea County, NM		432.52	20.7720

#### TABLE 1

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

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

				All	concentrations a	re reported in mg	g/Kg						
					METHODS:	SW 846-8021b				METHOD: 9	SW 8015M		E 300.1
	SAMPLE	SOIL			ETINI			тота	ТРН	ТРН	ТРН	TOTAL	
SAMPLE LOCATION	DATE	STATUS	BENZENE	TOLUENE	ETHYL-	m, p -	0 -	TOTAL	GRO	DRO	ORO	TPH	CHLORIDE
					BENZENE	XYLENES	XYLENE	BTEX	C <sub>6</sub> -C <sub>12</sub>	C <sub>12</sub> -C <sub>28</sub>	C <sub>28</sub> -C <sub>35</sub>	C <sub>6</sub> -C <sub>35</sub>	
**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-2 BOE 2'	03/08/16	In-Situ	< 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	In-Situ	< 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	In-Situ	< 0.0150	0.307	0.881	2.85	1.40	5.438	376	2,420	46.8	2,842.8	<10.0
Sample-5 2'	03/08/16	In-Situ	< 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	In-Situ	< 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	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	157
*Sample-1 BOE 2'	03/08/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.0149	0.100	0.681	2.81	0.934	4.525	338	1,800	31.6	2,169.6	<9.88
*Sample-3 2'	03/08/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.00150	< 0.00200	< 0.00200	< 0.000200	< 0.00299	< 0.00299	<15.0	28.1	<15.0	28.1	22.7
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-2 @ 20'	04/05/16	In-Situ	0.0264	0.0132	0.160	0.315	0.0590	0.5736	444	1,920	26.1	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
*Sample-1 @ 21'	04/05/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	51.7	<15.0	51.7	35.6
T-SSW-2 @ 7'	04/06/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	99.0
T-ESW-1 @ 5'	04/06/16	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	875
T-ESW-1 @ 10'	04/06/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	58.8	<15.0	58.8	168
T-ESW-1 @ 16'	04/06/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	14.1
T-NSW-2 @ 16'	04/06/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	1,440

#### TABLE 1

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

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

				All	concentrations a	re reported in mg	g/Kg						
					METHODS:	SW 846-8021b				METHOD: S	SW 8015M		E 300.1
SAMPLE LOCATION	SAMPLE	SOIL			ETHYL-		â	TOTAL	ТРН	ТРН	ТРН	TOTAL	
SAMPLE LOCATION	DATE	STATUS	BENZENE	TOLUENE		m, p - XYLENES	o - XYLENE	BTEX	GRO	DRO	ORO	TPH	CHLORIDE
					DENZENE	AILENES	AILENE	DIEA	C <sub>6</sub> -C <sub>12</sub>	C <sub>12</sub> -C <sub>28</sub>	C <sub>28</sub> -C <sub>35</sub>	C <sub>6</sub> -C <sub>35</sub>	
T-NSW-3 @ 4'	04/06/16	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	246
T-ESW-2 @ 4'	04/06/16	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	304
T-ESW-3 @ 4'	04/06/16	In-Situ	-	-	-	-	-	-	-	-	-	-	321
	04/06/16	In-Situ	-	-	-	-	-	-	-	-	-	-	361
West Excavation ESW-4 @ 19'	06/27/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	156
*West Excavation Floor-1 @ 20'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	212
*West Excavation SSW-1 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	179
*West Excavation NSW-1 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	229
West Excavation ESW-1 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	1,600
*West Excavation Floor-2 @ 20'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	221
*West Excavation SSW-2 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	25.7	583	<15.0	608.7	<10.0
*West Excavation NSW-2 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	160
*West Excavation Floor-3 @ 20'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	153
*West Excavation SSW-3 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	314
*West Excavation NSW-3 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	141
*West Excavation WSW-3 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	806
*West Excavation Floor-4 @ 20'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	204
*West Excavation WSW-4 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	278
*West Excavation NSW-4 @ 19'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	529
*West Excavation Floor-5 @ 15'	06/27/16	1RP-4277	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	264
SB-1 @ 10'	09/08/16	In-Situ	-	-	-	-	-	-	<15.0	37.9	<15.0	37.9	-
SB-1 @ 15'	09/08/16	In-Situ	-	-	-	-	-	-	<15.0	<15.0	<15.0	<15.0	293
SB-1 @ 20'	09/08/16	In-Situ	-	-	-	-	-	-	-	-	-	-	129
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 Floor-1 @ 32'	10/05/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	<5.00
*Confirmation SW-1 @ 19'	10/05/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	134
*Confirmation NW-1 @ 19'	10/05/16	1RP-4277	< 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	1RP-4277	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<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 EAST RELEASE SITE LEA COUNTY, NEW MEXICO

						re reported in mg SW 846-8021b				METHOD.	337 001534		E 300.1
	SAMPLE	SOIL		1	METHODS:	SW 846-8021b			METHOD: S TPH TPH		TPH	TOTAL	E 300.1
SAMPLE LOCATION		~ ~	DENZENE		ETHYL-	m, p -	0 -	TOTAL	GRO	DRO	ORO	TPH	
	DATE	STATUS	BENZENE	IOLUENE	BENZENE	XYLENES	XYLENE	BTEX	$C_6-C_{12}$	$C_{12}$ - $C_{28}$	C <sub>28</sub> -C <sub>35</sub>	$C_6-C_{35}$	CHLORIDI
	10/07/11		0.004.40	0.00100	0.00100	0.00100			-	12 20	10 00	0 00	
*Confirmation Floor-6 @ 20'	10/05/16	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 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	1RP-4277	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<14.9	<14.9	<14.9	<14.9	2,670
Baseline-1 @ 20'	11/02/16	Excavated	-	-	-	-	-	-	-	-	-	-	915
Floor-1 @ 20'	11/29/16	In-Situ	-	-	-	-	-	-	-	-	-	-	299
Floor-2 @ 20'	11/29/16	In-Situ	-	-	-	-	-	-	-	-	-	-	218
Eastwall-1 @ 20'	11/29/16	Excavated	-	-	-	-	-	-	-	-	-	-	410
Eastwall-2 @ 20'	11/29/16	Excavated	-	-	-	-	-	-	-	-	-	-	444
Northwall-1 @ 19'	11/29/16	In-Situ	-	-	-	-	-	-	-	-	-	-	297
South Wall-1 @ 19'	12/06/16	Excavated	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00300	< 0.00300	<15.0	<15.0	<15.0	<15.0	519
Floor-3 @ 20'	12/06/16	Excavated	< 0.00149	< 0.00199	0.171	3.90	0.0867	4.158	1,580	6,040	-	7,620.0	22.0
Floor-3a @ 30'	12/13/16	Excavated	-	-	-	-	-	-	30.2	1,350	25.9	1,406.1	157
Floor-3b @ 30'	12/27/16	Excavated	-	-	-	-	-	-	<15.0	2,080	<15.0	2,080	-
Floor-3c @ 34'	12/28/16	In-Situ	< 0.00150	0.00324	< 0.00200	< 0.00200	< 0.00299	0.00324	33.0	2,250	<15.0	2,283	-
Floor-1 @ 20'	01/24/17	In-Situ	< 0.00149	< 0.00199	< 0.00199	< 0.00199	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	-
Northwall-1 @ 19'	01/24/17	In-Situ	< 0.00152	< 0.00202	< 0.00202	< 0.00202	< 0.00304	< 0.00304	<15.0	<15.0	<15.0	<15.0	-
Eastwall-1a @ 19'	01/24/17	In-Situ	< 0.00152	< 0.00203	< 0.00203	< 0.00203	< 0.00304	< 0.00304	<15.0	<15.0	<15.0	<15.0	294
Floor-2 @ 20'	01/24/17	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	-
Eastwall-2a @ 20'	01/24/17	In-Situ	< 0.00148	< 0.00198	< 0.00198	< 0.00198	< 0.00296	< 0.00296	<15.0	<15.0	<15.0	<15.0	295
Floor-4 @ 20'	01/24/17	In-Situ	< 0.00152	< 0.00202	< 0.00202	< 0.00202	< 0.00303	< 0.00303	<15.0	<15.0	<15.0	<15.0	13.2
Floor-3c @ 34'	01/24/17	In-Situ	-	-	-	-	-	-	-	-	-	-	44.1
Northwall-2 @ 29'	01/24/17	In-Situ	< 0.00150	< 0.00200	< 0.00200	< 0.00200	< 0.00299	< 0.00299	<15.0	<15.0	<15.0	<15.0	54.4
Eastwall-3 @ 29'	01/24/17	In-Situ	< 0.00147	< 0.00196	< 0.00196	< 0.00196	< 0.00294	< 0.00294	<15.0	<15.0	<15.0	<15.0	645
Southwall-1b @ 29'	01/24/17	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00298	< 0.00298	<15.0	<15.0	<15.0	<15.0	220
Westwall-1 @ 29'	01/24/17	In-Situ	< 0.00149	< 0.00198	< 0.00198	< 0.00198	< 0.00297	< 0.00297	<15.0	<15.0	<15.0	<15.0	301
<u>~</u>													

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

\* = Soil samples are associated with the Boyd 4-Inch Historical West Release Site (1RP-4277), which were submitted under separate cover.

## Stanley, Curtis D.

From: Sent: To: Subject: Green, Nikki Tuesday, February 07, 2017 2:33 PM Stanley, Curtis D. FW: Boyd 4 Inch (Historical) West RP 4277

From: Slade, Rose [mailto:Rose.Slade@energytransfer.com]
Sent: Tuesday, February 07, 2017 2:23 PM
To: Green, Nikki <NGreen@trcsolutions.com>
Subject: RE: Boyd 4 Inch (Historical) West RP 4277

From: "Lynch, Kristen, EMNRD" <<u>Kristen.Lynch@state.nm.us</u>> Date: October 24, 2016 at 9:38:59 AM CDT To: "Slade, Rose" <<u>Rose.Slade@energytransfer.com</u>> Subject: Boyd 4 Inch (Historical) West RP 4277

### Good Morning Rose,

Based on documents provided, NMOCD gives permission to backfill the above mentioned site. The documents provided will be scanned into the NMOCD website. I will send you an email confirmation as soon as I know they have been uploaded.

### Thank You,

Kristen D. Lynch Environmental Specialist, District 1 Oil Conservation Division, EMNRD (575) 393-6161 ext. 111 575-370-3180 (emergency-cell)

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

Private and confidential as detailed here. If you cannot access hyperlink, please e-mail sender.

# 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

SUP ACCREDIES

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,

Huns hoah

Kelsey Brooks Project Manager

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# Sample Cross Reference 524056



Boyd 4 Inch Historical



Sample Id

Sample Depth Matrix **Date Collected** 

Lab Sample Id



CASE NARRATIVE



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

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

 Date Received:
 02/01/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



# Certificate of Analysis Summary 524056

TRC Solutions, Inc, Midland, TX Project Name: Boyd 4 Inch Historical



Project Id:ETC Field ServicesContact:Curt StanleyProject Location:Lea County, NM

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

	Lab Id:	524056-0	001	524056-0	02	524056-0	003	524056-0	004	524056-	005	524056-	006
Analysis Requested	Field Id:	Floor-1 @	) 10'	SSW-1@	) 8'	NSW-1 (	ı) 7'	Floor-2 @	ý 4'	SSW-2 @	ā) 3'	NSW-2 @	) 2.5'
Anuiysis Kequesieu	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 14:00		Jan-29-16 1	4:05	Jan-29-16 14:10		Jan-29-16	4:30	Jan-29-16 14:35		Jan-29-16	14:40
BTEX by EPA 8021B	Extracted:	Feb-03-16 17:30		Feb-03-16 1	7:30	Feb-03-16 17:30		Feb-03-16 17:30		Feb-03-16	17:30	Feb-03-16	17:30
	Analyzed:	Feb-04-16	16:31	Feb-03-16 2	21:01	Feb-03-16	21:18	Feb-04-16	16:48	Feb-03-16	21:56	Feb-03-16	22:12
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00100	ND	0.000996	ND	0.000992	ND	0.000998	ND	0.000998	ND	0.00100
Toluene		ND	0.00200	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.00100	ND	0.000996	ND	0.000992	ND	0.000998	ND	0.000998	ND	0.00100
n_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 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 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	7:00	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 0	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	15.0	ND	14.9	ND	15.0	ND	15.0	ND	15.0	ND	14.9
C10-C28 Diesel Range Hydrocarbons		ND	15.0	ND	14.9	ND	15.0	35.0	15.0	469	15.0	151	14.9
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	14.9	ND	15.0	ND	15.0	ND	15.0	ND	14.9
Total TPH		ND	15.0	ND	14.9	ND	15.0	35.0	15.0	469	15.0	151	14.9

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

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Kelsey Brooks Project Manager

Page 5 of 12



# **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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 2 - Surrogate Recoveries Project Name: Boyd 4 Inch Historical

Work Orders : 524056,

Project ID: ETC Field Services

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



**BS / BSD Recoveries** 

Project Name: Boyd 4 Inch Historical



Work Order #: 524056

**Project ID:** ETC Field Services

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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



**Work Order # :** 524056

Form 3 - MS / MSD Recoveries

**Project Name: Boyd 4 Inch Historical** 



Project ID: ETC Field Services

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

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

relinquished by	Reminquishee										LAB # (lab use only)	ORDER	(lab use only)							2	Xenco
	ctions:				NSW-2 @ 2.5'	SSW-2 @ 3'	Floor-2 @ 4'	NSW-1 @ 7	SSW-1 @ 8'	Floor-1 @ 10'	FIELD CODE	ORDER #: UATUDU			Sampler Signature:	Telephone No: 432-520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Curt Stanley	Xenco Laboratories
IS	16										Beginning Depth		r		K	Y					
ā											Ending Depth		C	4	$\left\langle \right\rangle$						
Received by ELO I:	Received by: Received by:				1/29/2016	1/29/2016	1/29/2016	1/29/2016	1/29/2016	1/29/2016	Date Sampled										
	r Ma				1440	1435	1430	1410	1405	1400	Time Sampled				e-mail:	Fax No:					
								-	-		Field Filtered Total #. of Containers										
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	6	-	_		-	-	-		-		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> None	ontain		tran	utio	1					765 765
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Date	Date	H					9720				DW=Drinking Water SL=Sludge			energytranster.com	9 I			85	ar	1311	STO
					Soil	Soil	Soil	Soil	Soil	Soil	GW = Groundwater S=Scil/Solid NP=Non-Potable Specify Other	Matrix		P		Report Format:				P	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST t I-20 East xas 79765 Fax: 432-563-1713
IIme	Time				×	×	×	×	×	×		)15B	1	Γ	0+	٦ B	CS	Pla	ע	Project Name:	REC
											TPH: TX 1005 TX 1006		-			mat	P	ect Loc:	Project #:	:t Na	ORI
Tem	Lab Cus Cus Sam										Cations (Ca, Mg, Na, K)					з <b>П</b>	PO #:	00:	##	me:	0 AI
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ture	ee o Cont Cont Cont Seal Seal Seal Seal Seal Seal	$\square$									SAR / ESP / CEC	-	TCLP:		ĩ.	Standard					P
Upo	ainei ainei f Hei ntain s on s on s on l Dell r/Clik	$\left  - \right $						$\vdash$			Metals: As Ag Ba Cd Cr Pb Hg Volatiles	56	_	Ana	1	dard					4LYS Phone Fax:
n Re	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ? UPS	Ħ				. 1					Semivolatiles			Analyze				_	Зоус	Ц	S/S 9: 4:
Temperature Upon Receipt	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s) Custody seals on container(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS DHL				×	×	×	×	×	×	BTEX 8021B/5030 or BTEX 82	260 >	$\langle  $	For	P			ea (	4	C FI	IALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713
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20											N.O.R.M.					RP		Lea County, NM	His	Sen	ST 800 713
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Page 11 of 12

Final 1.000



Client: TRC Solutions, Inc

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

Acceptable Temperature Range: 0 - 6 degC



Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 02/01/2016 04:38:00 PM Temperature Measuring device used : r8 Work Order #: 524056 Comments Sample Receipt Checklist -.9 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seals intact on shipping container/ cooler? N/A #5 Custody Seals intact on sample bottles? N/A #6 \*Custody Seals Signed and dated? N/A #7 \*Chain of Custody present? Yes #8 Sample instructions complete on Chain of Custody? Yes #9 Any missing/extra samples? No #10 Chain of Custody signed when relinquished/ received? Yes #11 Chain of Custody agrees with sample label(s)? Yes #12 Container label(s) legible and intact? Yes #13 Sample matrix/ properties agree with Chain of Custody? Yes Yes #14 Samples in proper container/ bottle? #15 Samples properly preserved? Yes #16 Sample container(s) intact? Yes #17 Sufficient sample amount for indicated test(s)? Yes #18 All samples received within hold time? Yes #19 Subcontract of sample(s)? No #20 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date: 02/02/2016

Checklist reviewed by:

by: Carley Owens Carley Owens by: Mms Moah

Date: 02/02/2016

# Analytical Report 526570

for TRC Solutions, Inc

Project Manager: Nikki Green Energy Transfer Boyd 4" Historical

# 15-MAR-16

Collected By: Client





# 1211 W. Florida Ave, Midland TX 79701

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

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

Xenco-Lakeland: Florida (E84098)





15-MAR-16

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **526570 Energy Transfer Boyd 4'' Historical** Project Address: Lea County, NM

### Nikki Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 526570. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 526570 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



# Sample Id

Sample-1 BOE
Sample-1 BOE
Sample-1 BOE
Sample-2 BOE
Sample-2 BOE
Sample-2 BOE
Sample-3
Sample-3
Sample-3
Sample-4
Sample-4
Sample-4
Sample-5
Sample-5
Sample-5
Sample-6 Surface
Sample-7 Surface
Sample-8 Surface

# Sample Cross Reference 526570



# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

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



# CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical

Project ID: Work Order Number(s): 526570 Report Date: 15-MAR-16 Date Received: 03/09/2016

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.



Project Id: Contact:

**Project Location:** Lea County, NM

Nikki Green

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

	Lab Id:	526570-	001	526570-0	002	526570-0	003	526570-	004	526570-0	005	526570-0	006
Analysis Paguastad	Field Id:	Sample-1	BOE	Sample-1	BOE	Sample-1	BOE	Sample-2	BOE	Sample-2	BOE	Sample-2	BOE
Analysis Requested	Depth:	2 ft		8.5 ft		10 ft		2 ft		4 ft		4.6 ft	
	Matrix:	SOII		SOIL		SOIL		SOII	_	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	10:15	Mar-10-16	10:15
	Analyzed:	Mar-11-16	Mar-11-16 07:38		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 17:00	
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	15.0	613	15.0	338	15.0	237	15.0	1020	75.0	376	15.0
C10-C28 Diesel Range Hydrocarbons		15.0	15.0	2810	15.0	1800	15.0	1430	15.0	5600	75.0	2420	15.0
C28-C35 Oil Range Hydrocarbons		ND	15.0	35.0	15.0	31.6	15.0	43.5	15.0	115	75.0	46.8	15.0
Total TPH		15.0	15.0 15.0		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

Huns Roah

Kelsey Brooks Project Manager



Project Id: Contact:

Contact:Nikki GreenProject Location:Lea County, NM

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

	Lab Id:	526570-0	007	526570-	008	526570-0	009	526570-	010	526570-0	011	526570-	012
Analysis Requested	Field Id:	Sample	-3	Sample	-3	Sample	-3	Sample	-4	Sample	-4	Sample	-4
Analysis Kequesieu	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										
	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										
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										
SUB: TX104704215	Analyzed:	Mar-11-16	20:29	Mar-11-16	20:44	Mar-11-16	20:58	Mar-11-16	21:13	Mar-11-16	21:27	Mar-11-16	22:39
	Units/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										
	Analyzed:	Mar-10-16	18:29	Mar-10-16	18:57	Mar-10-16	19:25	Mar-10-16	19:52	Mar-10-16	20:51	Mar-10-16	21:20
	Units/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

Huns Roah

Kelsey Brooks Project Manager



Project Id: Contact:

Contact:Nikki GreenProject Location:Lea County, NM

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

	1				1								
	Lab Id:	526570-0	013	526570-0	14	526570-0	015	526570-0	16	526570-0	017	526570-01	18
Analysis Requested	Field Id:	Sample	-5	Sample-	5	Sample	-5	Sample-6 Su	rface	Sample-7 Su	urface	Sample-8 Sur	face
Anuiysis Kequesieu	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 1	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 1	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 2	23:08	Mar-11-16	23:22	Mar-11-162	23:37	Mar-11-162	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 1	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 2	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
C28-C35 Oil Range Hydrocarbons		ND	14.9	ND	15.0	ND	15.0	116	15.0	99.8	15.0	152	74.9
Total TPH		ND	14.9	ND	15.0	ND	15.0	1340	15.0	749	15.0	11000	74.9

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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Huns 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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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	r <b>ders :</b> 52657 #: 990033	70, Sample: 526570-001 / SMP	Batch	Project ID			
Units:	mg/kg	Date Analyzed: 03/10/16 14:43		RROGATE R	-	STUDY	
	TPH E	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes					
1-Chlorooc			112	99.9	112	70-130	
o-Terpheny	#: 990033	Sample: 526570-002 / SMP	57.0 Batcl	50.0 n: 1 Matrix	114 	70-135	
		1					
Units:	mg/kg	Date Analyzed: 03/10/16 16:06	SU	RROGATE R	ECOVERY	STUDY	
	ТРН Е	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane	·	126	99.7	126	70-130	
o-Terpheny			58.5	49.9	117	70-135	
	#: 990033	Sample: 526570-003 / SMP	Batch				
Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 16:34	SU	RROGATE R		STUDY	
	ТРН В	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc			116	99.9	116	70-130	
o-Terpheny			56.0	50.0	112	70-135	
Lab Batch	#: 990033	Sample: 526570-004 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 17:02	SU	RROGATE R	ECOVERY	STUDY	
	TPH E	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		119	99.9	119	70-130	
o-Terpheny	1		56.6	50.0	113	70-135	
Lab Batch	#: 990033	Sample: 526570-006 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 18:01	SU	RROGATE R	ECOVERY	STUDY	
	TPH E	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane	1 xmu1 y tC5	122	00.7		70.120	
			123	99.7	123	70-130	
o-Terpheny	1		57.0	49.9	114	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Ord Lab Batch #	lers: 52657	70, Sample: 526570-007 / SMP	Batcl	Project ID			
Units:	mg/kg	Date Analyzed: 03/10/16 18:29		RROGATE R	-	STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		110	99.8	110	70-130	
o-Terphenyl			54.8	49.9	110	70-135	
Lab Batch #	<b>:</b> 990033	Sample: 526570-008 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 18:57	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne	Anaryus	109	99.8	109	70-130	
o-Terphenyl			54.4	49.9	109	70-135	
Lab Batch #	• 990033	Sample: 526570-009 / SMP	Batch			10 155	
Units:	mg/kg	Date Analyzed: 03/10/16 19:25		RROGATE R		STUDY	
	TPH I	3y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[]	(-)	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1-Chloroocta	ne		108	99.6	108	70-130	
o-Terphenyl			53.8	49.8	108	70-135	
Lab Batch #	<b>990033</b>	Sample: 526570-010 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 19:52	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН І	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		108	99.9	108	70-130	
o-Terphenyl			54.1	50.0	108	70-135	
Lab Batch #	<b>:</b> 990033	Sample: 526570-011 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 20:51	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		97.5	99.7	98	70-130	
o-Terphenyl							
0-respirency			48.9	49.9	98	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Ord Lab Batch #	lers: 52657	70, Sample: 526570-012 / SMP	Batcl	Project ID: h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/10/16 21:20		RROGATE R	-	STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctar	ne		109	100	109	70-130	
o-Terphenyl			53.8	50.0	108	70-135	
Lab Batch #	: 990033	Sample: 526570-013 / SMP	Batch	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 21:50	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctar	ne		89.7	99.6	90	70-130	
o-Terphenyl			44.7	49.8	90	70-135	
Lab Batch #	: 990033	Sample: 526570-014 / SMP	Batch			, , , , , , , , , , , , , , , , , , , ,	
Units:	mg/kg	<b>Date Analyzed:</b> 03/10/16 22:18		RROGATE R		STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[]		[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1-Chlorooctar	ne		110	99.7	110	70-130	
o-Terphenyl			54.7	49.9	110	70-135	
Lab Batch #	: 990033	Sample: 526570-015 / SMP	Batch	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/10/16 22:47	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН І	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctar	ne		92.4	99.9	92	70-130	
o-Terphenyl			45.9	50.0	92	70-135	
Lab Batch #	: 990033	Sample: 526570-018 / SMP	Batch	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/11/16 00:14	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctar	20	Analytes	00 /	00.0		70.120	
	ic .		88.4	99.9	88	70-130	
o-Terphenyl			45.9	50.0	92	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Orders Lab Batch #: 99		70, Sample: 526570-016 / SMP	Batc	Project ID h: 1 Matrix			
Units: m	ng/kg	<b>Date Analyzed:</b> 03/11/16 07:03	SU	RROGATE R		STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			111	99.8	111	70-130	
o-Terphenyl			52.4	49.9	105	70-135	
Lab Batch #: 99		Sample: 526570-017 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 03/11/16 07:29	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			108	99.8	108	70-130	
o-Terphenyl			50.5	49.9	101	70-135	
Lab Batch #: 99	90116	Sample: 526570-001 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 03/11/16 07:38	su	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[**]	[12]	[D]	/011	
1,4-Difluorobenze	ene		0.0262	0.0300	87	80-120	
4-Bromofluorober	nzene		0.0260	0.0300	87	80-120	
Lab Batch #: 99	90116	Sample: 526570-007 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 03/11/16 07:55	st	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenze	ene		0.0284	0.0300	95	80-120	
4-Bromofluorober	nzene		0.0301	0.0300	100	80-120	
Lab Batch #: 99	90033	Sample: 526570-005 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 03/11/16 08:00	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane		Anaiyttə	06.0	100	_	70.120	
			96.9	100	97	70-130	
o-Terphenyl			56.5	50.0	113	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



		0, Sample: 526570-008 / SMP	Bate	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/11/16 08:11		RROGATE R		STUDY	
	mg/kg Date Analyzed: 03/11/16 08:1 BTEX by EPA 8021B Analytes Huorobenzene tch #: 990116 Sample: 526570-009 / mg/kg Date Analyzed: 03/11/16 08:2 BTEX by EPA 8021B Analytes Huorobenzene ofluorobenzene tch #: 990116 Sample: 526570-010 / mg/kg Date Analyzed: 03/11/16 08:4 BTEX by EPA 8021B Analytes Huorobenzene tch #: 990116 Sample: 526570-011 / mg/kg Date Analyzed: 03/11/16 09:0 BTEX by EPA 8021B Analytes Huorobenzene tch #: 990116 Sample: 526570-011 / mg/kg Date Analyzed: 03/11/16 09:0 BTEX by EPA 8021B Analytes Huorobenzene tch #: 990116 Sample: 526570-011 / mg/kg Date Analyzed: 03/11/16 09:0 BTEX by EPA 8021B Analytes Huorobenzene tch #: 990116 Sample: 526570-012 /		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4.5:0.1		Analytes					
			0.0288	0.0300	96	80-120	
		S	0.0293	0.0300	98	80-120	
		•	Batc				
Units:	mg/kg	Date Analyzed: 03/11/16 08:28	SU	RROGATE R	<b>ECOVERY</b>	STUDY	
	BTE	·	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorob	enzene		0.0292	0.0300	97	80-120	
			0.0308	0.0300	103	80-120	
Lab Batch #	: 990116	Sample: 526570-010 / SMP	Batc				
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 08:44	SU	RROGATE R	ECOVERY	STUDY	
	BTE	·	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
140.01		Analytes	0.0242	0.0200		00.100	
			0.0242	0.0300	81	80-120	
		Security 52(570.011./SMD	0.0297	0.0300 h: 1 Matrix	99 99	80-120	
		•	Batcl				
Units:	mg/kg	Date Analyzed: 03/11/16 09:01	SU	RROGATE R	RECOVERY	STUDY	
	BTE	·	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorob	enzene		0.0285	0.0300	95	80-120	
			0.0295	0.0300	98	80-120	
Lab Batch #	: 990116	Sample: 526570-012 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/11/16 09:18	SU	RROGATE R	RECOVERY	STUDY	
	BTE	·	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
		€/					
1,4-Difluorob	enzene		0.0290	0.0300	97	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Or Lab Batch :	<b>ders :</b> 52657 #: 990116	'0, Sample: 526570-014 / SMP	Batch	Project ID 1 Matrix			
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 09:34		RROGATE R		STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro			0.0246	0.0300	82	80-120	
4-Bromofluc			0.0286	0.0300	95	80-120	
Lab Batch		Sample: 526570-013 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 09:50	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0291	0.0300	97	80-120	
4-Bromofluc			0.0297	0.0300	99	80-120	
Lab Batch	#: 990191	Sample: 526570-015 / SMP	Batch		: Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 12:06	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoro	benzene		0.0290	0.0300	97	80-120	
4-Bromofluc	orobenzene		0.0296	0.0300	99	80-120	
Lab Batch	#: 990191	Sample: 526570-003 / SMP	Batch	n: 1 Matrix	: Soil	·	
Units:	mg/kg	Date Analyzed: 03/11/16 17:50	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0244	0.0300	81	80-120	
4-Bromofluc	orobenzene		0.0251	0.0300	84	80-120	
Lab Batch	#: 990191	Sample: 526570-006 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/11/16 18:06	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluoro	benzene	<i>.</i>	0.0271	0.0300	90	80-120	
,	orobenzene				1 1		

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Or Lab Batch #	<b>ders :</b> 52657 #: 990191	70, Sample: 526570-005 / SMP	Batcl	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/11/16 18:23	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0247	0.0300	82	80-120	
4-Bromofluc			0.0281	0.0300	94	80-120	
Lab Batch #	#: 990191	Sample: 526570-002 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/11/16 18:39	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	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	0.0280	0.0300	93	80-120	
4-Bromofluc	orobenzene		0.0266	0.0300	89	80-120	
Lab Batch #	#: 990191	Sample: 526570-004 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 18:55	SU	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[]	[2]	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1,4-Difluoro	benzene		0.0251	0.0300	84	80-120	
4-Bromofluc	orobenzene		0.0358	0.0300	119	80-120	
Lab Batch #	#: 990033	Sample: 706222-1-BLK / BL	K Batcl	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 03/10/16 13:16	SU	RROGATE R	ECOVERY S	STUDY	
	TPH F	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		109	100	109	70-130	
o-Terphenyl			53.9	50.0	108	70-135	
Lab Batch #	#: 990116	<b>Sample:</b> 706268-1-BLK / BL	K Batcl	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 03/10/16 19:08	SU	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits	Flags
		Analytes	[A]	[B]	%R [D]	%R	
1,4-Difluoro	henzene	Analytes		[ <b>B</b> ]		% <b>K</b>	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #: 99	90191	Sample: 706321-1-BLK / B	ELK Bate	ch: 1 Matrix	: Solid		
U <b>nits:</b> m	g/kg	Date Analyzed: 03/11/16 11:50	SU	URROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluorobenze	ene		0.0269	0.0300	90	80-120	
4-Bromofluorober			0.0272	0.0300	91	80-120	
Lab Batch #: 99	90033	Sample: 706222-1-BKS / B	KS Bate	ch: 1 Matrix	: Solid		
Units: m	g/kg	Date Analyzed: 03/10/16 13:45	SU	URROGATE R	ECOVERY S	STUDY	
	ТРН В	ey SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		1 Mary tes	119	100	119	70-130	
o-Terphenyl			52.2	50.0	104	70-135	
Lab Batch #: 99	90116	Sample: 706268-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units: m	g/kg	Date Analyzed: 03/10/16 17:39	SU	URROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluorobenze			0.0280	0.0300	93	80-120	
4-Bromofluorober			0.0293	0.0300	98	80-120	
Lab Batch #: 99		Sample: 706321-1-BKS / B	KS Bate	ch: 1 Matrix	: Solid		
Units: m	g/kg	Date Analyzed: 03/11/16 10:23	SU	URROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenze	ene	-	0.0296	0.0300	99	80-120	
4-Bromofluorober	nzene		0.0318	0.0300	106	80-120	
Lab Batch #: 99	90033	Sample: 706222-1-BSD / B	SD Bate	ch: 1 Matrix	: Solid	1	
Units: m	g/kg	Date Analyzed: 03/10/16 14:14	SU	URROGATE R	ECOVERY S	STUDY	
	ТРН В	ey SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooctane			119	100	119	70-130	
o-Terphenyl			53.0	50.0	106	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #:		Sample: 706268-1-BSD / BS					
Jnits:	mg/kg	Date Analyzed: 03/10/16 17:55	SU	JRROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoroben			0.0285	0.0300	95	80-120	
4-Bromofluorob			0.0295	0.0300	98	80-120	
Lab Batch #:	990191	Sample: 706321-1-BSD / BS	D Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	<b>Date Analyzed:</b> 03/11/16 10:40	st	<b>RROGATE R</b>	ECOVERY S	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoroben	zene	Analytes	0.0296	0.0300	99	80-120	
4-Bromofluorob			0.0329	0.0300	110	80-120	
Lab Batch #:		<b>Sample:</b> 526570-001 S / MS	Batc		-	00 120	
	mg/kg	Date Analyzed: 03/10/16 15:11	SU	JRROGATE R		STUDY	
	TPH B	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			120	99.8	120	70-130	
o-Terphenyl			53.3	49.9	107	70-135	
Lab Batch #:	990116	Sample: 526061-009 S / MS	Batc	h: 1 Matrix	: Soil	·	
Units:	mg/kg	Date Analyzed: 03/10/16 18:19	SU	JRROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluoroben	7000	Analytes	0.0217	0.0200		80.120	
4-Bromofluorob			0.0317	0.0300	106	80-120 80-120	
Lab Batch #:		Sample: 526570-015 S / MS	Batc			00-120	
	mg/kg	Date Analyzed: 03/11/16 10:56		JRROGATE R		STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoroben			0.0302	0.0300	101	80-120	
4-Bromofluorob	onzono		0.0341	0.0300	114	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Orders : 526570, Lab Batch #: 990033	Sample: 526570-001 SD / N	ASD Batc	Project ID h: 1 Matrix			
Units: mg/kg Da	te Analyzed: 03/10/16 15:39	SU	RROGATE R	ECOVERY S	STUDY	
TPH By SW Analy		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		117	99.8	117	70-130	
o-Terphenyl		52.1	49.9	104	70-135	
Lab Batch #: 990116	Sample: 526061-009 SD / N	ASD Bate	h: 1 Matrix	: Soil	11	
Units: mg/kg Da	te Analyzed: 03/10/16 18:36	SU	RROGATE R	ECOVERY S	STUDY	
BTEX by E Analy		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0315	0.0300	105	80-120	
Lab Batch #: 990191	Sample: 526570-015 SD / N	ASD Batc	h: 1 Matrix	: Soil		
Units: mg/kg Da	te Analyzed: 03/11/16 11:13	st	RROGATE R	ECOVERY S	STUDY	
BTEX by E Analy		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0321	0.0300	107	80-120	

\* Surrogate outside of Laboratory QC limits

- \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis
- \*\*\* Poor recoveries due to dilution
- Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

						Proj	ject ID:			
D	ate Prepar	red: 03/10/20	16			Date A	nalyzed: (	03/10/2016		
BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
	BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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
< 0.00150	0.100	0.0837	84	0.100	0.0834	83	0	70-130	35	
< 0.00200	0.100	0.0854	85	0.100	0.0831	83	3	70-130	35	
< 0.00200	0.100	0.0903	90	0.100	0.0901	90	0	71-129	35	
< 0.00200	0.200	0.187	94	0.200	0.188	94	1	70-135	35	
< 0.00300	0.100	0.0862	86	0.100	0.0866	87	0	71-133	35	
Da	ate Prepar	ed: 03/10/20	16			Date A	nalyzed: (	03/11/2016		
BKS	Batc	<b>h #:</b> 1					Matrix:	Solid		
	BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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
<0.00150	0.100	0.0824	82	0.100	0.0808	81	2	70-130	35	
< 0.00200	0.100	0.0814	81	0.100	0.0812	81	0	70-130	35	
< 0.00200	0.100	0.0821	82	0.100	0.0853	85	4	71-129	35	
< 0.00200	0.200	0.171	86	0.200	0.178	89	4	70-135	35	
< 0.00300	0.100	0.0822	02	0.100	0.0855	96	4	71-133	25	
	Blank Sample Result [A] <0.00150 <0.00200 <0.00200 <0.00200 <0.00300 BKS S S S S S S S S S S S S S S S S S S	Blank     Spike       Blank     Spike       Sample Result     Added       [A]     [B]       <0.00150     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       Sample Result     Blank       Sample Result     Spike       Added     [B]       <0.00150     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100       <0.00200     0.100	Blank         Spike         Blank           Sample Result         Added         Spike         Blank           Sample Result         [B]         [C]         IC]           <0.00150         0.100         0.0837         0.0037           <0.00200         0.100         0.0854         0.00903           <0.00200         0.100         0.0854         0.00903           <0.00200         0.100         0.0862         0.100           Date Prepared:         03/10/201         0.310/201           3KS         Batch #:         1           Estermatic Prepared:         0.3/10/201         0.100           3KS         Batch #:         1           Single Result         Spike         Blank           Sample Result         Spike         Blank           South [A]         [B]         [C]           <0.00150         0.100         0.0824           <0.00200         0.100         0.0814           <0.00200         0.100         0.0821	Blank Sample Result [A]         Spike Added         Blank Spike Result [C]         Blank Spike %R [D]           <0.00150         0.100         0.0837         84           <0.00200         0.100         0.0854         85           <0.00200         0.100         0.0903         90           <0.00200         0.200         0.187         94           <0.00200         0.200         0.187         94           <0.00300         0.100         0.0862         86           Date Prepared: 03/10/2016           3KS         Batch #: 1         1           BLANK /BLANK SPIKE / 1           Spike [A]         Spike Added         Blank Spike Result [A]         Blank Spike %R [D]           <0.00150         0.100         0.0824         82           <0.00200         0.100         0.0814         81           <0.00200         0.100         0.0821         82	Biank         Spike         Blank         Blank         Spike         Added         Spike         Blank         Spike         Added         Spike         Spike         Added         Spike         Spike         Added         Spike         Spike         Added         Geo Construction         Spike         Spike         Spike         Added         Spike         Spike	Bits         Batch #: 1           Blank Sample Result [A]         Spike Added         Blank Spike Result [C]         Blank Spike (D]         Spike Added         Blank Spike Result [E]         Blank Added           <0.00150         0.100         0.0837         84         0.100         0.0834           <0.00200         0.100         0.0854         85         0.100         0.0831           <0.00200         0.100         0.0903         90         0.100         0.0901           <0.00200         0.200         0.187         94         0.200         0.188           <0.00200         0.100         0.0862         86         0.100         0.0866           Batch #: 1           Batch #: 1           Blank         Spike Result         Spike %R         Blank Spike %R         Spike Added         Blank Spike Nuplicate Result         Spike Nuplicate Result         Blank Spike %R         Spike %R         Blank Spike %R         Spike Nuplicate Result         Blank Spike Nuplicate Result         Spike Nuplicate Result         Blank Spike Nuplicate Result         Spike Nuplicate Result         Spike Nuplicate Result         Blank Spike Nuplicate Result         Spike Nuplicate Result         Spike Nuplicate Result         Nuplicate Result         Nuplicate Result         Nuplicate	Date Prepared:         03/10/2016         Date A           3KS         Batch #:         1           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE           Blank Sample Result [A]         Spike Added         Blank Spike Result [C]         Spike Nded         Blank Spike Result [D]         Spike Spike [E]         Blank Spike Result [F]         Blank Spike Spike Result [F]         Blank Spike Spike Spike Result [F]         Blank Spike Spike Spike Result [I]         Blank Spike Spike Spike Result [I]         Blank Spike Spike Spike Result [I]         Blank Spike Spike Spike Result [I]         Blank Spike Spike Spike Result [I]         Blank Spike Spike Spike Spike Spike Spike Result [I]         Blank Spike Spike Spike Spike Spike Spike Spike Spike Result [I]         Blank Spike	Bits         Batch #: 1         Matrix: 5           Blank         Spike Added         Blank Spike Result [A]         Spike Added         Blank Spike Result [C]         Blank Spike (D]         Blank Spike Added         Blank Spike Added         Blank Spike Added         Blank Spike Result [F]         Blk. Spk Dup. %R         Blk. Spk Dup. %R         Blk. Spk IG]         PD %           <0.00150         0.100         0.0837         84         0.100         0.0834         83         0           <0.00200         0.100         0.0854         85         0.100         0.0831         83         3           <0.00200         0.100         0.0903         90         0.100         0.0901         90         0           <0.00200         0.100         0.0862         86         0.100         0.0866         87         0           Date Prepared:         03/10/2016         Date Analyzed: (D)         Date Analyzed: (D)         Date Analyzed: (D)         Date Analyzed: (D)         Matrix: S           Blank Sample Result [A]         Spike Result [C]         Blank Spike Result [D]         Spike Result [F]         Blank Added         Blank Spike %R         Blank Added         Blank Spike %R         Blank Added         Blank Spike Result [F]         Blank Spike Result [F]         Blank Spike Result [F]	Date Prepared:         0.3/10/2016         Date Analyzed:         0.3/10/2016           3KS         Batch #:         1         Matrix:         Solid           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE         RECOVERY STUI           Blank Sample Result [A]         Spike Added [B]         Blank Spike Result [C]         Spike %R         Blank Spike %R         Spike %R         Blank Spike %R         Blank Spike %R         Blank Spike (C]         Blank Spike %R         Blank Spike %R         Blank Spike (C]         Blank Spike (C]         Blank Spike %R         Spike %R         Blank Spike (C]         Blank Spike (C]         Blank Spike (C]         Blank Spike %R         Spike %R         Blank Spike (C]         Blank Spike (C]         Spike (C)         Control Limits %R           <0.00150         0.100         0.0837         84         0.100         0.0831         83         3         70-130           <0.00200         0.100         0.0854         85         0.100         0.0831         83         3         70-130           <0.00200         0.100         0.0862         86         0.100         0.0866         87         0         71-133           Date Prepared:         03/10/2016         Date Analyzed:         03/11/2016           Sample Result [A]         Blank Result	Date Preparet:         03/10/2016         Date Analyzed:         03/10/2016           3KS         Batch #:         1         Matrix:         Solid           BLANK /BLANK SPIKE / BLANK SPIKE DUPL/CATE         RECOVERY STUDY           Blank Sample Result [A]         Spike Added (B]         Blank Spike Result [C]         Spike (B]         Blank Added (B]         Spike Puplicate Result [F]         Blank Result [F]         Blank Spike (G]         Blank Spike Puplicate Result [F]         Blank Spike (G]         Blank Spike Spike         Spike Added         Blank Spike Spike         Spike Added         Blank Spike Puplicate         Blank Spike Spike         Blank Spike         Spike Spike         Blank Spike         Spike Spike         Blank Spike         Spike Puplicate         Blank Spike         Spike Pupli

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



### **BS / BSD Recoveries**



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

<b>Work Order #:</b> 526570							Proj	ject ID:			
Analyst: DEP	D	ate Prepar	ed: 03/11/20	16			Date A	nalyzed: (	03/11/2016		
Lab Batch ID: 990124 Sample: 706272-1-	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	
						1					
Analyst: ARM	Da	ate Prepar	ed: 03/10/202	16	ļ	I	Date A	nalyzed: (	03/10/2016		<del>ا</del>
Analyst:         ARM           Lab Batch ID:         990033         Sample:         706222-1-1		ate Prepar Batcl		16		1	Date A	nalyzed: ( Matrix: S		ł	
		Batcl			BLANK	SPIKE DUP		Matrix: S	Solid	DY	· · · · · · · · · · · · · · · · · · ·
Lab Batch ID: 990033 Sample: 706222-1-1		Batcl	<b>h #:</b> 1		BLANK S Spike Added [E]	SPIKE DUP Blank Spike Duplicate Result [F]		Matrix: S	Solid	DY Control Limits %RPD	Flag
Lab Batch ID: 990033 Sample: 706222-1-3 Units: mg/kg TPH By SW8015B Mod	BKS Blank Sample Result	Batcl BLAN Spike Added	h #: 1 K /BLANK Blank Spike Result	SPIKE / ] Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: S RECOV	Solid ERY STUI Control Limits	Control Limits	Flag

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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

<b>Work Order # :</b> 526570						Project II	<b>)</b> :				
Lab Batch ID: 990116	QC- Sample ID:	526061	-009 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 03/10/2016	Date Prepared:	03/10/2	2016	An	alyst: I	уB					
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by E	PA 8021B Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analyt		[B]	[C]	70K [D]	E]	Kesun [r]	70K [G]	70	70K	70KFD	
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	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 03/11/2016	Date Prepared:	03/10/2	2016	An	alyst: I	ЪЪ					
<b>Reporting Units:</b> mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by E Analyt	Result	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

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

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



### Form 3 - MS / MSD Recoveries

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



Work Order # :	526570						Project II	<b>)</b> :				
Lab Batch ID:	990124	QC- Sample ID:	526570	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	03/11/2016	Date Prepared:	03/11/2	016	An	alyst: I	DEP					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic 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]	Kesunt [F]	[G]	/0	701	70KI D	
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	Ba	tch #:	1 Matrix	: Soil	-	·		
Date Analyzed:	03/11/2016	Date Prepared:	03/11/2	016	An	alyst: 1	DEP					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[C]	<sup>7</sup> 6К [D]	E]	Kesun [r]	56K [G]	70	70K	70KFD	
Chloride		102	488	592	100	488	594	101	0	80-120	20	
Lab Batch ID:	990033	QC- Sample ID:	526570	-001 S	Ba	tch #:	1 Matrix	: Soil	-			
Date Analyzed:	03/10/2016	Date Prepared:	03/10/2	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
]	ГРН By SW8015B Mod	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C10 Gasoli	ne Range Hydrocarbons	<15.0	998	908	91	998	934	94	3	75-125	25	
C10-C28 Diese	el Range Hydrocarbons	15.0	998	1010	100	998	1030	102	2	75-125	25	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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

Kelinquished by	Relinquished	Relinquish	Bill to Ros	Coocial In										LAB # (lab use only)	ORDER #:	(lab use only)								Xenco The Environmen
ao by:	ad by:	CANNY MM	Blll to Rose Slade at Energy Transfer. TPH Extended 35	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	nt GOBC #			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	Xenco Laboratories
C aa aa	Date	3 Spl	Extended 35														man	AN MI	20	< 79703	nerce	ons, Inc	1	es
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		0				14								Ending Depth				0						
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												007	_	NaOH	& # of		ener	1000						:HA 1-20
		7 . N		12.										Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Containers		energytransfer.com	l fio						CHAIN OF 1-20 East xas 79765
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		61		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	GW = Groundwater S=Soil/Solid	Matrix		Э	1	Repo				τ	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 1-20 East Phone: 432-563-1800 Fax: 432-563-1713
lime	Time	Time		×	×	×	×	×	×	×	×	×	×	NP=Non-Potable Specify Other TPH: 418.1 8015M 80	)15B	10	1		ortFo		Proj	σ	rojec	REC
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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)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?											Cations (Ca, Mg, Na, K)			そ	(	#d <sup>*</sup>	PO #:	100	1 #	me:	A
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e														N.O.R.M.					TRRP		Lea County, NM		Воус	9 1 7 2 ALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713
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ied by:	Relinquished by:		oampie	Sample	Sample	Sa	Sa	Sa	Sa	Sa	FIE	1# 5005-	Sampler Signature:	Telephone No:	City/State/Zip:	Company Address: 2057 Commerce	Company Name	Project Manager:	Xenco Labora
Date	ansfer TPH Extended 35		sample-o sunace	Sample-7 Surface	Sample-6 Surface	Sample-5	Sample-5	Sample-5	Sample-4	Sample-4	FIELD CODE	ło	MUL	432.520.7720	Midland, TX 79703	2057 Commerce	TRC Solutions, Inc	Nikki Green	Laboratories
6					+	10'	6	N	10'	م م	Beginning Depth		A	9					
Time						Q		-	0		Ending Depth	-							
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by counter UPS Temperature Upon Receipt	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. ?										SAR / ESP / CEC	TCLP:			с.			m	CUSTODY RECORD AND ANALYSIS
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Client: TRC Solutions, Inc

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



Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 03/09/2016 04:30:00 PM Temperature Measuring device used : r8 Work Order #: 526570 Comments Sample Receipt Checklist 8.7 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seals intact on shipping container/ cooler? N/A #5 Custody Seals intact on sample bottles? N/A #6 \*Custody Seals Signed and dated? N/A #7 \*Chain of Custody present? Yes #8 Sample instructions complete on Chain of Custody? Yes #9 Any missing/extra samples? No #10 Chain of Custody signed when relinquished/ received? Yes #11 Chain of Custody agrees with sample label(s)? Yes #12 Container label(s) legible and intact? Yes #13 Sample matrix/ properties agree with Chain of Custody? Yes Yes #14 Samples in proper container/ bottle? #15 Samples properly preserved? Yes #16 Sample container(s) intact? Yes #17 Sufficient sample amount for indicated test(s)? Yes #18 All samples received within hold time? Yes #19 Subcontract of sample(s)? Yes subcontract to xenco houston #20 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date: 03/10/2016

Checklist reviewed by:

by: Carley Owens Carley Owens by: Mms Moah

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,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



#### Sample Id

Sample -1 @ 21' T-SSW-1 @ 6' T-NSW-1@7' T-WSW-1@11' Sample-2 @ 20' Sample-10 @ 2.5' T-SSW-2 @7' T-ESW-1 @ 10' T-ESW-1 @ 10' T-ESW-1 @ 16' T-NSW-2 @ 16' T-NSW-3 @4' T-ESW-2 @ 4' T-ESW-3 @4' T-ESW-4 @ 4'

### Sample Cross Reference 528239



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

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	04-05-16 10:45	- 21 ft	528239-001
S	04-05-16 11:09	- 6 ft	528239-002
S	04-05-16 11:34	- 7 ft	528239-003
S	04-05-16 11:45	- 11 ft	528239-004
S	04-05-16 14:00	- 20 ft	528239-005
S	04-05-16 15:00	- 2.5 ft	528239-006
S	04-06-16 10:00	- 7 ft	528239-007
S	04-06-16 10:30	- 5 ft	528239-008
S	04-06-16 10:50	- 10 ft	528239-009
S	04-06-16 11:20	- 16 ft	528239-010
S	04-06-16 13:30	- 16 ft	528239-011
S	04-06-16 14:00	- 4 ft	528239-012
S	04-06-16 14:25	- 4 ft	528239-013
S	04-06-16 14:45	- 4 ft	528239-014
S	04-06-16 15:20	- 4 ft	528239-015





### TRC Solutions, Inc, Midland, TX

Sample Id: Sample -1 @ 21'		Matrix:	Soil		Sample	Depth: 21 ft		
Lab Sample Id: 528239-001		Date Collecte	ed: 04.05.16 1	0.45	Date R	eceived: 04.08.	16 15.2	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	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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 M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	111161500					
Seq Number. 992219		Prep seq: 70						
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	Ū	1
Total TPH	PHC635	ND		9.86	mg/kg	04.11.16 19:47	U	
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag
1-Chlorooctane		107		70 - 1	130 %	, D		
o-Terphenyl		110		70 - 1	135 %	, D		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030B		
Analyst: PJB		0/ <b>7 7 1</b>			1100 111	<b>e</b> the <b>u</b> . <b>e</b> 0000B		
		% Moist:			Tech <sup>.</sup>	PIB		
		% Moist: Date Pren: 04	111 16 15 00		Tech:	PJB		
Seq Number: 992159		Date Prep: 04	4.11.16 15.00 )7546		Tech:	PJB		
	CAS Number	Date Prep: 04		SDL	Tech: Units	PJB Analysis Date	Flag	Dil Factor
Seq Number: 992159		Date Prep: 04 Prep seq: 70	)7546	SDL 0.000333		Analysis	<b>Flag</b> U	Dil Factor
Seq Number: 992159 Parameter Benzene Toluene	Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 <b>Result</b> ND ND	07546 MQL 0.00149 0.00199	0.000333 0.000994	Units mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18	U U U	1
Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result ND ND ND	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487	Units mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U	1 1 1
Seq Number: 992159           Parameter           Benzene           Toluene           Ethylbenzene           m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Units mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U U	1 1 1 1
Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840	Units mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U U U	1 1 1
Seq Number: 992159           Parameter           Benzene           Toluene           Ethylbenzene           m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Units mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U U	1 1 1 1
Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840	Units mg/kg mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U U U U U	1 1 1 1
Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840 0.000333	Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18 04.11.16 18:18	U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-SSW-1 @ 6'		Matrix:	Soil		Sample	e Depth: 6 ft		
Lab Sample Id: 528239-002		Date Collecte	ed: 04.05.16 1	1.09	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	ethod: E300F	)	
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	.13.16 16.00					
1		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	20.0	10.0	1.70	mg/kg	04.13.16 21:42		5
Analytical Method: TPH By SW8015B N	Лod				Prep M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	11.16 15.00					
504 Tumber. 372217		Prep seq: 70						
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	Uni	its Analysis	Date	Flag
1-Chlorooctane		101		70 - 1	130 %	, D		
o-Terphenyl		104		70 - 1	135 %	Ď		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030E	5	
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	.11.16 15.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
		ND	0.00149	0.000333	mg/kg	04.11.16 19:07	U	1
Benzene	71-43-2	ND					U	1
Toluene	108-88-3	ND	0.00198	0.000992	mg/kg	04.11.16 19:07		
Toluene Ethylbenzene	108-88-3 100-41-4	ND ND	0.00198 0.00198	0.000486	mg/kg	04.11.16 19:07	U	1
Toluene Ethylbenzene m_p-Xylenes	108-88-3 100-41-4 179601-23-1	ND ND ND	0.00198 0.00198 0.00198	0.000486 0.00169	mg/kg mg/kg	04.11.16 19:07 04.11.16 19:07	U U	1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene	108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND	0.00198 0.00198	0.000486 0.00169 0.000839	mg/kg mg/kg mg/kg	04.11.16 19:07 04.11.16 19:07 04.11.16 19:07	U U U	1
Toluene Ethylbenzene m_p-Xylenes	108-88-3 100-41-4 179601-23-1	ND ND ND	0.00198 0.00198 0.00198	0.000486 0.00169	mg/kg mg/kg	04.11.16 19:07 04.11.16 19:07	U U	1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND ND	0.00198 0.00198 0.00198	0.000486 0.00169 0.000839 0.000839	mg/kg mg/kg mg/kg mg/kg	04.11.16 19:07 04.11.16 19:07 04.11.16 19:07 04.11.16 19:07 04.11.16 19:07	U U U U U	1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND ND ND	0.00198 0.00198 0.00198	0.000486 0.00169 0.000839 0.000839 0.000333	mg/kg mg/kg mg/kg mg/kg mg/kg Uni	04.11.16 19:07 04.11.16 19:07 04.11.16 19:07 04.11.16 19:07 04.11.16 19:07 04.11.16 19:07	U U U U U	1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-NSW-1@7'		Matrix:	Soil		Sample	Depth: 7 ft		
Lab Sample Id: 528239-003		Date Collecte	ed: 04.05.16 1	1.34	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	y EPA 300/300.1				Prep M	lethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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 M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	1 1 1 1 6 1 5 0 0		10011.	2 Huiti		
Seq Number: 992219								
		Prep seq: 70	)/58/					
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	
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag
1-Chlorooctane		101		70 - 1	130 %	Ď		
o-Terphenyl		103		70 - 1	135 %	, D		
Analytical Method: BTEX by EPA 802	1B				Prep M	lethod: 5030B		
	1B	% Moist:			Prep M Tech:	lethod: 5030B PJB		
Analyst: PJB	1B		4.11.16 15.00		-			
	IB	Date Prep: 04	4.11.16 15.00 07546		-			
Analyst: PJB	1B CAS Number	Date Prep: 04		SDL	-		Flag	Dil Factor
Analyst: PJB Seq Number: 992159	CAS	Date Prep: 04 Prep seq: 70	)7546	<b>SDL</b> 0.000335	Tech:	PJB Analysis		Dil Factor
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene	CAS Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 Result ND ND	07546 MQL 0.00150 0.00200	0.000335 0.000998	Tech: Units mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23	Flag U U	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	CAS Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489	Tech: Units mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23	Flag U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23	Flag U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23	Flag U U U U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23	Flag U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23 04.11.16 19:23	Flag U U U U U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844 0.000335	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:23 04.11.16 19:23	Flag U U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-WSW-1 @11'		Matrix:	Soil		Sample	e Depth: 11 ft		
Lab Sample Id: 528239-004		Date Collecte	ed: 04.05.16 1	1.45	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	lethod: E300F	,	
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	35.6	10.0	1.70	mg/kg	04.13.16 22:22		5
Analytical Method: TPH By SW8015B N	ſod				Prep M	Iethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
seq ( unior. ))221)		Prep seq: 70						
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	U	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	Un	its Analysis	Date	Flag
1-Chlorooctane		116		70 - 1				
o-Terphenyl		118		70 - 1	135 %	0		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030B		
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70	07546					
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 m. n. Yulanos	100-41-4	ND	0.00198	0.000486	mg/kg	04.11.16 19:40	U	1
m_p-Xylenes o-Xylene	179601-23-1 95-47-6	ND ND	0.00198 0.00298	0.00169 0.000839	mg/kg mg/kg	04.11.16 19:40 04.11.16 19:40	U U	1 1
Total Xylenes	1330-20-7	ND	0.00270	0.000839	mg/kg	04.11.16 19:40	U	1
Total BTEX	•	ND		0.000333	mg/kg	04.11.16 19:40	U	
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag
Surrogate 1,4-Difluorobenzene		% Recovery 110		<b>Limits</b> 80 - 1		·	Date	Flag





### TRC Solutions, Inc, Midland, TX

Sample Id: Sample-2 @ 20'		Matrix:	Soil		Sample	e Depth: 20 ft		
Lab Sample Id: 528239-005		Date Collecte	ed: 04.05.16 1	4.00	Date R	eceived: 04.08.1	6 15.2	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	4.13.16 16.00					
1		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	32.3	2.00	0.341	mg/kg	04.13.16 22:42		1
Analytical Method: TPH By SW8015B N	ſod				Prep M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70						
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	Uni	its Analysis	Date	Flag
1-Chlorooctane		109		70 - 1	130 %	ó		
o-Terphenyl		103		70 - 1	135 %	, D		
Analytical Method: BTEX by EPA 80211	В				Prep M	Iethod: 5030B		
Analyst: PJB		% Moist:			Tech:	PJB		
Tillaryst. TSB					I CUII	100		
Sea Number: 002150			1 11 16 15 00		i cell.			
Seq Number: 992159		Date Prep: 04	4.11.16 15.00 07546		i cell.			
Seq Number: 992159 Parameter	CAS Number	Date Prep: 04		SDL	Units	Analysis Date	Flag	Dil Factor
		Date Prep: 04 Prep seq: 70	)7546	<b>SDL</b>		•	Flag	Dil Factor
Parameter	Number           71-43-2           108-88-3	Date Prep: 04 Prep seq: 70 <b>Result</b>	07546 MQL		Units	Date	Flag	
Parameter Benzene Toluene Ethylbenzene	Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487	Units mg/kg mg/kg mg/kg	Date 04.11.16 21:33 04.11.16 21:33 04.11.16 21:33	Flag	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number           71-43-2           108-88-3           100-41-4           179601-23-1	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160 0.315	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Units mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33	Flag	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	Number           71-43-2           108-88-3           100-41-4           179601-23-1           95-47-6	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160 0.315 0.0590	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840	Units mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33	Flag	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number           71-43-2           108-88-3           100-41-4           179601-23-1	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160 0.315	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Units mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33	Flag	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	Number           71-43-2           108-88-3           100-41-4           179601-23-1           95-47-6	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160 0.315 0.0590 0.374	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840	Units mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33		1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	Number           71-43-2           108-88-3           100-41-4           179601-23-1           95-47-6	Date Prep: 04 Prep seq: 70 Result 0.0264 0.0132 0.160 0.315 0.0590 0.374 0.574	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840 0.000333	Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33           04.11.16 21:33		1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: Sample-10 @ 2.5'		Matrix:	Soil		Sample	e Depth: 2.5 ft		
Lab Sample Id: 528239-006		Date Collecte	ed: 04.05.16 1	5.00	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	y EPA 300/300.1				Prep M	lethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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 M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
500 Pullioon. 372217		Prep seq: 70						
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	Un	its Analysis	Date	Flag
1-Chlorooctane		111		70 - 1	130 %	<i>,</i> 0		
o-Terphenyl		113		70 - 1	135 %	ó		
Analytical Method: BTEX by EPA 8021	1B				Prep M	lethod: 5030B		
Analytical Method: BTEX by EPA 8021 Analyst: PJB	IB	% Moist:			Prep M Tech:			
Analyst: PJB	IB		1.11.16 15.00		Prep M Tech:	lethod: 5030B PJB		
	IB	Date Prep: 04	4.11.16 15.00 07546		-			
Analyst: PJB	1B CAS Number	Date Prep: 04		SDL	-		Flag	Dil Factor
Analyst: PJB Seq Number: 992159	CAS	Date Prep: 04 Prep seq: 70	)7546	<b>SDL</b> 0.000333	Tech:	PJB Analysis		Dil Factor
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene	CAS Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 Result ND ND	07546 MQL 0.00149 0.00199	0.000333 0.000994	Tech: Units mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56	Flag U U	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	CAS Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result ND ND ND	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487	Tech: Units mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56	Flag U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56	Flag U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56	Flag U U U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56	Flag U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56 04.11.16 19:56	Flag U U U U U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840 0.000333	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 19:56 04.11.16 19:56	Flag U U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-SSW-2 @7'		Matrix:	Soil		Sample	e Depth: 7 ft		
Lab Sample Id: 528239-007		Date Collecte	ed: 04.06.16 1	0.00	Date R	eceived: 04.08.	16 15.2	.3
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	ethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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 M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	111 16 15 00		i com			
Seq Number: 992219		-						
	CAS	Prep seq: 70	1.387			Analysis		Dil Factor
Parameter	Number	Result	MQL	SDL	Units	Date	Flag	Dirractor
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	Un	its Analysis	Date	Flag
1-Chlorooctane		105		70 -	130 %	, D		
o-Terphenyl		108		70 - 1	135 %	Ď		
						ethod: 5030B		
Analytical Method: BTEX by EPA 8021	В				Prep M			
Analytical Method: BTEX by EPA 8021 Analyst: PJB	В	% Moist:			Prep M Tech:	PJB		
Analyst: PJB	В		4.11.16 15.00		Prep M Tech:	PJB		
	В	% Moist: Date Prep: 04 Prep seq: 70			•	PJB		
Analyst: PJB	B CAS Number	Date Prep: 04		SDL	•	PJB Analysis Date	Flag	Dil Factor
Analyst: PJB Seq Number: 992159	CAS	Date Prep: 04 Prep seq: 70	)7546	<b>SDL</b> 0.000335	Tech:	Analysis	Flag	Dil Factor
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene	CAS Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 Result ND ND	07546 MQL 0.00150 0.00200	0.000335 0.000998	Tech: Units mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12	U U U	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	CAS Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489	Tech: Units mg/kg mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12	U U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	Tech: Units mg/kg mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12	U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844	Tech: Units mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12	U U U U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	Tech: Units mg/kg mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12	U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg	Analysis Date 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12 04.11.16 20:12	U U U U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844 0.000335	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Analysis Date           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12           04.11.16 20:12	U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-ESW-1 @ 5'		Matrix:	Soil		Sample	Depth: 5 ft		
Lab Sample Id: 528239-008		Date Collecte	ed: 04.06.16 1	0.30	Date R	eceived: 04.08.1	16 15.2	23
Analytical Method: Inorganic Anions by	v EPA 300/300.1				Prep M	ethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
500 ( ( uniter: ))2 (5)		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	875	100	17.0	mg/kg	04.14.16 00:24		50
Analytical Method: TPH By SW8015B	Mod				Prep M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
Seq (Milloer, 99221)		Prep seq: 70						
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	РНС635	ND		9.85	mg/kg	04.11.16 23:59	U	
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag
1-Chlorooctane		88		70 - 1	130 %	, ວ		
o-Terphenyl		89		70 - 1	135 %	)		
Analytical Method: BTEX by EPA 802	B							
					Pren M	ethod 5030B		
		% Moist:			Prep M Tech <sup>.</sup>			
Analyst: PJB	D	% Moist:	4 11 16 15 00		Prep M Tech:	lethod: 5030B PJB		
		Date Prep: 04			-			
Analyst: PJB Seq Number: 992159	CAS	Date Prep: 04 Prep seq: 70	07546	<b>CD</b>	Tech:			Dil Factor
Analyst: PJB	CAS Number	Date Prep: 04	07546 MQL	SDL	-	PJB Analysis Date	Flag	Dil Factor
Analyst: PJB Seq Number: 992159 Parameter Benzene	CAS Number 71-43-2	Date Prep: 04 Prep seq: 70 <b>Result</b> ND	07546 MQL 0.00149	0.000333	Tech: Units mg/kg	PJB Analysis Date 04.11.16 20:28	Flag	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene	CAS Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 Result ND ND	07546 MQL 0.00149 0.00198	0.000333 0.000992	Tech: Units mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28	Flag U U	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	CAS Number 71-43-2 108-88-3 100-41-4	Date Prep: 04 Prep seq: 70 Result ND ND ND	07546 MQL 0.00149 0.00198 0.00198	0.000333 0.000992 0.000486	Tech: Units mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28	Flag U U U	1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	CAS Number 71-43-2 108-88-3	Date Prep: 04 Prep seq: 70 Result ND ND	07546 MQL 0.00149 0.00198 0.00198 0.00198	0.000333 0.000992 0.000486 0.00169	Tech: Units mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28	Flag U U U U	1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1	Date Prep: 04 Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00149 0.00198 0.00198	0.000333 0.000992 0.000486	Tech: Units mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28	Flag U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00149 0.00198 0.00198 0.00198	0.000333 0.000992 0.000486 0.00169 0.000839	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28	Flag U U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00198 0.00198 0.00198	0.000333 0.000992 0.000486 0.00169 0.000839 0.000839	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28 04.11.16 20:28	Flag U U U U U U U U U	1 1 1 1
Analyst: PJB Seq Number: 992159 Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	CAS Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Date Prep: 04 Prep seq: 70 Result ND ND ND ND ND ND ND	07546 MQL 0.00149 0.00198 0.00198 0.00198	0.000333 0.000992 0.000486 0.00169 0.000839 0.000839 0.000833	Tech: Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	PJB Analysis Date 04.11.16 20:28 04.11.16	Flag U U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-ESW-1 @ 10'		Matrix:	Soil		Sample	Depth: 10 ft		
Lab Sample Id: 528239-009		Date Collecte	ed: 04.06.16 1	0.50	Date R	eceived: 04.08.	16 15.2	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	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	168	40.0	6.82	mg/kg	04.14.16 00:44		20
Analytical Method: TPH By SW8015B M	Mod				Prep M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
Seq Rumber. 332213		Prep seq: 70						
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	Uni	its Analysis	Date	Flag
1-Chlorooctane o-Terphenyl		120 122		70 - 1 70 - 1				
Analytical Method: BTEX by EPA 8021	В				Prep M	ethod: 5030B		
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	4.11.16 15.00					
Seq Number: 992159		Date Prep: 04 Prep seq: 70						
Seq Number: 992159 Parameter	CAS Number			SDL	Units	Analysis Date	Flag	Dil Factor
Parameter Benzene	<b>Number</b> 71-43-2	Prep seq: 70 Result	07546 MQL 0.00150	0.000335	mg/kg	Date 04.11.16 20:45	U	1
<b>Parameter</b> Benzene Toluene	Number 71-43-2 108-88-3	Prep seq: 70 Result ND ND	07546 MQL 0.00150 0.00200	0.000335 0.000998	mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45	U U	1
<b>Parameter</b> Benzene Toluene Ethylbenzene	Number 71-43-2 108-88-3 100-41-4	Prep seq: 70 Result ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489	mg/kg mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45	U U U	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	mg/kg mg/kg mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45	U U U U	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844	mg/kg mg/kg mg/kg mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45	U U U U U U	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Prep seq: 70 Result ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170	mg/kg mg/kg mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45	U U U U	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844	mg/kg mg/kg mg/kg mg/kg mg/kg	Date 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45 04.11.16 20:45	U U U U U U U U	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND ND ND ND	07546 MQL 0.00150 0.00200 0.00200 0.00200	0.000335 0.000998 0.000489 0.00170 0.000844 0.000844 0.000335	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45           04.11.16 20:45	U U U U U U U U	1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-ESW-1 @16'		Matrix:	Soil		Sample	e Depth: 16 ft		
Lab Sample Id: 528239-010		Date Collecte	ed: 04.06.16 1	1.20	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	v EPA 300/300.1				Prep M	lethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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 M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
504 manoor. 772217		Prep seq: 70						
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	Ŭ	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0	9.85	mg/kg	04.12.16 00:56	U	1
Total TPH	РНС635	ND		9.85	mg/kg	04.12.16 00:56	U	
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag
1-Chlorooctane		110		70 - 1				
o-Terphenyl		113		70 - 1	135 %	D		
Analytical Method: BTEX by EPA 8021	B				Prep M	ethod: 5030B		
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70	07546					
Parameter	CAS	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
	Number							1
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.16 21:00	U	1
Toluene	71-43-2 108-88-3	ND	0.00200	0.000998	mg/kg	04.11.16 21:00	U	1
Toluene Ethylbenzene	71-43-2 108-88-3 100-41-4	ND ND	0.00200 0.00200	0.000998 0.000489	mg/kg mg/kg	04.11.16 21:00 04.11.16 21:00	U U	1 1
Toluene Ethylbenzene m_p-Xylenes	71-43-2 108-88-3 100-41-4 179601-23-1	ND ND ND	0.00200 0.00200 0.00200	0.000998 0.000489 0.00170	mg/kg mg/kg mg/kg	04.11.16 21:00 04.11.16 21:00 04.11.16 21:00	U U U	1 1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene	71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND	0.00200 0.00200	0.000998 0.000489 0.00170 0.000844	mg/kg mg/kg mg/kg mg/kg	04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00	U U U U	1 1
Toluene Ethylbenzene m_p-Xylenes	71-43-2 108-88-3 100-41-4 179601-23-1	ND ND ND	0.00200 0.00200 0.00200	0.000998 0.000489 0.00170	mg/kg mg/kg mg/kg	04.11.16 21:00 04.11.16 21:00 04.11.16 21:00	U U U	1 1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND ND	0.00200 0.00200 0.00200	0.000998 0.000489 0.00170 0.000844 0.000844	mg/kg mg/kg mg/kg mg/kg mg/kg	04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00	U U U U U U	1 1 1
Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	ND ND ND ND ND	0.00200 0.00200 0.00200	0.000998 0.000489 0.00170 0.000844 0.000844 0.000335	mg/kg mg/kg mg/kg mg/kg mg/kg Uni	04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00 04.11.16 21:00	U U U U U U	1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-NSW-2 @ 16'		Matrix:	Soil		Sample	Depth: 16 ft		
Lab Sample Id: 528239-011		Date Collecte	ed: 04.06.16 1	3.30	Date R	eceived: 04.08.	16 15.2	23
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	ethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1440	100	17.0	mg/kg	04.14.16 01:25		50
Analytical Method: TPH By SW8015B N	Mod				Prep M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70						
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	Uni	its Analysis	Date	Flag
1-Chlorooctane		95		70 - 1	130 %	, D		
o-Terphenyl		96		70 - 1	135 %	Ď		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030B		
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	4.11.16 15.00					
Seq Humbert SS2105		-	)7546					
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
				0.00100	mg/kg	04.12.16 12:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	00			
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.12.16 12:44	U	1
Ethylbenzene m_p-Xylenes	100-41-4 179601-23-1	ND ND	0.00200 0.00200	0.000490 0.00170	mg/kg mg/kg	04.12.16 12:44 04.12.16 12:44	U	1
Ethylbenzene m_p-Xylenes o-Xylene	100-41-4 179601-23-1 95-47-6	ND ND ND	0.00200	0.000490 0.00170 0.000845	mg/kg mg/kg mg/kg	04.12.16 12:44 04.12.16 12:44 04.12.16 12:44	U U	
Ethylbenzene m_p-Xylenes	100-41-4 179601-23-1	ND ND	0.00200 0.00200	0.000490 0.00170	mg/kg mg/kg	04.12.16 12:44 04.12.16 12:44	U	1
Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	100-41-4 179601-23-1 95-47-6	ND ND ND	0.00200 0.00200	0.000490 0.00170 0.000845 0.000845	mg/kg mg/kg mg/kg mg/kg	04.12.16 12:44 04.12.16 12:44 04.12.16 12:44 04.12.16 12:44 04.12.16 12:44	U U U U	1
Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	100-41-4 179601-23-1 95-47-6	ND ND ND ND	0.00200 0.00200	0.000490 0.00170 0.000845 0.000845 0.000335	mg/kg mg/kg mg/kg mg/kg Uni	04.12.16 12:44 04.12.16 12:44 04.12.16 12:44 04.12.16 12:44 04.12.16 12:44 04.12.16 12:44	U U U U	1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-NSW-3 @4'		Matrix:	Soil		Sample	e Depth: 4 ft		
Lab Sample Id: 528239-012		Date Collecte	ed: 04.06.16 1	4.00	Date R	eceived: 04.08.1	16 15.2	23
Analytical Method: Inorganic Anions by	FEPA 300/300.1				Prep M	lethod: E300P		
Analyst: MNR		% Moist:			Tech:	MNR		
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
		Prep seq: 70						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	246	20.0	3.41	mg/kg	04.14.16 02:05		10
Analytical Method: TPH By SW8015B I	Mod				Prep M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70						
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	Uni	its Analysis	Date	Flag
1-Chlorooctane		99		70 - 1	130 %	, D		
o-Terphenyl		102		70 - 1	135 %	D		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030B		
Analyst: PJB	_	% Moist:			Tech:	PJB		
-								
Sea Number: 992302		Date Prep: 04	4.11.16 20.00					
Seq Number: 992302		Date Prep: 04 Prep seq: 70						
Seq Number: 992302 Parameter	CAS Number	Date Prep: 04 Prep seq: 70 <b>Result</b>		SDL	Units	Analysis Date	Flag	Dil Factor
		Prep seq: 70	07618	<b>SDL</b> 0.000333	Units mg/kg		<b>Flag</b> U	Dil Factor
Parameter Benzene Toluene	Number 71-43-2 108-88-3	Prep seq: 70 Result ND ND	07618 MQL 0.00149 0.00199	0.000333 0.000994	mg/kg mg/kg	Date 04.11.16 23:42 04.11.16 23:42	U U U	1
Parameter Benzene Toluene Ethylbenzene	Number 71-43-2 108-88-3 100-41-4	Prep seq: 70 Result ND ND	07618 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487	mg/kg mg/kg mg/kg	Date 04.11.16 23:42 04.11.16 23:42 04.11.16 23:42	U U U U	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Prep seq: 70 Result ND ND ND ND	07618 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42	U U U U U	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND ND	07618 MQL 0.00149 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840	mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42	U U U U U U	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1	Prep seq: 70 Result ND ND ND ND	07618 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169	mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42	U U U U U	1 1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND ND ND ND	07618 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840	mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42	U U U U U U U U	1 1 1
Parameter Benzene Toluene Ethylbenzene m_p-Xylenes o-Xylene Total Xylenes Total BTEX	Number 71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	Prep seq: 70 Result ND ND ND ND ND ND ND ND	07618 MQL 0.00149 0.00199 0.00199 0.00199	0.000333 0.000994 0.000487 0.00169 0.000840 0.000840 0.000333	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Date           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42           04.11.16 23:42	U U U U U U U U	1 1 1 1





### TRC Solutions, Inc, Midland, TX

Sample Id: T-ESW-2 @ 4'		Matrix:	Soil		Sample	e Depth: 4 ft		
Lab Sample Id: 528239-013		Date Collecte	ed: 04.06.16 14	4.25	Date R	eceived: 04.08	8.16 15.2	23
Analytical Method: Inorganic Anions by	EPA 300/300.1				Prep M	lethod: E300	Р	
Analyst: MNR		% Moist:			Tech:	MNF	Ł	
Seq Number: 992431		Date Prep: 04	4.13.16 16.00					
1 11 1		Prep seq: 70						
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 N	Лod				Prep M	Iethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM	[	
Seq Number: 992219		Date Prep: 04	4.11.16 15.00					
		Prep seq: 70						
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 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		1
Total TPH	PHC635	ND		9.87	mg/kg	04.12.16 02:49	) U	
Surrogate		% Recovery		Limits	Un	its Analys	is Date	Flag
1-Chlorooctane		102		70 - 1	130 %	0		
o-Terphenyl		103		70 - 1	135 %	0		
Analytical Method: BTEX by EPA 8021	В				Prep M	lethod: 5030	В	
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992302		Date Prep: 04	4.11.16 20.00					
		Prep seq: 70						
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		1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.11.16 23:58		1
Ethylbenzene m. n. Yydeneg	100-41-4	ND	0.00200	0.000490	mg/kg	04.11.16 23:58		1
m_p-Xylenes o-Xylene	179601-23-1 95-47-6	ND ND	0.00200 0.00300	0.00170 0.000845	mg/kg mg/kg	04.11.16 23:58 04.11.16 23:58		1 1
Total Xylenes	1330-20-7	ND	0.00500	0.000845	mg/kg	04.11.16 23:58		1
-		ND		0.000335	mg/kg	04.11.16 23:58		
Total BTEX								
Surrogate		% Recovery		Limits	Un	its Analys	is Date	Flag
				<b>Limits</b> 80 - 1		·	is Date	Flag



# Certificate of Analytical Results 528239



## TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: T-ESW-3 @4'		Matrix:	Soil		Sample	e Depth: 4 ft		
Lab Sample Id: 528239-014		Date Collecte	ed: 04.06.16	14.45	Date R	eceived: 04.08.	16 15.2	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	4.13.16 16.00					
		Prep seq: 70	07674					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
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	15.20	Date R	eceived: 04.08.	16 15.2	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	4.13.16 16.00					
		Prep seq: 70	07674					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	361	20.0	3.41	mg/kg	04.14.16 03:06		10



# Certificate of Analytical Results 528239



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

Sample Id: 707546-1-BLK		Matrix:	Solid		Sample	e Depth:		
Lab Sample Id: 707546-1-BLK		Date Collecte	d:		Date R	eceived:		
Analytical Method: BTEX by EPA 8021B					Prep M	lethod: 5030B		
					-			
Analyst: PJB		% Moist:			Tech:	PJB		
Seq Number: 992159		Date Prep: 04	.11.16 11.00					
		Prep seq: 70	7546					
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	Uni	its Analysis	Date	Flag
1,4-Difluorobenzene		101		80 - 1	20 %	, 0		
4-Bromofluorobenzene		90		80 - 1	20 %	0		
Sample Id: 707587-1-BLK		Matrix:	Solid		Sample	e Depth:		
Lab Sample Id: 707587-1-BLK		Date Collecte	d:		Date R	eceived:		
Analytical Method: TPH By SW8015B M	od				Prep M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 992219		Date Prep: 04	.11.16 15.00					
		Prep seq: 70	7587					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Parameter C6-C10 Gasoline Range Hydrocarbons		<b>Result</b> ND	<b>MQL</b> 15.0	<b>SDL</b> 9.88	Units mg/kg	•	<b>Flag</b> U	<b>Dil Factor</b>
	Number					Date		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 130	%		
o-Terphenyl	121	70 - 135	%		



# Certificate of Analytical Results 528239



## 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 Collecte	d:		Date Re	ceived:			
Analytical Method: BTEX by EPA 8021B					Prep Me	ethod:	5030B		
Analyst: PJB		% Moist:			Tech:		PJB		
Seq Number: 992302		Date Prep: 04	11 16 20 00						
Seq Number: 992302		-							
		Prep seq: 70	/618						
Parameter	CAS Number	Result	MQL	SDL	Units	Ana Da	lysis ate	Flag	Dil Factor
Benzene	71-43-2	ND	0.00150	0.000335	mg/kg	04.11.1	6 23:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/kg	04.11.1	6 23:25	U	1
Ethylbenzene	100-41-4	ND	0.00200	0.000490	mg/kg	04.11.1	6 23:25	U	1
m_p-Xylenes	179601-23-1	ND	0.00200	0.00170	mg/kg	04.11.1	6 23:25	U	1
o-Xylene	95-47-6	ND	0.00300	0.000845	mg/kg	04.11.1	6 23:25	U	1
Surrogate		% Recovery		Limits	Unit	ts .	Analysis	Date	Flag
1,4-Difluorobenzene		99		80 - 1	20 %				
4-Bromofluorobenzene		90		80 - 1					
Sample Id: 707674-1-BLK		Matrix:	Solid		Sample	Depth:			
Lab Sample Id: 707674-1-BLK		Date Collecte	d:		Date Re	ceived:			
Analytical Method: Inorganic Anions by E	PA 300/300.1				Prep Me	ethod:	E300P		
Analyst: MNR		% Moist:			Tech:		MNR		
Seq Number: 992431		Date Prep: 04	.13.16 16.00						
		Prep seq: 70	7674						
Parameter	CAS Number	Result	MQL	SDL	Units	Ana Da	lysis ate	Flag	Dil Factor

ND

2.00

0.341

mg/kg

04.13.16 20:00

U

1

16887-00-6



#### XENCO Laboratories CHRONOLOGY OF HOLDING TIMES



Analytical Method : Inorganic Anions by EPA 300/300.1

Work Order #: 528239

Client : TRC Solutions, Inc

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	Р
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	Р
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	Р
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	Р
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	Р
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.13, 2016	28	8	Р
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-3 @4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р
T-ESW-4 @ 4'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.14, 2016	28	8	Р



#### XENCO Laboratories CHRONOLOGY OF HOLDING TIMES

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Analytical Method : TPH By SW8015B Mod

Work Order #: 528239

Client : <u>TRC Solutions, Inc</u>

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	Р
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	Р
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	Р
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	Р
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	Р
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016	Apr. 11, 2016	14	6	Apr.11, 2016	14	0	Р
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.11, 2016	14	0	Р
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.11, 2016	14	0	Р
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	Р
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	Р
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	Р
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	Р
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016	Apr. 11, 2016	14	5	Apr.12, 2016	14	1	Р



#### XENCO Laboratories CHRONOLOGY OF HOLDING TIMES



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Analytical Method : BTEX by EPA 8021B

Work Order #: **528239** 

Client : TRC Solutions, Inc

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	Р
T-SSW-1 @ 6'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	Р
T-NSW-1@7'	Apr. 5, 2016	Apr. 8, 2016			-	Apr.11, 2016	14	6	Р
T-WSW-1 @11'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	Р
Sample-2 @ 20'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	Р
Sample-10 @ 2.5'	Apr. 5, 2016	Apr. 8, 2016				Apr.11, 2016	14	6	Р
T-SSW-2 @7'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.11, 2016	14	5	Р
T-ESW-1 @ 5'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.11, 2016	14	5	Р
T-ESW-1 @ 10'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.11, 2016	14	5	Р
T-ESW-1 @16'	Apr. 6, 2016	Apr. 8, 2016			-	Apr.11, 2016	14	5	Р
T-NSW-2 @ 16'	Apr. 6, 2016	Apr. 8, 2016				Apr.12, 2016	14	6	Р
T-NSW-3 @4'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	Р
T-ESW-2 @ 4'	Apr. 6, 2016	Apr. 8, 2016				Apr.11, 2016	14	5	Р

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	( .)



T-ESW-1 @ 10'

T-ESW-1 @ 5'

T-ESW-1 @16'

T-NSW-1@7'

T-NSW-2 @ 16'

T-SSW-1 @ 6'

T-SSW-2 @7'

T-WSW-1 @11'

Analytical Log

Analytical Method:	BTEX by EPA 8021B		Batch #:	992159	
Project Name: Energy Transfer Boy		4" Historical	Project ID:	528239	
Client Name:	TRC Solutions, Inc		WO Number:		
Client Sa	nple Id	Lab Samp	le Id	QC Types	
Sample -1	@ 21'	528239-00	1	SMP	
Sample-10	@ 2.5'	528239-00	6	SMP	
Sample-2 (	@ 20'	528239-00	5	SMP	

528239-009

528239-008

528239-010

528239-003

528239-011

528239-002

528239-007

528239-004

528243-002 S

528243-002 SD

707546-1-BKS

707546-1-BLK

707546-1-BSD

<u>SM</u>P

SMP

SMP

SMP

SMP

SMP

SMP

SMP

MS

MSD

BKS

<u>BL</u>K

BSD



T-ESW-2 @ 4'

T-NSW-1@7'

T-NSW-2 @ 16'

T-NSW-3 @4'

T-SSW-1 @ 6'

T-SSW-2 @7'

T-WSW-1 @11'

#### Analytical Log

Analytical Method:       TPH By SW8015B Mod         Project Name:       Energy Transfer Boyd 4			Batch #:	992219
		Historical	Project ID:	
Client Name:	TRC Solutions, Inc		WO Number:	528239
Client Sa	nple Id	Lab Sample I	d	QC Types
Sample -1	@ 21'	528239-001		SMP
Sample-10	@ 2.5'	528239-006		SMP
Sample-2 (	@ 20'	528239-005		SMP
T-ESW-1	<u>@</u> 10'	528239-009		SMP
T-ESW-1	@ 5'	528239-008		SMP
T-ESW-1	@16'	528239-010		SMP

528239-013

528239-003

528239-011

528239-012

528239-002

528239-007

528239-004

528239-001 S

528239-001 SD

707587-1-BKS

707587-1-BLK

707587-1-BSD

SMP

<u>SM</u>P

SMP

SMP

<u>SM</u>P

SMP

SMP

MS

MSD

BKS

BLK

BSD



Analytical Log

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 San	nple Id	Lab Sa	mple Id		QC Types
T-ESW-2 (	<u>@</u> 4'	528239	-013		SMP
T-NSW-3 (	@4'	528239-012		SMP	
		528239	0-013 S		MS
		528239	-013 SD		MSD
		707618	-1-BKS		BKS
		707618	-1-BLK		BLK
		707618	-1-BSD		BSD



## Analytical Log

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



# Form 2 - Surrogate Recoveries

# Project Name: Energy Transfer Boyd 4" Historical

Orders:         528239           Lab Batch #:         992159	9, Sample: 707546-1-BKS / E	BKS Batcl	Project I h: 1 Matrix			
Units: mg/kg	Date Analyzed: 04/11/16 11:05		RROGATE R		STUDY	
	X 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 / E	BSD Batcl	h: <sup>1</sup> Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/11/16 11:21	SU	RROGATE R	ECOVERY S	STUDY	
BTE.	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0201	0.0200		00.120	
4-Bromofluorobenzene		0.0291	0.0300	97	80-120 80-120	
					80-120	
Lab Batch #: 992159	Sample: 528243-002 S / M					
Units: mg/kg	Date Analyzed: 04/11/16 11:37	50.	RROGATE R	ECOVERYS	STUDY	
BTE:	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	1 mary tes	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	
Lab Batch #: 992159	Sample: 528243-002 SD / 1	MSD Batcl	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/11/16 11:54		RROGATE R		STUDY	
	X 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 / E	BLK Batcl	h: <sup>1</sup> Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/11/16 12:26	SU.	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Ληριντος					
1,4-Difluorobenzene	Analytes	0.0303	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

# Project Name: Energy Transfer Boyd 4" Historical

<b>ork Orders :</b> 528239	·	V0	Project I			
Lab Batch #: 992302	Sample: 707618-1-BKS / B		h: <sup>1</sup> Matrix		TUDV	
Units: mg/kg	Date Analyzed: 04/11/16 22:05	50.	RRUGATE R	ECOVERY		
BTE	X 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 / B	SD Batcl	h: <sup>1</sup> Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/11/16 22:20	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0299	0.0300	100	80-120	
Lab Batch #: 992302	Sample: 528239-013 S / M	S Batcl	h: <sup>1</sup> Matrix	v Soil		
Units: mg/kg	Date Analyzed: 04/11/16 22:37		RROGATE R	-	STUDY	
	•	Amount	True		Control	
DIE2	A nolytos	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0323	0.0300		80.120	
4-Bromofluorobenzene		0.0323	0.0300	108	80-120 80-120	
					80-120	
Lab Batch #: 992302	Sample: 528239-013 SD / N					
Units: mg/kg	Date Analyzed: 04/11/16 22:53	SU.	RROGATE R	ECOVERYS	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0224	0.0300	108	80-120	
4-Bromofluorobenzene		0.0324	0.0300	108	80-120	
					00 120	
Lab Batch #: 992302	Sample: 707618-1-BLK / B		h: 1 Matrix		TUDV	
Units: mg/kg	Date Analyzed: 04/11/16 23:25	50.	NNUGATE K			
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	·	0.0296	0.0300	99	80-120	
,		0.0270	0.0500		00120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

# Project Name: Energy Transfer Boyd 4" Historical

ork Orders : 528239 Lab Batch #: 992219	), Sample: 707587-1-BLK / B	SLK Bate	Project I h: <sup>1</sup> Matrix			
Units: mg/kg	Date Analyzed: 04/11/16 18:20		JRROGATE R		STUDY	
ТРН В	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 / B	KS Bate	ch: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/11/16 18:50	SU	JRROGATE R	ECOVERY	STUDY	
ТРН В	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	128	100	128	70-130	
o-Terphenyl		61.6	50.0	128	70-130	
				-	70-155	
Lab Batch #: 992219	Sample: 707587-1-BSD / B				STUDY	
Units: mg/kg	Date Analyzed: 04/11/16 19:19	SU	JRROGATE R	ECOVERY	STUDY	
ТРН В	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	
Lab Batch #: 992219	Sample: 528239-001 S / M					
Units: mg/kg	Date Analyzed: 04/11/16 20:15	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
ТРН В	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		116	100	116	70-130	
o-Terphenyl		53.9	50.0	108	70-135	
Lab Batch #: 992219	Sample: 528239-001 SD / N	MSD Bate	ch: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/11/16 20:42	SU	<b>RROGATE R</b>	ECOVERYS	STUDY	
ТРН В	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		118	99.8	118	70-130	
1-Chiorooctane						

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



## **BS / BSD Recoveries**



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

Work Order #: 528239							Proj	ject ID:			
Analyst: PJB	D	ate Prepar	ed: 04/11/20	16			Date A	nalyzed: (	04/11/2016		
Lab Batch ID: 992159 Sample: 707546-1-E	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	D	ate Prepar	ed: 04/11/20	16			Date A	nalyzed: (	04/11/2016		
Lab Batch ID: 992302 Sample: 707618-1-H	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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 =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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							Proj	ect ID:			
Analyst: MNR	D	ate Prepar	ed: 04/13/201	16			Date A	nalyzed: (	04/13/2016		
Lab Batch ID: 992431 Sample: 707674-1-	BKS	Batcl	<b>n #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	DY	
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]				ļ
Chloride	< 0.341	50.0	49.4	99	50.0	49.7	99	1	90-110	20	
				-	-	1					
Analyst: ARM	D	ate Prepar	ed: 04/11/201	16	+	1	Date A	nalyzed: (	04/11/2016	1	,
Analyst:         ARM           Lab Batch ID:         992219         Sample:         707587-1-		-	ed: 04/11/201	16				nalyzed: ( Matrix: S			
··· J ····		Batcl	n#: 1		BLANKS	SPIKE DUP		Matrix: S	Solid	DY	
Lab Batch ID: 992219 Sample: 707587-1-		Batcl	n#: 1		BLANK S Spike Added [E]	SPIKE DUP Blank Spike Duplicate Result [F]		Matrix: S	Solid	DY Control Limits %RPD	Flag
Lab Batch ID: 992219 Sample: 707587-1- Units: mg/kg TPH By SW8015B Mod	BKS Blank Sample Result	Batcl BLAN Spike Added	n #: 1 K/BLANK Blank Spike Result	SPIKE / ] Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: S RECOVI	Solid ERY STUI Control Limits	Control Limits	Flag

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 **Project ID:** Lab Batch #: 992431 Date Analyzed: 04/13/2016 Date Prepared: 04/13/2016 Analyst: MNR QC- Sample ID: 528239-001 S Batch #: Matrix: Soil 1 Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Flag Spike Result %R Limits Result Added [C] [**D**] %R [A] [B] Analytes 9.07 Chloride 50.0 56.7 95 80-120 Lab Batch #: 992431 **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 STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Flag Spike Result %R Limits Result Added %R [C] [D] [A] [B] Analytes 1440 Chloride 2500 3900 98 80-120

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: Energy Transfer Boyd 4" Historical

Work Order # :	528239						Project II	<b>)</b> :				
Lab Batch ID:	992159	QC- Sample ID:	528243	-002 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed:	04/11/2016	Date Prepared:	04/11/2	016	Ar	alyst: I	PJB					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021B	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]		/0K [D]	[E]	Kesunt [F]	[G]	/0	701	70KI D	
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	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	04/11/2016	Date Prepared:	04/11/2	016	Ar	alyst: F	PJB					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	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	

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

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



## Form 3 - MS / MSD Recoveries



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

Work Order # :	528239											
Lab Batch ID:	992219 Q	C- Sample ID:	528239	-001 S	Ba	tch #:	1 Matrix	k: Soil		Control Limits %RControl Limits %RPDF75-12525		
Date Analyzed:	04/11/2016	Date Prepared:	04/11/2	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERYS	STUDY		
Т	PH By SW8015B Mod	Parent Sample	Spike	Spiked Sample Result	Sample		Spiked Sample	Dup.		Limits	Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]		Result [F]		%	%R	%RPD	
C6-C10 Gasoline	e 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	

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

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

## Attachment A Laboratory Data Package Cover Page

Project	Name:	Energy Transfer	Boyd 4" Histo	Laboratory Number: 52	28239
This Da	ta package consists of	`: l	Laboratory Batch No	(s)	
This sig	nature page, the laboration	atory review checkli	st, and the following	reportable data:	
🗌 R1	Field chain-of-custo	dy documentation;			
R2	Sample identification c	ross-reference;			
<b>R</b> 3	<ul><li>a) Items consistent</li><li>b) dilution factors,</li><li>c) preparation met</li><li>d) cleanup methods</li></ul>	with NELAC 5 hods, s, and	each environmental s y identified compour		
R4	Surrogate Recovery a) Calculated recov b) The laboratory's	very (%R), and			
R5	Test reports/summa	ry forms for blank sa	imples;		
R6	Test reports/summary form a) LCS spiking amounts, b) Calculated %R for eac c) The laboratory's LCS	h analyte, and	amples (LCSs) including:		
R7	Test reports for project a) Samples associated b) MS/MSD spiking a c) Concentration of e d) Calculated %Rs ar e) The laboratory's M	l with the MS/MSD cle amounts, ach MS/MSD analyte 1 Id relative percent diffe	early identified, measured in the parent		
R8	Laboratory anaytical d a) the amount of anal b) the calculated RPE c) the laboratory's QC	yte measured in the du ), and	plicate,	1:	
R9 matr	-	n limits (MQLs) and deter	ctability check sample res	ults for each analyte for each me	thod and

R10 Other problems or anomalies.

Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

**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.

Check, if applicable: [] This laboratory meets an exception under 30 TAC 25.6 and was last inspection by [] TCEQ or [] on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The offical signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Knis foah

Kelsey Brooks Name (Printed)

**Project Manager** Official Title (printed) 14-APR-16 Date

- 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	

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





# TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical

		Relinquished by:	Relinquished by	Relinquished	Bill to Rose	Special Instructions:										LAB # (lab use only)		ORDER #	(lab use only)									The Env
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d by: Date	1 Deen	Special Instructions: Bill to Rose Slade at Energy Transfer. TPH Extended 35						T-ESW-4 @ 4'	T-ESW-3 @ 4'	T-ESW-2 @ 4'	T-NSW-3 @ 4'	T-NSW-2 @ 16'	FIELD CODE	#	niy)	Sampler Signature:	1 elephone No: 432.520.7720		Tess.		Project Manager: Nikki Green		The Environmental Lab of Texas
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Time	Time J27 PM												Ending Depth			t	5						
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Client: TRC Solutions, Inc

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

Acceptable Temperature Range: 0 - 6 degC



Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 04/08/2016 03:23:00 PM Temperature Measuring device used : R8 Work Order #: 528239 Comments Sample Receipt Checklist 13 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? N/A #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? No #21 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron Mary Negron Checklist reviewed by: Mary Morah Kelsey Brooks

Date: 04/11/2016

Date: 04/11/2016

# 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,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



### Sample Id

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'
West Excavation Floor-5 @ 15'

## Sample Cross Reference 532437



## TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	06-27-16 13:00	- 20 ft	532437-001
S	06-27-16 13:05	- 19 ft	532437-002
S	06-27-16 13:10	- 19 ft	532437-003
S	06-27-16 13:15	- 19 ft	532437-004
S	06-27-16 13:20	- 20 ft	532437-005
S	06-27-16 13:25	- 19 ft	532437-006
S	06-27-16 13:30	- 19 ft	532437-007
S	06-27-16 13:35	- 20 ft	532437-008
S	06-27-16 13:40	- 19 ft	532437-009
S	06-27-16 13:45	- 19 ft	532437-010
S	06-27-16 13:50	- 19 ft	532437-011
S	06-27-16 13:55	- 20 ft	532437-012
S	06-27-16 14:00	- 19 ft	532437-013
S	06-27-16 14:05	- 19 ft	532437-014
S	06-27-16 14:10	- 19 ft	532437-015
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)

Project ID: Work Order Number(s): 532437 
 Report Date:
 07-JUL-16

 Date Received:
 06/28/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Contact:** 

**Project Location:** 

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

	Lab Id:	532437-0	01	532437-0	02	532437-0	03	532437-0	04	532437-0	05	532437-0	06
Analysis Requested	Field Id:	West Excavation F	loor-1@	West Excavation S	SW-1 @	West Excavation N	SW-1 @	West Excavation E	SW-1 @	West Excavation F	loor-2@2	West Excavation S	SW-2 @ 1
Anulysis Kequesieu	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	3:00	Jun-27-16 1	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	8:00	Jul-01-16 1	8:00	Jul-01-16 18	8:00	Jul-01-16 1	8:00	Jul-01-16 1	8:00	Jul-01-16 18	8:00
	Analyzed:	Jul-02-16 0	0:48	Jul-02-16 0	0:56	Jul-02-16 0	1:19	Jul-02-16 0	1:27	Jul-02-16 0	1:35	Jul-02-16 0	1:42
	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 (	01:17	Jun-29-16 0	1:41	Jun-29-16 02	2:05	Jun-29-16 0	2:54	Jun-29-16 0	3:18	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.

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

Huns Boah

Kelsey Brooks Project Manager

Final 1.000



Nikki Green

Lea County, NM

**Contact:** 

**Project Location:** 

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

	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	SW-2 @	West Excavation F	loor-3 @	West Excavation S	SW-3 @	West Excavation N	SW-3 @	West Excavation V	VSW-3@	West Excavation F	loor-4@2
Analysis Kequestea	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 1	0:00	Jul-06-16 1	0:00	Jul-06-16 1	0:00
	Analyzed:	Jul-02-16 0	1:50	Jul-02-16 0	1:58	Jul-02-16 02	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 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 0	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

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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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



Nikki Green

Lea County, NM

**Contact:** 

**Project Location:** 

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

	Lab Id:	532437-0	13	532437-0	14	532437-0	15	532437-0	16	
Analysis Requested	Field Id:	West Excavation E	SW-4 @ 1	West Excavation V	VSW-4 @	West Excavation N	SW-4 @	West Excavation F	loor-5@	
Anuiysis Kequesieu	Depth:	19 ft		19 ft		19 ft		15 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		
	Sampled:	umpled: Jun-27-16 14:00 Ju		Jun-27-16 1	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 10:00 Jul		Jul-06-16 12	Jul-06-16 12:00 Jul-06-16 12:00		Jul-06-16 12:00				
	Analyzed:	Jul-06-16 1	6:00	Jul-06-16 19	9:07	Jul-06-16 1	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 1	4:00	Jun-29-16 1	4:00	Jun-29-16 1	4:00	Jun-29-16 1	4:00	
	Analyzed: Jun-29-16 18:19 J		Jun-29-16 18:46		Jun-29-16 19:12		Jun-29-16 19:38			
	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	

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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Huns Boah

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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 2 - Surrogate Recoveries Project Name: Energy Transfer Boyd 4" Historical (West)

#: 997172	Sample: 532437-001 / SMP	Batc		-						
mg/kg	Date Analyzed: 06/29/16 01:17	SURROGATE RECOVERY STUDY								
ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
ine		96.2	99.9	96	70-130					
		44.1	50.0	88	70-135					
<b>#:</b> 997172	Sample: 532437-002 / SMP	Batc	h: 1 Matrix	: Soil						
mg/kg	Date Analyzed: 06/29/16 01:41	SU	JRROGATE R	ECOVERY	STUDY					
ТРН В		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
ine	Analytes	97.9	99.7		70-130					
#: 997172	Sample: 532437-003 / SMP			-	10100					
mg/kg	Date Analyzed: 06/29/16 02:05	SU	SURROGATE RECOVERY STUDY							
TPH B	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
	Analytes	[**]		[D]						
ine		95.0	99.7	95	70-130					
		41.1	49.9	82	70-135					
<b>#:</b> 997172	Sample: 532437-004 / SMP	Batc	h: 1 Matrix	: Soil						
mg/kg	Date Analyzed: 06/29/16 02:54	SURROGATE RECOVERY STUDY								
ТРН В	•	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
ine		94.2	99.9	94	70-130					
		43.4	50.0	87	70-135					
#: 997172	Sample: 532437-005 / SMP	Batc	h: 1 Matrix	: Soil	1					
mg/kg	Date Analyzed: 06/29/16 03:18	st	JRROGATE R	ECOVERY	STUDY					
ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
	Analytas			[ <b>D</b> ]						
ane	Analytes	98.3	99.8	[ <b>D</b> ] 98	70-130					
	ane #: 997172 mg/kg TPH B ane #: 997172 mg/kg TPH B ane #: 997172 mg/kg TPH B ane #: 997172 mg/kg	TPH By SW8015B Mod         Analytes         ane         #: 997172       Sample: 532437-002 / SMP         mg/kg       Date Analyzed: 06/29/16 01:41         TPH By SW8015B Mod       Analytes         ane	TPH By SW8015B Mod     Amount Found [A]       Analytes     96.2       ane     96.2       mg/kg     Date Analyzed: 06/29/16 01:41       TPH By SW8015B Mod     Amount Found [A]       Analytes     44.1       me     97.9       ane     97.9       g     Date Analyzed: 06/29/16 01:41       Sume     97.9       g     Date Analyzed: 06/29/16 02:05       TPH By SW8015B Mod     Amount Found [A]       mg/kg     Date Analyzed: 06/29/16 02:05       TPH By SW8015B Mod     Amount Found [A]       ane     95.0       #: 997172     Sample: 532437-004 / SMP       mg/kg     Date Analyzed: 06/29/16 02:54       TPH By SW8015B Mod     Amount Found [A]       me     95.0       41.1     41.1       #: 997172     Sample: 532437-004 / SMP       mg/kg     Date Analyzed: 06/29/16 02:54       TPH By SW8015B Mod     Amount Found [A]       Analytes     41.1       #: 997172     Sample: 532437-005 / SMP       me     94.2       43.4     43.4       #: 997172     Sample: 532437-005 / SMP       mg/kg     Date Analyzed: 06/29/16 03:18       mg/kg     Date Analyzed: 06/29/16 03:18       TPH By SW8015B Mod     Amount </td <td>TPH By SW8015B Mod     Amount Found [A]     True Amount [B]       ane     96.2     99.9       44.1     50.0       #: 997172     Sample: 532437-002 / SMP     Batch: 1       Marins     Marins     Image       TPH By SW8015B Mod     Amount [A]     True Amount [A]       Analytes     Amount Found [A]     True Amount [B]       ane     97.9     99.7       45.5     49.9       #: 997172     Sample: 532437-003 / SMP mg/kg     Batch: 1     Matrix Matrix       mg/kg     Date Analyzed: 06/29/16 02:05     SURROGATE R       TPH By SW8015B Mod     Amount [A]     True Amount [A]       ane     95.0     99.7       #: 997172     Sample: 532437-004 / SMP     Batch: 1       me     95.0     99.7       #: 997172     Sample: 532437-004 / SMP     Batch: 1       mg/kg     Date Analyzed: 06/29/16 02:54     SURROGATE R       TPH By SW8015B Mod     Amount [A]     IB]       ane     94.2     99.9       43.4     50.0       #: 997172     Sample: 532437-005 / SMP       ane     94.2     99.9       43.4     50.0       #: 997172     Sample: 532437-005 / SMP       ane     94.2     99.9       43.4&lt;</td> <td>TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R [D]           me         96.2         99.9         96           44.1         50.0         88           #: 997172         Sample: 532437-002 / SMP         Batch: 1         Matrix: Soil           mg/kg         Date Analyzed: 06/29/16 01:41         SURROGATE RECOVERY S           TPH By SW8015B Mod         Amount [A]         True Amount [B]         Recovery %R [D]           ane         97.9         99.7         98           45.5         49.9         91           #: 997172         Sample: 532437-003 / SMP mg/kg         Batch: 1         Matrix: Soil           mg/kg         Date Analyzed: 06/29/16 02:05         SURROGATE RECOVERY S           TPH By SW8015B Mod         Amount [A]         True Amount [B]         Recovery %R [D]           me         95.0         99.7         95           41.1         49.9         82           #: 997172         Sample: 532437-004 / SMP mg/kg         Amount [A]         True Amount [B]         Recovery %R [D]           me         95.0         99.7         95           41.1         49.9         82           #: 997172         Sample: 532437-004 / SMP Malytes         Matrix: Soil     <td>TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         96.2         99.9         96         70-130           #: 997172         Sample: 532437-002 / SMP         Batch:         1         Matrix: Soil           mg/kg         Date Analyzed:         06/29/16 01:41         SURROGATE         RECOVERY STUDY           TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         97.9         99.7         98         70-130           ine         97.9         99.7         98         70-130           me         97.9         99.7         98         70-130           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           mg/kg         Date Analyzed:         06/29/16 0</td></td>	TPH By SW8015B Mod     Amount Found [A]     True Amount [B]       ane     96.2     99.9       44.1     50.0       #: 997172     Sample: 532437-002 / SMP     Batch: 1       Marins     Marins     Image       TPH By SW8015B Mod     Amount [A]     True Amount [A]       Analytes     Amount Found [A]     True Amount [B]       ane     97.9     99.7       45.5     49.9       #: 997172     Sample: 532437-003 / SMP mg/kg     Batch: 1     Matrix Matrix       mg/kg     Date Analyzed: 06/29/16 02:05     SURROGATE R       TPH By SW8015B Mod     Amount [A]     True Amount [A]       ane     95.0     99.7       #: 997172     Sample: 532437-004 / SMP     Batch: 1       me     95.0     99.7       #: 997172     Sample: 532437-004 / SMP     Batch: 1       mg/kg     Date Analyzed: 06/29/16 02:54     SURROGATE R       TPH By SW8015B Mod     Amount [A]     IB]       ane     94.2     99.9       43.4     50.0       #: 997172     Sample: 532437-005 / SMP       ane     94.2     99.9       43.4     50.0       #: 997172     Sample: 532437-005 / SMP       ane     94.2     99.9       43.4<	TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R [D]           me         96.2         99.9         96           44.1         50.0         88           #: 997172         Sample: 532437-002 / SMP         Batch: 1         Matrix: Soil           mg/kg         Date Analyzed: 06/29/16 01:41         SURROGATE RECOVERY S           TPH By SW8015B Mod         Amount [A]         True Amount [B]         Recovery %R [D]           ane         97.9         99.7         98           45.5         49.9         91           #: 997172         Sample: 532437-003 / SMP mg/kg         Batch: 1         Matrix: Soil           mg/kg         Date Analyzed: 06/29/16 02:05         SURROGATE RECOVERY S           TPH By SW8015B Mod         Amount [A]         True Amount [B]         Recovery %R [D]           me         95.0         99.7         95           41.1         49.9         82           #: 997172         Sample: 532437-004 / SMP mg/kg         Amount [A]         True Amount [B]         Recovery %R [D]           me         95.0         99.7         95           41.1         49.9         82           #: 997172         Sample: 532437-004 / SMP Malytes         Matrix: Soil <td>TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         96.2         99.9         96         70-130           #: 997172         Sample: 532437-002 / SMP         Batch:         1         Matrix: Soil           mg/kg         Date Analyzed:         06/29/16 01:41         SURROGATE         RECOVERY STUDY           TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         97.9         99.7         98         70-130           ine         97.9         99.7         98         70-130           me         97.9         99.7         98         70-130           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           mg/kg         Date Analyzed:         06/29/16 0</td>	TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         96.2         99.9         96         70-130           #: 997172         Sample: 532437-002 / SMP         Batch:         1         Matrix: Soil           mg/kg         Date Analyzed:         06/29/16 01:41         SURROGATE         RECOVERY STUDY           TPH By SW8015B Mod         Amount [A]         True [B]         Recovery %R         Control Limits %R           ine         97.9         99.7         98         70-130           ine         97.9         99.7         98         70-130           me         97.9         99.7         98         70-130           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           mg/kg         Date Analyzed:         06/29/16 02:05         SURROGATE         Recovery %R         Control Limits %R           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           me         95.0         99.7         95         70-130           mg/kg         Date Analyzed:         06/29/16 0				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries Project Name: Energy Transfer Boyd 4" Historical (West)

Lab Batch #: 99		Sample: 532437-006 / SMP	Batc	h: 1 Matrix	: Soll					
U <b>nits:</b> m	g/kg	Date Analyzed: 06/29/16 03:41	9/16 03:41 SURROGATE RECOVERY STU							
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooctane			101	99.8	101	70-130				
o-Terphenyl			48.1	49.9	96	70-135				
Lab Batch #: 99	97172	Sample: 532437-007 / SMP	Batc	h: 1 Matrix	: Soil					
Units: m	g/kg	Date Analyzed: 06/29/16 04:05	SU	<b>RROGATE R</b>	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane			99.0	99.9	99	70-130				
o-Terphenyl			45.3	50.0	91	70-135				
Lab Batch #: 99	97172	Sample: 532437-008 / SMP	Batc	h: 1 Matrix	: Soil					
U <b>nits:</b> m	g/kg	Date Analyzed: 06/29/16 04:28	st	SURROGATE RECOVERY STUDY						
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag			
		Analytes	[-]	[-]	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
1-Chlorooctane			102	99.9	102	70-130				
o-Terphenyl			47.0	50.0	94	70-135				
Lab Batch #: 99	97172	Sample: 532437-009 / SMP	Batc	h: 1 Matrix	: Soil					
Units: m	g/kg	Date Analyzed: 06/29/16 04:52	SURROGATE RECOVERY STUDY							
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane			99.5	100	100	70-130				
o-Terphenyl			45.9	50.0	92	70-135				
Lab Batch #: 99	97172	Sample: 532437-010 / SMP	Batc							
	g/kg	Date Analyzed: 06/29/16 05:17	SU	JRROGATE R	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
		Analytes			[D]					
1-Chlorooctane			99.4	100	99	70-130				
o-Terphenyl			45.9			70-135				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



Lab Batch #: 99		Sample: 532437-011 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	g/kg	Date Analyzed: 06/29/16 05:42	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			97.8	99.8	98	70-130	
o-Terphenyl			45.8	49.9	92	70-135	
Lab Batch #: 99	97172	Sample: 532437-012 / SMP	Batc	h: 1 Matrix	: Soil		
U <b>nits:</b> m	g/kg	Date Analyzed: 06/29/16 06:06	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			97.4	99.9	97	70-130	
o-Terphenyl			45.1	50.0	90	70-135	
Lab Batch #: 99	97250	Sample: 532437-013 / SMP	Batc	h: 1 Matrix	: Soil	11	
U <b>nits:</b> m	g/kg	Date Analyzed: 06/29/16 18:19	st	RROGATE R	ECOVERY	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctane			93.5	99.9	94	70-130	
o-Terphenyl			46.8	50.0	94	70-135	
Lab Batch #: 99	97250	Sample: 532437-014 / SMP	Batc	h: 1 Matrix	: Soil		
Units: m	g/kg	Date Analyzed: 06/29/16 18:46	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			96.8	100	97	70-130	
o-Terphenyl			48.3	50.0	97	70-135	
Lab Batch #: 99	97250	Sample: 532437-015 / SMP	Batc	h: 1 Matrix	: Soil	1	
U <b>nits:</b> m	g/kg	Date Analyzed: 06/29/16 19:12	st	RROGATE R	ECOVERY S	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.011		Analytes	0 <b>-</b> 6				
1-Chlorooctane			97.3	99.8	97	70-130	
o-Terphenyl			48.2	49.9	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #: 9		Sample: 532437-016 / SMP	Bate		-		
Units: 1	ng/kg	Date Analyzed: 06/29/16 19:38	SU	URROGATE R	ECOVERY S	STUDY	
	ТРН В	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooctane			102	99.8	102	70-130	
o-Terphenyl			51.1	49.9	102	70-135	
Lab Batch #: 9	997172	Sample: 710459-1-BLK / B	LK Bate	ch: 1 Matrix	: Solid		
Units: 1	ng/kg	Date Analyzed: 06/28/16 13:32	SU	URROGATE R	ECOVERY S	STUDY	
	TPH B	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane			110	100	110	70-130	
o-Terphenyl			51.8	50.0	104	70-135	
Lab Batch #: 9	997250	Sample: 710500-1-BLK / B	LK Bate	h: 1 Matrix	: Solid		
Units: 1	ng/kg	Date Analyzed: 06/29/16 14:19	SU	JRROGATE R	ECOVERY S	STUDY	
	ТРН В	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooctane			103	100	103	70-130	
o-Terphenyl			52.2	50.0	104	70-135	
Lab Batch #: 9	997172	Sample: 710459-1-BKS / B	KS Bate	ch: 1 Matrix	: Solid		
Units: 1	ng/kg	Date Analyzed: 06/28/16 13:56	SU	URROGATE R	ECOVERY S	STUDY	
	TPH B	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane		-	123	100	123	70-130	
o-Terphenyl			61.9	50.0	124	70-135	
Lab Batch #: 9	997250	Sample: 710500-1-BKS / B	KS Bate	h: 1 Matrix	: Solid	1	
Units: 1	ng/kg	Date Analyzed: 06/29/16 14:45	SU	URROGATE R	ECOVERY S	STUDY	
	TPH B	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
r		Analytes			[D]		
1-Chlorooctane			124	100	124	70-130	
o-Terphenyl			58.7	50.0		70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Orders Lab Batch #: 99		Sample: 710459-1-BSD / B	SD Batcl	Project ID h: 1 Matrix			
U <b>nits:</b> mg	g/kg	Date Analyzed: 06/28/16 14:20	SU	RROGATE R	ECOVERY S	STUDY	
	TPH B	y 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			59.6	50.0	119	70-135	
Lab Batch #: 99	7250	Sample: 710500-1-BSD / B	SD Bate	h: 1 Matrix	: Solid		
Units: mg	g/kg	Date Analyzed: 06/29/16 15:12	SU	RROGATE R	ECOVERY S	STUDY	
	TPH B	by SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		Analytes	130	100	130	70-130	
o-Terphenyl			59.2	50.0	118	70-135	
Lab Batch #: 99	7172	Sample: 532336-006 S / MS			_	10100	
	g/kg	Date Analyzed: 06/28/16 15:06		RROGATE R		STUDY	
	TPH B	sy SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes		[U]	[D]	701	
1-Chlorooctane			127	99.9	127	70-130	
o-Terphenyl			57.7	50.0	115	70-135	
Lab Batch #: 99	7250	Sample: 532368-021 S / MS	<b>Batc</b>	h: 1 Matrix	: Soil		
Units: mg	g/kg	Date Analyzed: 06/29/16 16:05	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН В	ey SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		•	110	99.9	110	70-130	
o-Terphenyl			45.1	50.0	90	70-135	
Lab Batch #: 99	7172	Sample: 532336-006 SD / N			: Soil		
U <b>nits:</b> mg	g/kg	Date Analyzed: 06/28/16 15:30	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН В	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chlorosotono		Analytes	122	100		70.120	
1-Chlorooctane			122	100	122	70-130	
o-Terphenyl			55.1	50.0	110	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Ord Lab Batch #:		37, 532437 Sample: 532368-021 SD / M	MSD Batcl	Project ID: n: 1 Matrix:								
Units:	mg/kg	Date Analyzed: 06/29/16 16:32	SURROGATE RECOVERY STUDY									
	TPH F	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctan	e		109	99.7	109	70-130						
o-Terphenyl			46.1	49.9	92	70-135						

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



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

Work Order #: 532437, 532437							Proj	ect ID:			
Analyst: MNR	D	ate Prepar	ed: 07/01/201	6			Date A	nalyzed: (	07/01/2016		
Lab Batch ID: 997472 Sample: 710609-1-E	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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: MNR	D	ate Prepar	ed: 07/06/201	6			Date A	nalyzed: (	07/06/2016		
Lab Batch ID: 997589 Sample: 710653-1-I	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	D	ate Prepar	ed: 07/06/201	6	1		Date A	nalyzed: (	)7/06/2016	ł	+'
Lab Batch ID: 997612 Sample: 710654-1-H	BKS	Batcl	<b>h #:</b> 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				-	1						+

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 Orde	er #: 532437, 532437							Pro	ject ID:			
Analyst:	ARM	D	ate Prepar	ed: 06/28/20	)16			Date A	nalyzed:	06/28/2016		
Lab Batch II	<b>Sample:</b> 7104	59-1-BKS	Batcl	<b>h #:</b> 1					Matrix:	Solid		
Units:	mg/kg		BLAN	K/BLANK	SPIKE /	BLANK	SPIKE DUP	LICATE	RECOV	ERY STU	DY	
	TPH By SW8015B Mod	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
Anal	ytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C10 0	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	D	ate Prepar	ed: 06/29/20	016			Date A	nalyzed:	06/29/2016	-	
Lab Batch II	<b>Sample:</b> 7105	00-1-BKS	Batcl	<b>h #:</b> 1					Matrix:	Solid		
Units:	mg/kg		BLAN	K/BLANK	SPIKE /	BLANK	SPIKE DUP	LICATE	RECOV	ERY STU	DY	
	TPH By SW8015B Mod	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
Anal	ytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C10 0	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 =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (F)/[E] All results are based on MDL and Validated for QC Purposes



		Proje	ect ID:		
Date Prepared: 07/01	1/2016	А	nalyst: N	/INR	
<b>Batch #:</b> 1		Ν	Matrix: S	loil	
MATR	XIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
177	1250	1300	90	80-120	
Date Prepared: 07/01	1/2016	А	nalvst: N	/INR	
<b>Batch #:</b> 1			-		
MATR	XIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	լոյ				
879	2500	3290	96	80-120	
-	6/2016		e		
<b>Batch #:</b> 1		Ν	Matrix: S	Soil	
MATR	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
945	2500	3210	91	80-120	
·		1 1		1	1
Date Prepared: 07/06	5/2016	А	nalyst: N	/INR	
Date Prepared: 07/06 Batch #: 1	5/2016		.nalyst: N Matrix: S		
<b>Batch #:</b> 1			Matrix: S	loil	DY
<b>Batch #:</b> 1		Ν	Matrix: S	loil	Flag
	Batch #: 1 MATR Parent Sample Result [A] 177 Date Prepared: 07/01 Batch #: 1 MATR Parent Sample Result [A] 879 Date Prepared: 07/06 Batch #: 1 MATR Parent Sample Result [A] 879	MATRIX / MA       Parent Sample Result [A]     Spike Added [B]       177     1250       Date Prepared: 07/01/2016       Batch #:     1       MATRIX / MA       Parent Sample Result [A]     Spike Added [B]       879     2500       Date Prepared: 07/06/2016       Batch #:     1       MATRIX / MA       Parent Sample Result [A]     Spike Added [B]       MATRIX / MA       Parent Sample Result [A]       Parent Sample Result [A]	Date Prepared: 07/01/2016       A         Batch #:       1       M         MATRIX / MATRIX SPIKE       Parent       Spike Sample         Sample       Spike       Spike Sample         Result       Added       [C]         [A]       [B]       Spike         177       1250       1300         Date Prepared: 07/01/2016       A         Batch #:       1       M         MATRIX / MATRIX SPIKE       Parent       Spike Sample         Result       Added       [B]       Spike Sample         Result       Added       [B]       Spike Sample         Result       Added       [B]       Spike Sample         Sample       Spike       Spike Sample       Result         [A]       [B]       Spike Sample       Result         [A]       [B]       Spike Sample       Result         [A]       [B]       Spike Sample       Added         [C]       879       2500       3290         Date Prepared:       07/06/2016       A         Batch #:       1       M         MATRIX / MATRIX SPIKE       Parent       Spike Sample         Result       Added	Batch #:       1       Matrix: S         MATRIX / MATRIX SPIKE       RECO         Parent Sample Result [A]       Spike Added [B]       Spike Result [C]       Matrix: S         177       1250       1300       90         Date Prepared:       07/01/2016       Analyst: N         Batch #:       1       Matrix: S         MATRIX / MATRIX SPIKE       RECO         MATRIX / MATRIX SPIKE       RECO         Parent Sample Result [A]       Spike Added [B]       Spike Spike Sample Result [C]       %R [D]         Parent Sample       Spike Added [B]       Spike Sample Result [C]       %R [D]         Date Prepared:       07/06/2016       Analyst: N Matrix: S         MATRIX / MATRIX SPIKE RECO       Matrix: S         MATRIX / MATRIX SPIKE RECO       Matrix: S         Matrix:       Spike Result [A]       Spike Added [B]       Spike Sample Result [C]       %R [D]	Date Prepared: 07/01/2016     Analyst: MNR       Batch #:     1     Matrix: Soil       MATRIX / MATRIX SPIKE     RECOVERY STU       Parent     Spike     Spiked Sample       Result     Added     [C]     %R       Image: Image



Work Order #: 532437 **Project ID:** Lab Batch #: 997612 Date Analyzed: 07/07/2016 Date Prepared: 07/06/2016 Analyst: MNR QC- Sample ID: 532368-009 S Batch #: Matrix: Soil 1 Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Flag Spike Result %R Limits Result Added [C] [**D**] %R [A] [B] Analytes Chloride 441 261 635 74 80-120 Х 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 Flag Spike Result %R Limits Result Added %R [C] [D] [A] [B] Analytes Chloride 529 1250 1620 87 80-120

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: Energy Transfer Boyd 4" Historical (West)

Work Order # :	532437						Project II	):				
Lab Batch ID:	997172	QC- Sample ID:	532336	-006 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	06/28/2016	Date Prepared:	06/28/2	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	IKE DUPLICA	TE REC	OVERY	STUDY		
Т	PH By SW8015B Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	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	
C6-C10 Gasolin	e 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	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	06/29/2016	Date Prepared:	06/29/2	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	IKE DUPLICA	TE REC	OVERY	STUDY		
Т	PH By SW8015B Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	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	
C6-C10 Gasolin	e 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	

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



Sample Duplicate Recovery



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

<b>Work Order #:</b> 532437					
Lab Batch #: 997472			Project I	D:	
<b>Date Analyzed:</b> 07/02/2016 00:32 <b>Date P</b>	repared: 07/01/2016	Ana	lyst:MNR		
QC- Sample ID: 532595-002 D	<b>Batch #:</b> 1	Ma	trix: 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	177	1450	156	20	F
Lab Batch #: 997472			<u>.</u>		<u> </u>
	repared: 07/01/2016	Ana	lyst:MNR		
QC- Sample ID: 532690-002 D	<b>Batch #:</b> 1	Ma	trix: 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	879	896	2	20	
Lab Batch #: 997589	I ı			1	1
	repared: 07/06/2016	Ana	lyst:MNR		
<b>QC- Sample ID:</b> 532769-001 D	Batch #: 1		trix: 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	945	943	0	20	
Lab Batch #: 997589	·				
	repared: 07/06/2016	Ana	lyst:MNR		
QC- Sample ID: 532769-011 D	<b>Batch #:</b> 1		trix: 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	1190	1240	4	20	

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

BRL - Below Reporting Limit



Work Order #: 532437

**Sample Duplicate Recovery** 



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

Lab Batch #: 997612 **Project ID:** Analyst: MNR Date Prepared: 07/06/2016 Date Analyzed: 07/07/2016 07:37 QC- Sample ID: 532368-009 D Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECOVERY **Reporting Units:** mg/kg Sample Control **Inorganic Anions by EPA 300/300.1** Parent Sample RPD Duplicate Limits Result Flag Result %RPD [A] **[B]** Analyte Chloride 441 440 0 20 Lab Batch #: 997612 Date Prepared: 07/06/2016 Analyst: MNR Date Analyzed: 07/06/2016 18:51 Matrix: Soil Batch #: 1 QC- Sample ID: 532437-015 D SAMPLE / SAMPLE DUPLICATE RECOVERY **Reporting Units:** mg/kg Inorganic Anions by EPA 300/300.1 Parent Sample Sample Control RPD Duplicate Limits Result Flag %RPD Result **[A]** [B] Analyte 529 502 5 20 Chloride

		Relinquished by:	Relingu	Bill to Rose	Specia					T	Γ			T		T	LAB # (lab use only)		ORI	(lab u								The X
		ished b	Sel	Rose :	al Instr			-	+		-	-	+	+	-	-		_	ORDER #:	(lab use only)	S	-	1 7	n	0	0	-	Envir
	<i>.</i>	NV V	U. Lelen	Bill to Rose Slade at Energy Transfer. TPH Extended 35	Special Instructions:	West Excavation WSW-3 @ 19	West Excavation NSW-3 @ 19	West Excavation SSW-3 @ 19	West Excavation Floor-3 @ 20	West Excavation NSW-2 @ 19	West Excavation SSW-2 @ 19	West Excavation Floor-2 @ 20	West Excavation ESW-1 @ 19	West Excavation NSW-1 @ 19	West Excavation SSW-1 @ 19	West Excavation Floor-1 @ 20	FIELD CODE			1	Sampler Signature:	Telephone No: 432.520.7720			Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Nikki Green	Xenco Laboratories
		Date Date	86/9	Extended 35		3@ 19'	@ 19'	@ 19'	@ 20'	2 @ 19'	2@19'	2 @ 20'	1 @ 19'	1@19'	1@19	1@20'					MMA	720	50767 X		nmerce	tions, Inc	en	ies
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T		r I															NaOH	& # of		@energytransfer.com	feso							CHAIN OF CUSTODY RECORD AND ANAL YSIS REQUEST est I-20 East Phone: 432-563-1800 Fax: 432-563-1713
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	Date		Date											-		-	Other ( Specify)	ners		nsfe	IS.CO							FQ
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	-	-				=	<u> </u>		2:	2	Soil	Soil	Soil	Soil	Soil		GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix		1	II.	Report Format:					σ	יאמנ
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		Sar	Cut	< Sa		+	+	+	+	+	-	+	-	+	-	-+	TPH: TX 1005 TX 1006 Cations (Ca, Mg, Na, K)					mat:	PO #:	CL LC		Project #:	t Nan	ORD
100	Temperature Unon Peccint	hple by Sa by Co	stody	Sample Containers Intact? VOCs Free of Headspace?			T									-	Anions (CI, SO4, Alkalinity)	-	H L				# 	Ĩ	1	- E		AN
	tire	seals Hand ample	n cor seals	Cont	L	-		+				_				5	SAR / ESP / CEC		TOTAL:									0 AI
0001		Deliv r/Clie	Itaine on c	omn ainer: f Hea	-	┼	+	+	+	+	-	+	+	-	-	-	Metals: As Ag Ba Cd Cr Pb Hg S Volatiles	Se		Ana		Standard				ay .	лу Т	VAL YSI Phone: Fax:
- Noue	Perc	hody seals on cooler(s) hple Hand Delivered by Sampler/Client Rep. ? by Courier? UPS	r(s)	s Inta dspac		T				+			+			-	Semivolatiles	_	_	Analyze		H.					้าว่าอ	rSIS
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	reminquisried by.	Relinquished by:		Bill to Rose Slade at Energy Transfer.	Special Instructions:					We	We	Wes	We	We	LAB # (lab use only)	ORDER #: 7	$\sim$	Sampler	Telephone No:	City/State/Zip:	Compan	Company Name	
			Juler 6	Energy Transfer. TPH Extended 35						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	1 21 20	L C L C C	Sampler Signature:	1e No: 432.520.7720	e/Zip: Midland, TX 79703	ress:		
	Date Time		0	nded 35						15'	19'	19'	19'	20'	Beginning Depth	_		1446	D D D	703	ŏ	Inc	
	ле	ne	Time						T						Ending Depth			ſ					
	Received by ELOT:	Received by:								4/6/2016	4/6/2016	4/6/2016	4/6/2016	4/6/2016	Date Sampled			2					
	5 		h							1415	1410	1405	1400	1355	Time Sampled			e-mail:	Fax No:				
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, 2° C	-		0							Soil	Soil	Soil	Soil	Soil	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	.com	ngreen@trcsolutions.com	Report Format:	ł		L L L L L L L L L L L L L L L L L L L	l P
T	-	Time	Time (:45				-	-		×	×	×	×	-		15B	Π	1	t For		Project Loc:	Pr	Project Name:
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eratu	COU	e Ha San	s on dy se	le Co		-				-	-+	$\rightarrow$	+	-	Anions (CI, SO4, Alkalinity)	TOTAL:	TCLP:			1			Щ
reU	rier/	and I	cont	y Co		-			_	-	-	-			SAR / ESP / CEC		<u>פ</u>		Standard	1			lerg
pon		Oeliv Clie	aine an o	iner							-		$\rightarrow$	-	Metals: As Ag Ba Cd Cr Pb Hg :	Se	A		daro	ľ.			TV
Temperature Upon Receipt:	CP P	Sample Hand Delivered by Sampler/Client Rep. ?	Labels on container(s) Custody seals on container	Laboratory Comments: Sample Containers Intact?			-					-	+	-	Volatiles Semivolatiles	-	Analyze		hada (				ran
ceipt	U.	er(s)	ace	s: act?							+	-	-	-+-	BTEX 8021B/5030 or BTEX 826	30	- For:				Lea		sfer
1.0.6	DHL	2	(s)							-+	+				RCI	50					Co		Bo
											+	-	-	-	J.O.R.M.	-	-		TRRP		unty		yd 4
1	FedEx	1								×	< );	<	×	-	Chlorides E 300.1	+	_		0		County, NM		Energy Transfer Boyd 4" Historical (west)
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Final 1.000



# **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient					
Date/ Time Received: 06/28/2016 01:45:00 PM	Air and Metal samples Acceptable Range: Ambient					
Work Order #: 532437	Temperature Measuring device used : R8					
Sample Recei	pt Checklist Comments					
#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 container/ cooler?	N/A					
#5 *Custody Seals intact on shipping container/ cooler?	N/A					
#6 Custody Seals intact on sample bottles?	N/A					
#7 *Custody Seals Signed and dated?	N/A					
#8 *Chain of Custody present?	Yes					
#9 Sample instructions complete on Chain of Custody?	Yes					
#10 Any missing/extra samples?	Νο					
#11 Chain of Custody signed when relinquished/ received?	Yes					
#12 Chain of Custody agrees with sample label(s)?	Yes					
#13 Container label(s) legible and intact?	Yes					
#14 Sample matrix/ properties agree with Chain of Custody?	Yes					
#15 Samples in proper container/ bottle?	Yes					
#16 Samples properly preserved?	Yes					
#17 Sample container(s) intact?	Yes					
#18 Sufficient sample amount for indicated test(s)?	Yes					
#19 All samples received within hold time?	Yes					
#20 Subcontract of sample(s)?	Νο					
#21 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A					
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? I samples for the analysis of HEM or HEM-SGT which are verif analysts.						
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	c+NaOH? N/A					

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron Mary Negron Checklist reviewed by: Mary Moah Kelsey Brooks

Date: 06/28/2016

Date: 06/29/2016

# Analytical Report 536452

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

### 13-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)



# **Table of Contents**

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Chain of Custody	13
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Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

#### Reference: XENCO Report No(s): **536452 Energy Transfer Boyd 4'' Historical (East)** 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) 536452. 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. 536452 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,

Huns Hoah

Kelsey Brooks Project Manager

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## Sample Cross Reference 536452



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (East)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @ 10'	S	09-08-16 09:35	- 10 ft	536452-001
SB-1 @15'	S	09-08-16 09:45	- 15 ft	536452-002
SB-1 @20'	S	09-08-16 10:15	- 20 ft	536452-003



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 536452 Report Date: *13-SEP-16* Date Received: *09/08/2016* 

Sample receipt non conformances and comments:



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 536452 Report Date: *13-SEP-16* Date Received: *09/08/2016* 

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

### Certificate of Analysis Summary 536452

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Thu Sep-08-16 04:00 pmReport Date:13-SEP-16Project Manager:Kelsey Brooks

	Lab Id:	536452-0	01	536452-00	02	536452-0	03		
Analysis Requested	Field Id:	SB-1 @ 1	.0'	SB-1 @15'		SB-1 @20'			
Anulysis Kequesieu	Depth:	10 ft		15 ft		20 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Sep-08-16 0	9:35	Sep-08-16 0	9:45	Sep-08-16 1	0:15		
Inorganic Anions by EPA 300/300.1	Extracted:			Sep-12-16 0	8:45	Sep-12-16 08:45			
	Analyzed:			Sep-12-16 1	4:32	Sep-12-16 12:40			
	Units/RL:			mg/kg	RL	mg/kg	RL		
Chloride				293	10.0	129	10.0		
TPH By SW8015B Mod	Extracted:	Sep-09-16 1	5:00	Sep-09-16 1	5:00				
	Analyzed:	Sep-09-16 2	21:46	Sep-09-16 2	2:11				
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0				
C10-C28 Diesel Range Hydrocarbons		37.9	15.0	ND	15.0				
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0				
Total TPH		37.9	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.

Huns Boah

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



	ders: 536452 #: 1001528	2, Sample: 536452-001 / SMP	Batc	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 09/09/16 21:46	SU	RROGATE R		STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct			95.9	99.8	96	70-130	
o-Terphenyl			52.6	49.9	105	70-135	
Lab Batch	#: 1001528	Sample: 536452-002 / SMP	Batc	h: 1 Matrix	: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 09/09/16 22:11	SU	RROGATE R	ECOVERY	STUDY	
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		98.6	99.7	99	70-130	
o-Terphenyl			53.3	49.9	107	70-135	
	#: 1001528	Sample: 713615-1-BLK / B			: Solid		
Units:	mg/kg	Date Analyzed: 09/09/16 18:27		RROGATE R	ECOVERYS	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	ane		103	100	103	70-130	
o-Terphenyl			55.6	50.0	111	70-135	
Lab Batch	#: 1001528	Sample: 713615-1-BKS / BI	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 09/09/16 17:37	SU	RROGATE R	ECOVERY	STUDY	
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		124	100	124	70-130	
o-Terphenyl			61.6	50.0	123	70-135	
Lab Batch	#: 1001528	Sample: 713615-1-BSD / BS	SD Bate	h: 1 Matrix	: Solid	<u> </u>	
Units:	mg/kg	Date Analyzed: 09/09/16 18:03	SU	RROGATE R	ECOVERY	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes					
1-Chlorooct	ane	Analytes	121	100	121	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Ord Lab Batch #:		2, Sample: 536364-001 S / MS	S Bate	<b>Project ID:</b> h: 1 Matrix:			
Units:	mg/kg	Date Analyzed: 09/09/16 19:16	SU	RROGATE RI	ECOVERY	STUDY	
	TPH B	By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctan	e	Analytes	117	99.8	117	70-130	
o-Terphenyl			57.0	49.9	117	70-135	
Lab Batch #:	1001528	Sample: 536364-001 SD / N	MSD Bate	h: 1 Matrix:	Soil	1 1	
Units:	mg/kg	Date Analyzed: 09/09/16 19:42	SU	RROGATE RI	ECOVERY	STUDY	
	TPH B	By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctan	e	1 Mary 005	119	100	119	70-130	
o-Terphenyl			57.6	50.0	115	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



#### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order #: 536452							Proj	ject ID:			
Analyst: MNR	D	ate Prepar	ed: 09/12/20	16			Date A	nalyzed: (	09/12/2016		
Lab Batch ID: 1001577 Sample: 713629-1-H	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	233	93	250	234	94	0	90-110	20	
						1					
Analyst: ARM	D	ate Prepar	ed: 09/09/20	16	-	1	Date A	nalyzed: (	09/09/2016	1	
Analyst:         ARM           Lab Batch ID:         1001528         Sample:         713615-1-H		ate Prepar Batcl		16		1	Date A	nalyzed: ( Matrix: S		1	
··· <b>J</b> ····		Batcl			BLANKS	SPIKE DUP		Matrix: S	Solid	DY	· · · · · ·
Lab Batch ID: 1001528 Sample: 713615-1-I		Batcl	<b>h #:</b> 1		BLANK S Spike Added [E]	SPIKE DUP Blank Spike Duplicate Result [F]		Matrix: S	Solid	DY Control Limits %RPD	Flag
Lab Batch ID: 1001528         Sample: 713615-1-F           Units:         mg/kg           TPH By SW8015B Mod	BKS Blank Sample Result	Batcl BLAN Spike Added	h #: 1 K /BLANK Blank Spike Result	SPIKE / ] Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: S RECOV	Solid ERY STUI Control Limits	Control Limits	Flag

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 (East)

Work Order # :	536452						Project II	):				
Lab Batch ID:	1001577	QC- Sample ID:	536452-	002 S	Ba	tch #:	1 Matri	<b>x:</b> Soil				
Date Analyzed:	09/12/2016	Date Prepared:	09/12/20	016	An	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		М	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
Inorgan	nic Anions by EPA 300/300.1	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	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		293	250	533	96	250	532	96	0	90-110	20	
Lab Batch ID:	1001528	QC- Sample ID:	536364-	001 S	Ba	tch #:	1 Matri	<b>x:</b> Soil				
Date Analyzed:	09/09/2016	Date Prepared:	09/09/20	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
Т	PH By SW8015B Mod	Parent Sample Posult	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Т	PH By SW8015B Mod Analytes				-	Spike Added [E]	-		RPD %		1 1	Flag
	•	Sample Result	Spike Added	Result	Sample %R	Added	Spiked Sample	Dup. %R	1	Limits	Limits	Flag

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

Relinqu	Relinquished	Relinquist	Specia Bill to												LAB # (lab use only)	ORDER #:	(lab use only)							
Relinquished by:	11 AN/ M	10 - 11/1/ 11/100	Special Instructions: Bill to Rose Slade at Energy Transfer									SB-1 @ 20'	SB-1 @ 15'	SB-1 @ 10'	FIELD CODE	R# 636467	e oniy)	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	ACTICO LADOFALOFICS
Date	S/IPP Date									-								H H	11	ŭ		ดี		
Time	Time	E Time				-									Beginning Depth			R	1					
ō		5													Ending Depth			A						
Received by ELOT:	Received by:	Received by:	-01-024									9/8/2016	9/8/2016	9/8/2016	Date Sampled			)						
	- The car	N NN NA										1015	945	935	Time Sampled			e-mail:	Fax No:					
	<	N			-	-	_	_			_			<u> </u>	Field Filtered Total #. of Containers	4		]	4					
	6	_										×	×	×	lce	$\mathbf{T}$	rose		432.520.7701					2 2
	1000														HNO <sub>3</sub>	Preservation &	sia	ngreen@trcsolutions.com	0.77					CHAIN OI 12600 West I-20 East Odessa, Texas 79765
		$\geq$						_						L	нсі	Natio	de(a	en@	2					wes a, Te
		$\sum$					-	-+	+						H <sub>2</sub> SO <sub>4</sub>	*	)ene	trcs						CH/ t I-2( )xas
								-+	+						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	of Cor	rgyti	oluti						4/N ( ) Ea: 797(
															None	of Containers	ans:	ons.				Î		35 <sup>54</sup> 07
Date	Date	Date						_	4						Other ( Specify)	<b>5</b>	er.c		]					:US
												Soil	Soil	Soil	DW=Drinking Water SL=Siudge GW = Groundwater S=Soil/Solid	Matrix	m		Re					aon
					_							ii:		÷	NP=Non-Potable Specify Other	rix		1	Report Format:		σ		Pro	YR
Time	Time	lime					-+			_			7	X	TPH: 418.1 8015M 801	15B			Forr		Project Loc:	Pro	Project Name:	ECO
	<u>နူင်</u>	<u>ວະ                                    </u>	ខ្លុំ					+	+		_		1 1 C	1	TPH: TX 1005 TX 1006 Cations (Ca, Mg, Na, K)				nat:	PO #:	н Б	Project #:	Nam	RD
mpe	by :	DCs   Ibels	Laboratory Comments: Sample Containers Intac					╉	-				-0	S.	Anions (CI, SO4, Alkalinity)					.# 	8 	.# 	1	ANL
ratur	y se Han Samp Couri	Free on c ly se	° control				1								SAR / ESP / CEC	TOTAL:	TCLP		Standard				inet	0 AA
ĕ∪p	ier?	of H als o	ntain												Metals: As Ag Ba Cd Cr Pb Hg				anda				VG	VALYS Phone Fax:
on R	n coo Slient	eads iner(; n cor	nme ers li					_		_	_				Volatiles		halyz		đ				fran	YS/S
Temperature Upon Receipt:	Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS	VOCs Free of Headspace? Labels on container(s) Custody seals on container(s)	Laboratory Comments: Sample Containers Intact?	-	$\neg$	$\dashv$	_		-+		_			<u> </u>	Semivolatiles		Analyze For:				Lea		sfer	IALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713
	PHC , S	;s) زز	·.>			$\dashv$		+	+		_			<u> </u>	BTEX 8021B/5030 or BTEX 82	00	-				Coc		Boy	563- 563-
$\mathcal{O}$									+				<u> </u>	-	N.O.R.M.				TRRP		Lea County, NM		d 4	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST Phone: 432-563-1800 xas 79765 Fax: 432-563-1713
0.0	Fed ⊑≺≺≺											Х	×		Chlorides E 300.1						MN		Energy Transfer Boyd 4" Historical west)	~ 0 1
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<b>N</b> o	N N Lone Star	zzz	z		-		$\dashv$	-	+	$\neg$				<b>_</b>	RUSH TAT (Pre-Schedule) 24,	40 70			NPDES			\	13	6
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Final 1.000



Client: TRC Solutions, Inc

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



Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 09/08/2016 04:00:00 PM Temperature Measuring device used : r8 Work Order #: 536452 Comments Sample Receipt Checklist 13 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? N/A #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A N/A #6 Custody Seals intact on sample bottles? #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes Yes #14 Sample matrix/ properties agree with Chain of Custody? #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? N/A #21 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Wramer Jessica Kramer Checklist reviewed by: May Moah Kelsey Brooks

Date: 09/09/2016

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,

Huns Hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



#### Sample Id

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'
0

## Sample Cross Reference 538137



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (West)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	10-05-16 08:35	- 32 ft	538137-001
S	10-05-16 08:36	- 28 ft	538137-002
S	10-05-16 08:52	- 20 ft	538137-003
S	10-05-16 08:58	- 19 ft	538137-004
S	10-05-16 09:01	- 19 ft	538137-005
S	10-05-16 09:04	- 20 ft	538137-006
S	10-05-16 09:06	- 20 ft	538137-007
S	10-05-16 09:08	- 19 ft	538137-008
S	10-05-16 09:11	- 19 ft	538137-009
S	10-05-16 09:14	- 19 ft	538137-010
S	10-05-16 09:18	- 19 ft	538137-011
S	10-05-16 09:19	- 20 ft	538137-012
S	10-05-16 09:21	- 20 ft	538137-013
S	10-05-16 09:24	- 19 ft	538137-014
S	10-05-16 09:27	- 19 ft	538137-015
S	10-05-16 09:34	- 19 ft	538137-016
S	10-05-16 09:45	- 7.5 ft	538137-017
S	10-05-16 09:46	- 10 ft	538137-018
S	10-05-16 09:48	- 12 ft	538137-019
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: Work Order Number(s): 538137 Report Date: 11-OCT-16 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:Contact:Nikki GreenProject Location:Lea County, NM

Certificate of Analysis Summary 538137

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Wed Oct-05-16 01:56 pmReport Date:11-OCT-16Project Manager:Kelsey Brooks

	Lab Id:	538137-(	001	538137-0	002	538137-0	003	538137-	004	538137-	005	538137-	006
An shusis Down astad	Field Id:	Confirmation Flo	or-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'
Analysis Requested	Depth:	32 ft		28 ft	28 ft			19 ft		19 ft		20 ft	
	Matrix:	SOIL		SOIL		SOIL		SOII		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	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	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 14:00		Oct-07-16 14:00		Oct-07-16 14:00		Oct-07-16 14:00		) Oct-07-16 14	
	Analyzed:	Oct-07-16	18:16	Oct-07-16 18:23		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	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	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.

Huns Boah

Kelsey Brooks Project Manager



Project Id:Contact:Nikki GreenProject Location:Lea County, NM

Certificate of Analysis Summary 538137

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Wed Oct-05-16 01:56 pmReport Date:11-OCT-16Project Manager:Kelsey Brooks

	Lab Id:	538137-007		538137-008		538137-009		538137-010		538137-011		538137-012		
Analysis Requested	Field Id:	Confirmation Floor-5 @ 20		Confirmation EW-1 @ 19'		Confirmation EW-2 @ 19'		Confirmation EW-3 @ 19'		Confirmation NW-1 @ 19'		Confirmation Floor-7 @ 20		
	Depth:	20 ft		19 ft		19 ft		19 ft		19 ft		20 ft		
	Matrix:		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-05-16	Oct-05-16 09:06		Oct-05-16 09:08 Oct-05		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		Oct-07-16	Oct-07-16 19:41		Oct-07-16 19:48		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:		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	

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.

Huns Boah

Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 538137

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab: Wed Oct-05-16 01:56 pm Report Date: 11-OCT-16

Project Manager: Kelsey Brooks

	Lab Id:	538137-013		538137-014		538137-015		538137-016		538137-017		538137-0	018
Analysis Requested	Field Id:	Confirmation Floor-6 @ 20		Confirmation NW-2 @ 19'		Confirmation WW-1 @ 19'		Confirmation WW-2 @ 19'		Confirmation NW-3 @ 7.5'		Confirmation N	W-4 @ 10'
Analysis Kequesiea	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	Oct-05-16 09:24 Oct-05-16 09:2		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	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	0.00149	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 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

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.

Huns Boah

Kelsey Brooks Project Manager



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 538137

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Wed Oct-05-16 01:56 pmReport Date:11-OCT-16Project Manager:Kelsey Brooks

	Lab Id:	538137-0	19	538137-0	20			
Analysis Requested	Field Id:	Confirmation NV	V-5 @ 12'	Confirmation WV	N-3 @ 19'			
	Depth:	12 ft		19 ft	, in the second se			
	Matrix:	SOIL		SOIL				
	Sampled:	Oct-05-16 0	)9·48	Oct-05-16 0	9.55			
BTEX by EPA 8021B	-						-	· · · · · · · · · · · · · · · · · · ·
BIEA UY EFA 8021B	Extracted:	Oct-05-16 1		Oct-05-16 1				
	Analyzed:	Oct-06-16 1		Oct-06-16 1				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene			0.00149		0.00150			
Toluene		ND	0.00198		0.00200			
Ethylbenzene		ND	0.00198	ND	0.00200			
m_p-Xylenes		ND	0.00198		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 2	21:55	Oct-07-16 2	2:02			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		116	5.00	2670	25.0			
TPH By SW8015B Mod	Extracted:	Oct-05-16 1	5:00	Oct-05-16 1	5:00			
	Analyzed:	Oct-06-16 0	03:09	Oct-06-16 0	3:35			
	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			
Total TPH		ND	15.0	ND	14.9			

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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



## **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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	



Work Orde Lab Batch #:		7, 538137 Sample: 538137-001 / SMP	Bate	Project ID: h: 1 Matrix						
Units:	mg/kg	Date Analyzed: 10/05/16 17:58	SU	RROGATE R	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooctane			108	99.9	108	70-130				
o-Terphenyl			59.5	50.0	119	70-135				
Lab Batch #:	3001470	Sample: 538137-002 / SMP	Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 19:31	SURROGATE RECOVERY STUDY							
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane			102	99.6	102	70-130				
o-Terphenyl			56.4	49.8	113	70-135				
Lab Batch #:	3001470	Sample: 538137-003 / SMP	Batc							
Units:	mg/kg	Date Analyzed: 10/05/16 19:56		RROGATE R	ECOVERYS	STUDY				
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooctane	:		108	99.7	108	70-130				
o-Terphenyl			59.7	49.9	120	70-135				
Lab Batch #:	3001470	Sample: 538137-004 / SMP	Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 20:20	SU	RROGATE R	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	:		109	99.7	109	70-130				
o-Terphenyl			59.7	49.9	120	70-135				
Lab Batch #:	3001470	Sample: 538137-005 / SMP	Batc	h: 1 Matrix	: Soil					
U <b>nits:</b>	mg/kg	Date Analyzed: 10/05/16 20:45	su	RROGATE R	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		4 shary 0.5	108	99.8	108	70-130				
o-Terphenyl			58.7	49.9		70-130				
o reipiicityi			30.1	49.9	118	/0-155				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch	#: 3001470	Sample: 538137-006 / SMP	Batc	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 21:11	SU	RROGATE R	ECOVERY S	STUDY				
		y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooct			109	99.9	109	70-130				
o-Terphenyl			59.1	50.0	118	70-135				
Lab Batch	#: 3001470	Sample: 538137-007 / SMP	Batc	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 21:35	SURROGATE RECOVERY STUDY							
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooct			108	99.9	108	70-130				
o-Terphenyl			58.5	50.0	117	70-135				
Lab Batch	#: 3001470	Sample: 538137-008 / SMP	Batc	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 22:01	SU	RROGATE R	ECOVERYS	STUDY				
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooct	ane		103	100	103	70-130				
o-Terphenyl			56.5	50.0	113	70-135				
Lab Batch	#: 3001470	Sample: 538137-009 / SMP	Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 22:26	SU	RROGATE R	ECOVERY S	STUDY				
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooct	ane		102	100	102	70-130				
o-Terphenyl			56.2	50.0	112	70-135				
Lab Batch	#: 3001470	Sample: 538137-010 / SMP	Batc	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 22:51	SU	RROGATE R	ECOVERY S	STUDY				
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
				1	1	1				
1-Chlorooct			108	99.7	108	70-130				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #	: 3001470	Sample: 538137-011 / SMP	Batc								
Units:	mg/kg	Date Analyzed: 10/05/16 23:44	SURROGATE RECOVERY STUDY								
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes			[D]						
1-Chloroocta	ne		103	99.8	103	70-130					
o-Terphenyl			56.5	49.9	113	70-135					
Lab Batch #	: 3001470	Sample: 538137-012 / SMP	Bate	h: 1 Matrix	: Soil						
Units:	mg/kg	Date Analyzed: 10/06/16 00:10	SU	RROGATE R	ECOVERY S	STUDY					
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
1-Chloroocta			104	99.8	104	70-130					
o-Terphenyl			57.1	49.9	114	70-135					
Lab Batch #	: 3001470	Sample: 538137-013 / SMP	Batc	h: 1 Matrix	: Soil						
Units:	mg/kg	Date Analyzed: 10/06/16 00:35	SU	RROGATE R	RECOVERY	STUDY					
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes	[]	(-)	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
1-Chloroocta	ne		105	99.8	105	70-130					
o-Terphenyl			57.3	49.9	115	70-135					
Lab Batch #	: 3001470	Sample: 538137-014 / SMP	Batc	h: 1 Matrix	: Soil	<u>.</u>					
Units:	mg/kg	Date Analyzed: 10/06/16 01:00	SU	RROGATE R	RECOVERY	STUDY					
	ТРН В	y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chloroocta	ne		105	99.9	105	70-130					
o-Terphenyl			57.0	50.0	114	70-135					
Lab Batch #	: 3001470	Sample: 538137-015 / SMP	Bate	h: 1 Matrix	: Soil						
	mg/kg	Date Analyzed: 10/06/16 01:26	SU	RROGATE R	ECOVERY S	STUDY					
U <b>nits:</b>			• •	True		Control	El.				
Units:	ТРН В	y SW8015B Mod	Amount Found [A]	Amount [B]	Recovery %R	Limits %R	Flag				
Units:		y SW8015B Mod Analytes	Found	Amount	•		Flag				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #:		Sample: 538137-016 / SMP	Batc						
Units:	mg/kg	Date Analyzed: 10/06/16 01:53	SURROGATE RECOVERY STUDY						
	TPH B	y 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			
Lab Batch #:	3001470	Sample: 538137-017 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 02:18	SU	JRROGATE R	ECOVERY S	STUDY			
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1-Chlorooctane			105	99.8	105	70-130			
o-Terphenyl			57.3	49.9	115	70-135			
Lab Batch #:	3001470	Sample: 538137-018 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/06/16 02:43	SU	JRROGATE R	ECOVERY	STUDY			
	TPH B	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes	[**]		[D]				
1-Chlorooctane			104	99.9	104	70-130			
o-Terphenyl			56.2	50.0	112	70-135			
Lab Batch #:	3001470	Sample: 538137-019 / SMP	Batc	h: 1 Matrix	: Soil	<u>.</u>			
Units:	mg/kg	Date Analyzed: 10/06/16 03:09	SURROGATE RECOVERY STUDY						
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane			104	99.8	104	70-130			
o-Terphenyl			56.4	49.9	113	70-135			
Lab Batch #:	3001470	Sample: 538137-020 / SMP	Batc						
Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 03:35	st	JRROGATE R	ECOVERY S	STUDY			
		y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1-Chlorooctane			106	99.6	106	70-130			
o-Terphenyl									

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Order Lab Batch #: 3		<b>Sample:</b> 538137-001 / SMP	Bate	Project ID: h: 1 Matrix						
U <b>nits:</b> n	ng/kg	Date Analyzed: 10/06/16 16:03	SURROGATE RECOVERY STUDY							
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluorobenz	ene		0.0314	0.0300	105	80-120				
4-Bromofluorobe			0.0284	0.0300	95	80-120				
Lab Batch #: 3	001510	Sample: 538137-002 / SMP	Batc	ch: 1 Matrix	: Soil					
Units: n	ng/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenz		Anarytes	0.0358	0.0300	119	80-120				
4-Bromofluorobe	enzene		0.0277	0.0300	92	80-120				
Lab Batch #: 3	001510	Sample: 538137-003 / SMP	Batc	h: 1 Matrix	: Soil					
U <b>nits:</b> n	ng/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluorobenz	ene		0.0325	0.0300	108	80-120				
4-Bromofluorobe	enzene		0.0290	0.0300	97	80-120				
Lab Batch #: 3	001510	Sample: 538137-004 / SMP	Batc	ch: 1 Matrix	: Soil					
Units: n	ng/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenz	ene		0.0307	0.0300	102	80-120				
4-Bromofluorobe	enzene		0.0276	0.0300	92	80-120				
Lab Batch #: 3	001510	Sample: 538137-005 / SMP	Batc	h: 1 Matrix	: Soil	1				
Units: n	ng/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1,4-Difluorobenz		Anarytes	0.0220	0.0200		80.120				
*			0.0339	0.0300	113	80-120				
4-Bromofluorobe	nzene		0.0305	0.0300	102	80-120				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



	#: 3001510	Sample: 538137-006 / SMP	Date	ch: 1 Matrix	. 5011				
U <b>nits:</b>	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluoro	benzene		0.0306	0.0300	102	80-120			
4-Bromoflue			0.0289	0.0300	96	80-120			
Lab Batch	#: 3001510	Sample: 538137-007 / SMP	Batc	ch: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY			
		A by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1,4-Difluoro		Analytes	0.0319	0.0300	106	80-120			
4-Bromoflue			0.0294	0.0300	98	80-120			
Lab Batch	#: 3001510	Sample: 538137-008 / SMP	Batc						
U <b>nits:</b>	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY			
		C by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluoro	benzene		0.0307	0.0300	102	80-120			
4-Bromoflue			0.0254	0.0300	85	80-120			
Lab Batch	#: 3001510	Sample: 538137-009 / SMP	Batc	ch: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY			
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
	benzene	-	0.0323	0.0300	108	80-120			
1,4-Difluoro				0.0300	93	80-120			
1,4-Difluoro 4-Bromofluo	orobenzene		0.0280	0.0500					
4-Bromoflue	brobenzene #: 3001510	Sample: 538137-010 / SMP	0.0280 Bate		: Soil	· I			
4-Bromoflue		Sample: 538137-010 / SMP Date Analyzed: 10/06/16 16:03	Batc			STUDY			
4-Bromoflue Lab Batch	#: 3001510 mg/kg BTEX	Date Analyzed: 10/06/16 16:03	Batc	h: 1 Matrix	ECOVERY S Recovery %R	STUDY Control Limits %R	Flag		
4-Bromoflue	#: 3001510 mg/kg BTEX	Date Analyzed: 10/06/16 16:03	Batc SU Amount Found	h: 1 Matrix JRROGATE R True Amount	ECOVERY S	Control Limits	Flage		

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch #:		Sample: 538137-011 / SMP	Batc						
Units:	mg/kg	<b>Date Analyzed:</b> 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	BTEX	L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorobe	nzene		0.0334	0.0300	111	80-120			
4-Bromofluoro			0.0300	0.0300	100	80-120			
Lab Batch #:	3001510	Sample: 538137-012 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	st	<b>RROGATE R</b>	ECOVERY S	STUDY			
		L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1,4-Difluorobe		Analytes	0.0325	0.0300	108	80-120			
4-Bromofluoro			0.0271	0.0300	90	80-120			
Lab Batch #:	3001510	Sample: 538137-013 / SMP	Batc			00 120			
Units:	mg/kg	Date Analyzed: 10/06/16 16:03		RROGATE R		STUDY			
	BTEX	L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes	[]	(-)	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
1,4-Difluorobe	nzene		0.0346	0.0300	115	80-120			
4-Bromofluoro			0.0288	0.0300	96	80-120			
Lab Batch #:	3001510	Sample: 538137-014 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	st	JRROGATE R	ECOVERY S	STUDY			
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1.4-Difluorobe			0.0333	0.0300	111	80-120			
4-Bromofluoro	benzene		0.0269	0.0300	90	80-120			
Lab Batch #:		Sample: 538137-015 / SMP	Batc			-			
Units:	mg/kg	Date Analyzed: 10/06/16 16:03		JRROGATE R	ECOVERY S	STUDY			
	BTEX	C by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorobe	nzene		0.0328	0.0300	109	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Lab Batch	#: 3001510	Sample: 538137-016 / SMP	Batch	n: 1 Matrix	: Soil				
Jnits:	mg/kg	Date Analyzed: 10/06/16 16:03	SURROGATE RECOVERY STUDY						
	BTEX	C by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluoro	obenzene		0.0321	0.0300	107	80-120			
4-Bromoflu			0.0281	0.0300	94	80-120			
Lab Batch	#: 3001510	Sample: 538137-017 / SMP	Batch	n: 1 Matrix	: Soil				
U <b>nits:</b>	mg/kg	Date Analyzed: 10/06/16 16:03	SU	RROGATE R	ECOVERY S	STUDY			
		A by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1.4-Difluoro		Anarytes	0.0311	0.0300	104	80-120			
4-Bromoflu			0.0283	0.0300	94	80-120			
Lab Batch	#: 3001510	Sample: 538137-018 / SMP	Batch			00 120			
U <b>nits:</b>	mg/kg	Date Analyzed: 10/06/16 16:03	SU	RROGATE R	ECOVERYS	STUDY			
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes	[**]	[2]	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
1,4-Difluoro	obenzene		0.0345	0.0300	115	80-120			
4-Bromoflu	orobenzene		0.0298	0.0300	99	80-120			
Lab Batch	#: 3001510	Sample: 538137-019 / SMP	Batch	n: 1 Matrix	: Soil	<u>.</u>			
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	RROGATE R	ECOVERY S	STUDY			
		Aby EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1.4-Difluoro		Analytes	0.0322	0.0300	107	80-120			
4-Bromoflu			0.0290	0.0300	97	80-120			
	#: 3001510	Sample: 538137-020 / SMP	Batch			00 120			
U <b>nits:</b>	mg/kg	Date Analyzed: 10/06/16 16:03	SU	RROGATE R	ECOVERY S	STUDY			
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluoro	obenzene		0.0327	0.0300	109	80-120			
	orobenzene		0.0282	0.0300	i	-			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Units:	mg/kg	Date Analyzed: 10/05/16 16:23	01		ECOVEDV		
Units:	mg/kg	Date Analyzed: 10/03/10 10.25	SU	JRROGATE R	ECOVERY S	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chloroocta	ine		110	100	110	70-130	
o-Terphenyl			61.7	50.0	123	70-135	
Lab Batch #	#: 3001510	Sample: 714644-1-BLK / B	LK Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro			0.0318	0.0300	106	80-120	
4-Bromofluo			0.0253	0.0300	84	80-120	
Lab Batch #	#: 3001470	Sample: 714620-1-BKS / B			: Solid		
Units:	mg/kg	Date Analyzed: 10/05/16 16:55	SU	JRROGATE R	ECOVERY	STUDY	
	ТРН В	y SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ine		125	100	125	70-130	
o-Terphenyl			63.6	50.0	127	70-135	
Lab Batch #	#: 3001510	Sample: 714644-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorol			0.0347	0.0300	116	80-120	
4-Bromofluo			0.0289	0.0300	96	80-120	
Lab Batch #		Sample: 714620-1-BSD / B			: Solid		
Units:	mg/kg	Date Analyzed: 10/05/16 17:26		JRROGATE R	ECOVERY S	STUDY	
	TPH By SW8015B Mod			True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes				[D]		
1-Chloroocta	ine		129	100	129	70-130	
				1			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



	#: 3001510	Sample: 714644-1-BSD / B	BSD Batch: 1 Matrix: Solid SURROGATE RECOVERY STUDY							
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
		K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
		Analytes			[D]					
1,4-Difluoro	benzene		0.0298	0.0300	99	80-120				
4-Bromofluc	orobenzene		0.0280	0.0300	93	80-120				
Lab Batch #	#: 3001470	Sample: 538137-001 S / MS	S Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 18:29	SU	JRROGATE R	ECOVERY S	STUDY				
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1-Chloroocta			125	99.9	125	70-130				
o-Terphenyl			61.6	50.0	123	70-130				
1 5	#: 3001510	Sample: 538137-002 S / MS			_	10155				
Units:	mg/kg	Date Analyzed: 10/06/16 16:03		JRROGATE R		STUDY				
		k by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
		Analytes			[D]					
1,4-Difluoro			0.0334	0.0300	111	80-120				
4-Bromofluc			0.0289	0.0300	96	80-120				
	#: 3001470	Sample: 538137-001 SD / M	ASD Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/05/16 18:59	SU	JRROGATE R	ECOVERY S	STUDY				
		y SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chloroocta	ane		128	99.8	128	70-130				
o-Terphenyl			63.1	49.9	126	70-135				
Lab Batch #	#: 3001510	Sample: 538137-002 SD / M	ASD Bate	h: 1 Matrix	: Soil					
Units:	mg/kg	Date Analyzed: 10/06/16 16:03	SU	JRROGATE R	ECOVERY S	STUDY				
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
1,4-Difluoro			0.0342	0.0300	114	80-120				
,	Bromofluorobenzene			0.0500	117	00120				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



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

Work Order #: 538137, 538137							Pro	ject ID:			
Analyst: PJB	D	ate Prepa	red: 10/05/201	16			Date A	nalyzed:	10/06/2016		
Lab Batch ID: 3001510 Sample: 714644-1-E	BKS	Batc	<b>h #:</b> 1		Matrix: Solid						
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
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	D	ate Prepa	red: 10/07/20	16			Date A	nalyzed:	10/07/2016	•	
Lab Batch ID: 3001661 Sample: 714720-1-E	BKS	Batc	<b>h #:</b> 1					Matrix:	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / I	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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 =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (F)/[E] All results are based on MDL and Validated for QC Purposes



### **BS / BSD Recoveries**



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

<b>Work Order #:</b> 538137, 538137							Proj	ect ID:			
Analyst: MNR	D	ate Prepar	ed: 10/07/20	16			Date A	nalyzed:	10/07/2016		
Lab Batch ID: 3001666 Sample: 714722-1-E	BKS	Batcl	<b>h #:</b> 1					Matrix:	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	<5.00	250	274	110	250	274	110	0	90-110	20	
						1	-		-		
Analyst: ARM	D	ate Prepar	ed: 10/05/201	16	ļ	1	Date A	nalyzed:	10/05/2016	1	·
Analyst:         ARM           Lab Batch ID:         3001470         Sample:         714620-1-F		•	ed: 10/05/201	16	1	1		nalyzed: Matrix: 3		1	
··· J ····		Batcl			BLANK S	SPIKE DUP		Matrix:	Solid	DY	·'
Lab Batch ID: 3001470 Sample: 714620-1-H		Batcl	<b>h #:</b> 1		BLANK S Spike Added [E]	SPIKE DUP Blank Spike Duplicate Result [F]		Matrix:	Solid	DY Control Limits %RPD	Flag
Lab Batch ID: 3001470 Sample: 714620-1-F Units: mg/kg TPH By SW8015B Mod	3KS Blank Sample Result	Batcl BLAN Spike Added	h #: 1 K /BLANK Blank Spike Result	SPIKE / ] Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: RECOV	Solid ERY STUI Control Limits	Control Limits	Flag

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 II	):				
Lab Batch ID:	3001510	QC- Sample ID:	538137	-002 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	10/06/2016	Date Prepared:	10/05/2	2016	An	alyst: I	РJВ					
<b>Reporting Units:</b>	mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021B	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]				
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	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	10/07/2016	Date Prepared:	10/07/2	2016	An	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		N	1ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Teres							1		1			
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD	Control Limits %R	Control Limits %RPD	Flag
Inorga	nic Anions by EPA 300/300.1 Analytes		Spike Added [B]		-	Spike Added [E]			RPD %			Flag
Chloride	-	Sample Result	Added	Result	Sample %R	Added	Spiked Sample	Dup. %R		Limits	Limits	Flag
	-	Sample Result [A]	Added [B] 250	Result [C]	Sample %R [D] 109	Added [E]	Spiked Sample Result [F]	Dup. %R [G]	%	Limits %R	Limits %RPD	Flag
Chloride	Analytes	Sample Result [A] <5.00	Added [B] 250 538139	Result         [C]           273         273	Sample %R [D] 109 Ba	Added [E] 250	Spiked Sample Result [F] 273 1 Matrix	Dup. %R [G]	%	Limits %R	Limits %RPD	Flag
Chloride Lab Batch ID:	Analytes 3001661	Sample Result [A] <5.00 QC- Sample ID:	Added [B] 250 538139 10/07/2	Result         [C]           273         273           0-009 S         2016	Sample %R [D] 109 Ba An	Added [E] 250 tch #: nalyst: N	Spiked Sample Result [F] 273 1 Matrix	Dup. %R [G] 109 c: Soil	<b>%</b>	Limits %R 90-110	Limits %RPD	Flag
Chloride Lab Batch ID: Date Analyzed: Reporting Units:	Analytes 3001661 10/07/2016	Sample Result [A] <5.00 QC- Sample ID: Date Prepared: Parent Sample	Added [B] 250 538139 10/07/2 W Spike	Result [C] 273 2-009 S 2016 AATRIX SPIK Spiked Sample Result	Sample %R [D] 109 Ba An E / MAT Spiked Sample	Added [E] 250 tch #: halyst: M RIX SPI Spike	Spiked Sample Result [F] 273 1 Matrix MNR KE DUPLICA Duplicate Spiked Sample	Dup. %R [G] 109 c: Soil TE REC Spiked Dup.	% 0 OVERY S RPD	Limits %R 90-110 STUDY Control Limits	Limits %RPD 20 Control Limits	Flag
Chloride Lab Batch ID: Date Analyzed: Reporting Units:	Analytes 3001661 10/07/2016 mg/kg	Sample Result [A] <5.00 QC- Sample ID: Date Prepared: Parent	Added [B] 250 538139 10/07/2 M	Result [C] 273 2009 S 2016 ATRIX SPIK Spiked Sample	Sample %R [D] 109 Ba An E / MAT Spiked	Added [E] 250 tch #: nalyst: M RIX SPI	Spiked Sample Result [F] 273 1 Matrix MNR KE DUPLICA Duplicate	Dup. %R [G] 109 c: Soil TE REC Spiked	% 0 OVERY 5	Limits %R 90-110 STUDY Control	Limits %RPD 20 Control	

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

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



### Form 3 - MS / MSD Recoveries



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

Work Order # :	538137						Project II	):				
Lab Batch ID:	3001666	QC- Sample ID:	538137	-011 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	10/07/2016	Date Prepared:	10/07/2	016	An	alyst: N	ANR					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
Inorgan	nic 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		124	250	381	103	250	389	106	2	90-110	20	
Lab Batch ID:	3001470	QC- Sample ID:	538137	-001 S	Ba	tch #:	1 Matrix	k: Soil				
Date Analyzed:	10/05/2016	Date Prepared:	10/05/2	016	An	alyst: A	ARM					
Date Analyzed: Reporting Units:	10/05/2016 mg/kg	Date Prepared:				-	ARM KE DUPLICA	TE REC	OVERY S	STUDY		
Reporting Units:		Parent Sample	M Spike	ATRIX SPIK Spiked Sample Result	E / MAT Spiked Sample	RIX SPI	KE DUPLICA Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Reporting Units:	mg/kg	Parent	М	ATRIX SPIK	E / MAT Spiked	RIX SPI	KE DUPLICA Duplicate	Spiked		Control	1 1	Flag
Reporting Units:	mg/kg PH By SW8015B Mod	Parent Sample Result	M Spike Added	ATRIX SPIK Spiked Sample Result	E / MAT Spiked Sample %R	RIX SPI Spike Added	KE DUPLICA Duplicate Spiked Sample	Spiked Dup. %R	RPD	Control Limits	Limits	Flag

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*(C-F)/(C+F) Matrix Spike Duplicate Percent Recovery  $[G] = 100^{*}(F-A)/E$ 

Characteristics     Characteristics <th< th=""><th>Relinquished by</th><th>Relinquished by:</th><th>Relinquished by:</th><th>Bill to Ro</th><th>Special Ir</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>-</th><th></th><th>LAB # (lab use only)</th><th>ORDER #:</th><th>(lab use only)</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>The Envi</th><th>Xen</th></th<>	Relinquished by	Relinquished by:	Relinquished by:	Bill to Ro	Special Ir										-		LAB # (lab use only)	ORDER #:	(lab use only)								The Envi	Xen
CHAIN OF CUSTOPY RECORD AND ANALYSIS RECULST       Phone: 432-583-100       Phone: 432-583-100         CHAIN OF CUSTOPY RECORD AND ANALYSIS RECULST       Phone: 432-583-100       Phone: 432-583-100         Construction       Fax: 432-583-100       Phone: 432-583-100       Phone: 432-583-100         Projet Le:       Construction       Phone: 432-583-100       Phone: 432-583-100         Projet Le:       Phone: 432-583-100       Phone: 432-583-100       Phone: 432-583-100 <td< td=""><td></td><td></td><td>Matthew Scen</td><td>Energy Transfer.</td><td>Special Instructions:</td><td>Confirmation NW-1 @ 19'</td><td>Confirmation EW-3 @ 19'</td><td>Confirmation EW-2 @ 19'</td><td>Confirmation EW-1 @ 19'</td><td>Confirmation Floor-5 @ 20'</td><td>Confirmation Floor-4 @ 20'</td><td>Confirmation SW-2 @ 19'</td><td>Confirmation SW-1 @ 19'</td><td>Confirmation Floor-3 @ 20'</td><td>Confirmation Floor-2 @ 28'</td><td>Confirmation Floor-1 @ 32'</td><td>FIELD CODE</td><td></td><td></td><td></td><td>Mar</td><td></td><td></td><td>Company Address: 2057 Commerce</td><td></td><td>_</td><td>The Environmental Lab of Texas</td><td>co Laboratories</td></td<>			Matthew Scen	Energy Transfer.	Special Instructions:	Confirmation NW-1 @ 19'	Confirmation EW-3 @ 19'	Confirmation EW-2 @ 19'	Confirmation EW-1 @ 19'	Confirmation Floor-5 @ 20'	Confirmation Floor-4 @ 20'	Confirmation SW-2 @ 19'	Confirmation SW-1 @ 19'	Confirmation Floor-3 @ 20'	Confirmation Floor-2 @ 28'	Confirmation Floor-1 @ 32'	FIELD CODE				Mar			Company Address: 2057 Commerce		_	The Environmental Lab of Texas	co Laboratories
CHAM OF CLUSTOPY RECORD AND AMALYSIS REQUEST     Phone: 422-851:000       Oddessa, Towar 1976     Project Log:       Fax: No:     Interest Energy: Transfer Eopid 4" Historical Water       Project Log:     Project Log:       Interest Energy: Transfer Eopid 4" Historical Water       Project Log:     Project Log:       Interest Energy: Transfer Eopid 4" Historical Water       Project Log:     Project Log:       Interest Energy: Transfer Eopid 4" Historical Water       Project Log:     Project Log:       Interest Energy: Transfer Eopid 4" Historical Water       Project Log:     Project Log:       Project Log:	đ	te	2-11																									
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Client: TRC Solutions, Inc

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

Acceptable Temperature Range: 0 - 6 degC



Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 10/05/2016 01:56:00 PM Temperature Measuring device used : R8 Work Order #: 538137 Comments Sample Receipt Checklist 11.4 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? N/A #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A N/A #6 Custody Seals intact on sample bottles? #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes Yes #14 Sample matrix/ properties agree with Chain of Custody? #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? N/A #21 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Wramer Jessica Kramer Checklist reviewed by: May Moah Kelsey Brooks

Date: 10/05/2016

Date: 10/05/2016

## **Analytical Report 539750**

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (Eastt)

07-NOV-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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Chain of Custody	10
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07-NOV-16

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

#### Reference: XENCO Report No(s): **539750 Energy Transfer Boyd 4'' Historical (Eastt)** 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) 539750. 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. 539750 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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Id Baseline-1 @20'

## Sample Cross Reference 539750



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (Eastt)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	11-02-16 14:00	- 20 ft	539750-001



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (Eastt)

Project ID: Work Order Number(s): 539750 Report Date: 07-NOV-16 Date Received: 11/03/2016

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 539750

TRC Solutions, Inc, Midland, TX



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

Date Received in Lab:Thu Nov-03-16 03:46 pmReport Date:07-NOV-16Project Manager:Kelsey Brooks

	Lab Id:	539750-001			
Analysis Paguastad	Field Id:	Baseline-1 @20'			
Analysis Requested	Depth:	20 ft			
	Matrix:	SOIL			
	Sampled:	Nov-02-16 14:00			
Inorganic Anions by EPA 300/300.1	Extracted:	Nov-04-16 14:50			
	Analyzed:	Nov-04-16 15:16			
	Units/RL:	mg/kg RL			
Chloride		915 5.00			

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

Huns Boah

Kelsey Brooks Project Manager

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## **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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	



### **BS / BSD Recoveries**



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

Work Order #: 539750							Proj	ject ID:			
Analyst: MNR	D	ate Prepar	red: 11/04/201	6			Date A	nalyzed: 1	11/04/2016		
Lab Batch ID: 3003339 Sample: 715756-1-E	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOV	ERY STUI	DY	
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]		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	<5.00	250	236	94	250	237	95	0	90-110	20	

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



## Form 3 - MS Recoveries Project Name: Energy Transfer Boyd 4" Historical (Ea

<b>Work Order #:</b> 539750				
Lab Batch #: 3003339		<b>Project ID:</b>		
<b>Date Analyzed:</b> 11/04/2016	<b>Date Prepared:</b> 11/04/2016	Analyst:	MNR	
<b>QC- Sample ID:</b> 539750-001 S	<b>Batch #:</b> 1	Matrix:	Soil	
Reporting Units: mg/kg	MATRIX / MA	TRIX SPIKE RECO	OVERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Spike Result Added	Spiked Sample Result %R [C] [D]	Control Limits %R	Flag
Analytes	[A] [B]			
Chloride	915 250	1170 102	90-110	

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

Carling Construction         Construction         Construction         Construction         Prove - State State         Prove - State         Prove	ſ	durshed by:	Relino	Relinquished by	Bill to Rose SI	Special Instructions:	T	T				_				LAB # (lab use only)	ORDER #:	(lah use only)				_	_	_	Xenco
CHAIN OF CUSTODY RECORD AN 1200 West L20 Est Odess, Texas 7875         Project L20 Figure 100         Project L20 Figure 100<		by:			e Slade at Energy Transfer.	structions:									Baseline-1 @20	FIELD CODE			Sampler Signature:			Company Address: 2057 Com	-	_	co Laboratori onmental Lab of Texas
Image: Second Depth		Date	L Q Q Q Q	11-3-16								-								720	FX 79703	Imerce	tions, Inc	en	es
CHAIN OF CUSTOUY RECORD A           12000 West 1-20 East           12000 West 1-20 East           Odessa, Toxas 78765           Project Name:		, i	I	152	-											Beginning Depth			lee						
CHAIN OF CUSTOPY RECORD AN 12800 West 1-20 East Odessa, Texas 78765 Project Name: Project Na		ne	le	5												Ending Depth			2						
CHAIN OF CUSTODY RECORD AN 12600 West I-20 East Odessa, Texas 79765 Project Name: Ingreen@trcsolutions.com Ingreen@trcsolutions.com Preevailor & For Containers No: 432.520.7701 Project Loc: Project Loc:		Redeived by ELOT		Received by											11/2/2016	Date Sampled									
Field Fillered     Image: Second Section Sec			MMOL												1400	Time Sampled			e-mail:	Fax No:					
12500 West I-20 East     Project Name:       Ingreen@trcsolutions.com				$\left  \right\rangle$	11	⊢	_				-	-	_ _	· 					1						
Image: State of Containers       H2SO4       H2SO4       Froject Name:         Image: State of Containers       NaOH       NaOH       Froject Name:         Image: State of Containers       NaoH       NaoH       Froject Name:         Image: State of Containers       None       Froject Name:       Froject Name:         Image: State of Containers       None       Other (Specify)       Froject Loc:       Froject Loc:         Image: State of Containers       None       Other (Specify)       Description       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Image: Specify Other       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers<				N N		-	+	$\square$			┿	+	+				<b>+</b> -1	10		432.5			1		<b>-</b> .
Image: State of Containers       H2SO4       H2SO4       Froject Name:         Image: State of Containers       NaOH       NaOH       Froject Name:         Image: State of Containers       NaoH       NaoH       Froject Name:         Image: State of Containers       None       Froject Name:       Froject Name:         Image: State of Containers       None       Other (Specify)       Froject Loc:       Froject Loc:         Image: State of Containers       None       Other (Specify)       Description       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Image: Specify Other       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers<							-					╈	╈		+ <del>^</del>		Ę	se.s	ng	520.			1		126( Ode
Image: State of Containers       H2SO4       H2SO4       Froject Name:         Image: State of Containers       NaOH       NaOH       Froject Name:         Image: State of Containers       NaoH       NaoH       Froject Name:         Image: State of Containers       None       Froject Name:       Froject Name:         Image: State of Containers       None       Other (Specify)       Froject Loc:       Froject Loc:         Image: State of Containers       None       Other (Specify)       Description       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Image: Specify Other       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers       Image: Specify Other       Froject Loc:       Froject Loc:       Froject Loc:         Image: State of Containers<							$\top$						- -		╆╌		Serv	lade	reer	7701					)0 W ssa,
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RECORD AND ANALYSIS REQUEST         Project Name:         Energy Transfer Boyd 4" Historical (East)         Project Lo::         Colspan="2">Project Lo::         Project Lo::         Colspan="2">Project Lo::         Colspan="2">Project Lo::         Project Lo::         Calce County, NM         Project #::         Project #::         Project Lo::         Calce County, NM         Project #::															≗		atrix			Repo				-	ĎΥ
CORD AND ANALYSIS REQUEST Phone: 432-563-1713         Point: Energy Transfer Boyd 4" Historical (East)         Po #:       Analyze For: TCL:       Analyze For: TCL:       Analyze For: TCL:       NM         VOCs Free of Headspace?       Volatiles       Sample Containers Intents: Sample Hand Delivered by Sample/Tellivered       BTEX 80218/5030 or BTEX 8260       NO.R.M.         VCs Free of Headspace?       X       Chlorides E 300.1       N.O.R.M.         VCs Free of Headspace?       X       Chlorides E 300.1       X         VCs Free of Headspace?       X       X       Chlorides E 300.1         VCs Free of Headspace?       X       X       X         VCs Free of Headspace?       X       X       X         VCs Free of Headspace?       X       X       X         VC ustody seals on container(s)		Time	た min	l S								╈	╈	+	+			П		ā 7		Pro	_	'roje	RE
AND AND ANALYSIS REQUEST         Phone: 32 Standard         Totk:         Fax:         432-563-1713         Fax:         441         Fax:         Fax: <tr< td=""><td>ļ</td><td><u> </u></td><td>0</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>- </td><td>†</td><td></td><td></td><td></td><td></td><td>orm</td><td>-</td><td>ject</td><td>roj</td><td>ČŤ N</td><td>çç</td></tr<>	ļ	<u> </u>	0	3										-	†					orm	-	ject	roj	ČŤ N	çç
AND AMALVS/S REQUEST Phone: 432-563-1800 Fax: 432-563-1800 Fax: 432-563-1713 Standard TOTAL: Analyze For: Analyze For: S Free of Heads As Ag Ba Cd Cr Pb Hg Se Volatifies Semivolatiles S Free of Heads Space? Volatifies Semivolatiles S Free of Heads Space? Volatifies S Free of Heads Space? V S Standard TAT S Free of Heads Space? V S Standard TAT	Tem	, ,	Sam	Labe Cust	Sam			ĻТ					Ι			Cations (Ca, Mg, Na, K)				Ħ	ŏ #	Loc	čí #	ame	3
AAAL VSIS REQUEST     Phone: 432-563-1800       Fax: 432-563-1800     Fax: 432-563-1800       Fax: 432-563-1800     Fax: 432-563-1713       Fax: 432-563-1713     Fax: 432-563-1713       Analyze For:     Analyze For:       Ontoriainers Interst:     Volatiles       On container (s) seals on container (s	bera	3	y Sa	ody ody o	SFr	<b>[</b>  _		╞┈┼								Anions (CI, SO4, Alkalinity)	ᅴ힠			Ð	l.	١.	1	1	NC 1
Analyze     Forme: 432-563-1800       Fransfer Boyd 4"     Historical (East)       Gy Transfer Boyd 4"     Historical (East)       Somments:     BTEX 80218/5030 or BTEX 8260       Corrected Temp:     N.O.R.M.       Volatifies     N.O.R.M.       Volatifies     N.O.R.M.       Som coolinationer(s)     X       Corrected Temp:     X       Volatifies     N.O.R.M.       Vitainer(s)     X       Volatifies     N.O.R.M.       Vitainer(s)     X       Volatifies     N.O.R.M.       Vitainer(s)     X       Vitainer(s)	ure		fand	n cor seals seals	ee o	ž	<u> </u>	┝╌┼	_							SAR / ESP / CEC	TA P		•	Sta				ner	Ă
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Client: TRC Solutions, Inc

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

Acceptable Temperature Range: 0 - 6 degC



Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/03/2016 03:46:00 PM Temperature Measuring device used : R8 Work Order #: 539750 Comments Sample Receipt Checklist 2.5 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? N/A #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A N/A #6 Custody Seals intact on sample bottles? #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes Yes #14 Sample matrix/ properties agree with Chain of Custody? #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? N/A #21 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Wramer Jessica Kramer Checklist reviewed by: May Moah Kelsey Brooks

Date: 11/03/2016

Date: 11/04/2016

## **Analytical Report 541160**

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

08-DEC-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)



08-DEC-16

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

#### Reference: XENCO Report No(s): 541160 Energy Transfer Boyd 4" Historical (East) 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) 541160. 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. 541160 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,

Huns hoah

Kelsey Brooks Project Manager

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### Sample Id

Floor-1 @20'
Floor-2 @20'
Eastwall-1 @20'
Eastwall-2 @20'
Northwall-1 @19'

## Sample Cross Reference 541160



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (East)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	11-29-16 14:00	- 20 ft	541160-001
S	11-29-16 14:05	- 20 ft	541160-002
S	11-29-16 14:10	- 20 ft	541160-003
S	11-29-16 14:15	- 20 ft	541160-004
S	11-29-16 14:20	- 19 ft	541160-005



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 541160 Report Date:08-DEC-16Date Received:11/30/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Contact:** 

**Project Location:** 

## Certificate of Analysis Summary 541160

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Wed Nov-30-16 02:24 pmReport Date:08-DEC-16Project Manager:Kelsey Brooks

	Lab Id:	541160-0	01	541160-0	02	541160-0	03	541160-0	04	541160-0	05	
Analysis Requested	Field Id:	Floor-1 @	Floor-1 @20'		Floor-2 @20'		Eastwall-1 @20'		Eastwall-2 @20'		@19'	
	Depth:	20 ft		20 ft		20 ft		20 ft		19 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Nov-29-16 14:00		Nov-29-16 14:05		Nov-29-16 14:10		Nov-29-16 14:15		Nov-29-16 14:20		
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-02-16 13:00		Dec-02-16 13:00		Dec-07-16 13:00		Dec-07-16 13:00		Dec-02-16 13:00		
	Analyzed:	Dec-03-16 19:51		Dec-03-16 19:58		Dec-07-16 14:20		Dec-07-16 14:27		Dec-03-16 20:19		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		299	5.00	218	5.00	410	5.00	444	5.00	297	5.00	

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

Huns Boah

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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(214) 902 0300	9701 Harry Hines Blvd, Dallas, TX 75220	(214) 351-9139
(210) 509-3334	5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3335
(432) 563-1800	1211 W Florida Ave, Midland, TX 79701	(432) 563-1713
(602) 437-0330	2525 W. Huntington Dr Suite 102, Tempe AZ 85282	
(214) 902 0300 (210) 509-3334 (432) 563-1800	9701 Harry Hines Blvd , Dallas, TX 75220 5332 Blackberry Drive, San Antonio TX 78238 1211 W Florida Ave, Midland, TX 79701	(214) 351-9 (210) 509-3



### **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order #: 541160, 54	1160							Proj	ject ID:				
Analyst: MNR		<b>Date Prepared:</b> 12/02/2016				<b>Date Analyzed:</b> 12/02/2016							
Lab Batch ID: 3004963	Sample: 716760-1-	-BKS Batch #: 1					Matrix: Solid						
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by	y EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Chloride		-5.00					. ,		0	00.110	20		
Chioride		<5.00	250	246	98	250	247	99	0	90-110	20		
Analyst: SLU	<b>Date Prepared:</b> 12/07/2016 <b>Date Analyzed:</b> 12/07/2016												
Lab Batch ID: 3005174	Sample: 716946-1-	<b>mple:</b> 716946-1-BKS <b>Batch #:</b> 1				Matrix: Solid							
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by Analytes	y EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Chloride		<5.00	250	232	93	250	232	93	0	90-110	20		

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 (East)

Work Order # :	541160						Project II	):				
Lab Batch ID:	3004963	QC- Sample ID:	541088	-001 S	Ba	tch #:	1 Matri	<b>x:</b> Soil				
Date Analyzed:	12/03/2016	Date Prepared:	12/02/2	016	Ar	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgan	nic 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]		/0K [D]	[E]	Kesun [r]	/6K [G]	/0	/0K	70KI D	
Chloride		1050	564	1620	101	564	1620	101	0	90-110	20	
Lab Batch ID:	3004963	QC- Sample ID:	541168	-001 S	Ba	tch #:	1 Matri	<b>x:</b> Soil				
Date Analyzed:	12/02/2016	Date Prepared:	12/02/2	016	Ar	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgan	nic 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]	Kesun [1]	[G]	/0			
Chloride		475	250	700	90	250	704	92	1	90-110	20	
Lab Batch ID:	3005174	QC- Sample ID:	541536	-001 S	Ba	tch #:	1 Matri	x: Soil		1		
Date Analyzed:	12/07/2016	Date Prepared:	12/07/2	016	Ar	alyst: S	SLU					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgar	nic 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]	itesuit [F]	[G]				
Chloride		3510	1250	4600	87	1250	4710	96	2	90-110	20	Х

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

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

Special Inst Bill to Rose Relinquished Relinquished							LAB # (lab use only)	(lab use only) ORDER #:							Xenco The Environme
Special Instructions: Bill to Rose Slade at Energy Transfer. Relinquished by Relinquished by: Relinquished by:		North	Eastv	Eastv	Floc	. Floc	고		Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	
ransfer.		Northwall-1 @ 19'	Eastwall-2 @ 20'	Eastwall-1 @ 20'	Floor-2 @ 20'	Floor-1 @ 20'	FIELD CODE	00	All	432.520.7720	Midland, TX 79703	2057 Commerce	TRC Solutions, Inc	Nikki Green	Laboratories
Date Date									All	1	03		nc		
Time 1340 1340 11me							Beginning Depth		en						
Time 11me 124							Ending Depth	1	1						
Received by Received by Received by ELO		12/3/2016	121212016	124/2016	14/30/2016	11/29/2016	Date Sampled								
AM		1420	1415	1410	1405	1400	Time Sampled		e-mail:	Fax No:					
Quanta a							Field Filtered		i and	2					
			+			-	Total #. of Containers		100	432.520.7701					0 🗎
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3				1			HCI	Preservation & a	ngreen@trc rose.slade@en	701					CHAIN OI 12600 West I-20 East Odessa, Texas 79765
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- 0 <del>1</del>							NaOH	<b>*</b>	solu						AIN OF 0 East 5 79765
Temp: CF:+ 0.1 Correcteu	┝╌┟╌┟		-	-		-	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> None	of Containers	tions						OF St
	┝─┼─┼		-	-		-	Other ( Specify)	ers	s.co						cus
Date Tim 1-30 134 Date 11 Date 11 Cemp: IR ID:R-8 CF:+ 0.1 1.4 Corrected Temp: 1.5			Sol Sol	Soil	Soil	Soil	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	ngreen@trcsolutions.com e.slade@energytransfer.com	<ul> <li>Report Format:</li> </ul>	ł	י די	1	Pro	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST t I-20 East \$xas 79765 Fax: 432-563-1713
			1_				an an ann ann an an an	015B	Π	Forn		Project Loc:	Pro	Project Name:	CO
- Const			_				TPH: TX 1005 TX 1006		11	nat:	PO #:	t Lo	Project #:	Vamo	RD ,
amp amp amp amp busto			_	+	_	┢	Cations (Ca, Mg, Na, K) Anions (Cl, SO4, Alkalinity)			्रत्वी		2 	#		AND
Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS DH Temperature Upon Receipt:			+	+	-	-	SAR / ESP / CEC	TOTAL:		Standard	8			ner	AN
y Co ontai cont cont cont cont cont cont cals eals and I npler rier?				+	1		Metals: As Ag Ba Cd Cr Pb Hg	14720		anda				T VD.	IALYS Phone Fax:
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ents Inta Ispac (s) ontai ooler ered ered UPS Rece							Semivolatiles		Analyze For:			Lea		sfer	IALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713
sipt			-	-	-	-	BTEX 8021B/5030 or BTEX 8 RCI	260	-			Lea County, NM		Boy	563- 563-
(s)			+	+-	+	+	N.O.R.M.		-	TRRP		inty,		d 4"	EST 1800
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FedEx イイイイイ				1										Energy Transfer Boyd 4" Historical (East)	
Lone										NPDES				al (E	
°C Star				100	25.21	1000	RUSH TAT (Pre-Schedule) 2	24, 48, 72 hr:	5	ES				ast)	
27. <b>.</b>			<  ×	×	×	×	Standard TAT				L	Į		Γ	



Client: TRC Solutions, Inc

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

Acceptable Temperature Range: 0 - 6 degC



Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/30/2016 02:24:00 PM Temperature Measuring device used : R8 Work Order #: 541160 Comments Sample Receipt Checklist 1.5 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? N/A #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A N/A #6 Custody Seals intact on sample bottles? #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes Yes #14 Sample matrix/ properties agree with Chain of Custody? #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? N/A #21 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for N/A samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Wramer Jessica Kramer Checklist reviewed by: May Moah Kelsey Brooks

Date: 12/01/2016

Date: 12/01/2016

# Analytical Report 541500

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

08-DEC-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)



08-DEC-16

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

#### Reference: XENCO Report No(s): 541500 Energy Transfer Boyd 4" Historical (East) 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) 541500. 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. 541500 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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Id

South Wall-1 @ 19' Floor-3 @20'

## Sample Cross Reference 541500



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (East)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	12-06-16 12:00	- 19 ft	541500-001
S	12-06-16 12:05	- 20 ft	541500-002



## CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 541500 
 Report Date:
 08-DEC-16

 Date Received:
 12/06/2016

Sample receipt non conformances and comments:

TPH verbal report due 12/07/16 and full report Due 12/8/16

Sample receipt non conformances and comments per sample:

None

**Analytical non conformances and comments:** Batch: LBA-3005210 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030. Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 541500-002.



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

## Certificate of Analysis Summary 541500

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Tue Dec-06-16 03:20 pmReport Date:08-DEC-16Project Manager:Kelsey Brooks

	Lab Id:	541500-001	541500-002		
Analysis Requested	Field Id:	South Wall-1 @ 19'	Floor-3 @20'		
Analysis Kequesiea	Depth:	19 ft	20 ft		
	Matrix:	SOIL	SOIL		
	Sampled:	Dec-06-16 12:00	Dec-06-16 12:05		
BTEX by EPA 8021B	Extracted:	Dec-07-16 08:15	Dec-07-16 08:15		
	Analyzed:	Dec-07-16 11:15	Dec-07-16 19:09		
	Units/RL:	mg/kg RL	mg/kg RL		
Benzene		ND 0.00150	ND 0.00149		
Toluene		ND 0.00200	ND 0.00199		
Ethylbenzene		ND 0.00200	0.171 0.00199		
m_p-Xylenes		ND 0.00200	3.90 D 0.00988		
o-Xylene		ND 0.00300	0.0867 0.00298		
Total Xylenes		ND 0.00200	3.99 0.00298		
Total BTEX		ND 0.00150	4.16 0.00149		
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-06-16 16:00	Dec-06-16 16:00		
	Analyzed:	Dec-06-16 20:33	Dec-06-16 20:41		
	Units/RL:	mg/kg RL	mg/kg RL		
Chloride		519 5.00	22.0 5.00		
TPH By SW8015 Mod	Extracted:	Dec-06-16 17:00	Dec-06-16 17:00		
	Analyzed:	Dec-06-16 21:48	Dec-06-16 23:08		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C10 Gasoline Range Hydrocarbons		ND 15.0	1580 74.8		
C10-C28 Diesel Range Hydrocarbons		ND 15.0	6040 74.8		
Total TPH		ND 15.0	7620 74.8		

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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Huns Boah

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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	



	<b>ders :</b> 54150 #: 3005115	Sample: 541500-001 / SMP	Project ID: MP Batch: 1 Matrix: Soil								
Units:	mg/kg	Date Analyzed: 12/06/16 21:48	SU	RROGATE R	ECOVERY	STUDY					
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes			[D]						
1-Chloroocta			111	99.8	111	70-130					
o-Terphenyl			59.2	49.9	119	70-135					
	#: 3005115	Sample: 541500-002 / SMP	Batcl	h: 1 Matrix	: Soil						
Units:	mg/kg	Date Analyzed: 12/06/16 23:08	SU	RROGATE R	ECOVERY	STUDY					
	ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
1-Chloroocta	ane		129	99.7	129	70-130					
o-Terphenyl			64.3	49.9	129	70-135					
Lab Batch	#: 3005210	Sample: 541500-001 / SMP	Batcl	h: 1 Matrix	: Soil						
Units:	mg/kg	Date Analyzed: 12/07/16 11:15	SU	RROGATE R	ECOVERY	STUDY					
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
1400	1	Analytes	0.0011	0.0200		00.100					
1,4-Difluoro			0.0311	0.0300	104	80-120					
4-Bromofluc		Sec. 1. 541500.002 / DI	0.0300	0.0300	100	80-120					
	#: 3005210	Sample: 541500-002 / DL	Batcl								
Units:	mg/kg	Date Analyzed: 12/07/16 11:38	SU	RROGATE R	ECOVERY	STUDY					
	ВТЕХ	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
1,4-Difluoro	benzene		0.0249	0.0300	83	80-120					
4-Bromofluc	orobenzene		0.0321	0.0300	107	80-120					
Lab Batch	#: 3005210	Sample: 541500-002 / SMP	Batcl	h: 1 Matrix	: Soil						
Units:	mg/kg	Date Analyzed: 12/07/16 19:09	SU	RROGATE R	ECOVERY	STUDY					
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag				
1,4-Difluoro	benzene		0.0342	0.0300	114	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# **Form 2 - Surrogate Recoveries** Project Name: Energy Transfer Boyd 4" Historical (East)

Lab Batch #:		Sample: 716893-1-BLK / B					
Units:	mg/kg	Date Analyzed: 12/06/16 20:28	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctan	e		129	100	129	70-130	
o-Terphenyl			64.7	50.0	129	70-135	
Lab Batch #:	3005210	Sample: 716968-1-BLK / B	LK Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 12/07/16 10:43	SU	JRROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobe			0.0302	0.0300	101	80-120	
4-Bromofluoro			0.0290	0.0300	97	80-120	
Lab Batch #:	3005115	<b>Sample:</b> 716893-1-BKS / B]		h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 12/06/16 20:54	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctan	e		123	100	123	70-130	
o-Terphenyl			63.9	50.0	128	70-135	
Lab Batch #:	3005210	Sample: 716968-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 12/07/16 08:38	SU	JRROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4-Difluorobe	nzene	Analytes	0.0289	0.0300	96	80-120	
4-Bromofluoro			0.0289	0.0300	96	80-120	
Lab Batch #:		Sample: 716893-1-BSD / BS				00-120	
Units:	mg/kg	Date Analyzed: 12/06/16 21:21		JRROGATE R		STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes	-		[D]		
1-Chlorooctan	-Chlorooctane			100	116	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# **Form 2 - Surrogate Recoveries** Project Name: Energy Transfer Boyd 4" Historical (East)

Work Ore Lab Batch #	<b>lers :</b> 54150 <b>:</b> 3005210	0, Sample: 716968-1-BSD / B	SD Batch	Project ID : 1 Matrix			
Units:	mg/kg	Date Analyzed: 12/07/16 08:54	SUI	RROGATE R	RECOVERY	STUDY	
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorol	benzene		0.0286	0.0300	95	80-120	
4-Bromofluo			0.0289	0.0300	96	80-120	
Lab Batch #	<b>:</b> 3005115	Sample: 541500-001 S / MS	Batch	: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 12/06/16 22:14	SUI	RROGATE R	RECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		130	99.9	130	70-130	
o-Terphenyl			60.1	50.0	130	70-130	
Lab Batch #	t• 3005210	<b>Sample:</b> 541500-001 S / MS				70-155	
Units:	mg/kg	Date Analyzed: 12/07/16 09:54		RROGATE R		STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[**]	[12]	[D]	/011	
1,4-Difluoro	benzene		0.0293	0.0300	98	80-120	
4-Bromofluo	robenzene		0.0309	0.0300	103	80-120	
Lab Batch #	<b>:</b> 3005115	Sample: 541500-001 SD / N	ISD Batch	: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 12/06/16 22:41	SUI	RROGATE R	RECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	20	Analytes	127	00.0		70.120	
o-Terphenyl			127 59.8	99.9 50.0	127	70-130	
Lab Batch #	€ 3005210	Sample: 541500-001 SD / N				/0-155	
Units:	mg/kg	Date Analyzed: 12/07/16 10:10		RROGATE R		STUDY	
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro			0.0321	0.0300	107	80-120	
4-Bromofluo	robenzene		0.0338	0.0300	113	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order #: 541500							Pro	ject ID:			
Analyst: ALJ	D	ate Prepar	red: 12/07/201	16			Date A	nalyzed:	2/07/2016		
Lab Batch ID: 3005210 Sample: 716968-1-E	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	DY	
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	< 0.00151	0.101	0.0766	76	0.0998	0.0837	84	9	70-130	35	
Toluene	< 0.00201	0.101	0.0741	73	0.0998	0.0824	83	11	70-130	35	
Ethylbenzene	< 0.00201	0.101	0.0801	79	0.0998	0.0894	90	11	71-129	35	
m_p-Xylenes	< 0.00201	0.201	0.161	80	0.200	0.179	90	11	70-135	35	
o-Xylene	< 0.00302	0.101	0.0810	80	0.0998	0.0903	90	11	71-133	35	
Analyst: SLU	D	ate Prepar	red: 12/06/201	6			Date A	nalyzed:	2/06/2016	*	
Lab Batch ID: 3005135 Sample: 716898-1-H	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	230	92	250	234	94	2	90-110	20	

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



### **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order	<b>#:</b> 541500		Project ID:												
Analyst:	ARM	D	ate Prepar	red: 12/06/201	6	Date Analyzed: 12/06/2016									
Lab Batch ID	<b>h ID:</b> 3005115 <b>Sample:</b> 716893-1-BKS <b>Batch #:</b> 1					Matrix: Solid									
Units:	nits: mg/kg BLANK /BLANK SPIKE							<b>SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY</b>							
	TPH By SW8015 Mod	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			
Analy	rtes		[B]	[C]	[D]	[E]	Result [F]	[G]							
C6-C10 G	asoline Range Hydrocarbons	<15.0	1000	974	97	1000	964	96	1	70-135	35				
C10-C28	Diesel Range Hydrocarbons	<15.0	1000	1010	101	1000	1010	101	0	70-135	35				

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 (East)

Work Order # :	541500						Project II	):				
Lab Batch ID:	3005210	QC- Sample ID:	541500	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	12/07/2016	Date Prepared:	12/07/2	016	An	alyst: A	ALJ					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021B	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]				
Benzene		< 0.00149	0.0994	0.0802	81	0.0986	0.0720	73	11	70-130	35	
Toluene		< 0.00199	0.0994	0.0780	78	0.0986	0.0690	70	12	70-130	35	
Ethylbenzene		< 0.00199	0.0994	0.0831	84	0.0986	0.0730	74	13	71-129	35	
m_p-Xylenes		< 0.00199	0.199	0.165	83	0.197	0.146	74	12	70-135	35	
o-Xylene		<0.00298	0.0994	0.0816	82	0.0986	0.0733	74	11	71-133	35	
Lab Batch ID:	3005135	QC- Sample ID:	540902	-009 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	12/06/2016	Date Prepared:	12/06/2	016	An	alyst: S	SLU					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Posult	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Inorga	nic Anions by EPA 300/300.1 Analytes		Spike Added [B]	Spiked Sample	Spiked	Spike Added [E]			RPD %	Control		Flag
Chloride	·	Sample Result	Added	Spiked Sample Result	Spiked Sample %R	Added	Spiked Sample	Dup. %R		Control Limits	Limits	Flag
	·	Sample Result [A]	<b>Added</b> [ <b>B</b> ] 5000	Spiked Sample Result [C] 9840	Spiked Sample %R [D] 95	Added [E]	Spiked Sample Result [F]	Dup. %R [G] 97	%	Control Limits %R	Limits %RPD	Flag
Chloride	Analytes	Sample Result [A] 5080	Added [B] 5000 541375	Spiked Sample Result [C] 9840 -001 S	Spiked Sample %R [D] 95 Ba	Added [E] 5000	Spiked Sample Result [F] 9910 1 Matrix	Dup. %R [G] 97	%	Control Limits %R	Limits %RPD	Flag
Chloride Lab Batch ID:	Analytes 3005135	Sample Result [A] 5080 QC- Sample ID:	Added [B] 5000 541375 12/06/2	Spiked Sample Result [C] 9840 -001 S 016	Spiked Sample %R [D] 95 Ba An	Added [E] 5000 tch #: nalyst: S	Spiked Sample Result [F] 9910 1 Matrix	Dup. %R [G] 97 x: Soil	<b>%</b>	Control Limits %R 90-110	Limits %RPD	Flag
Chloride Lab Batch ID: Date Analyzed: Reporting Units:	Analytes 3005135 12/06/2016	Sample Result [A] 5080 QC- Sample ID: Date Prepared: Parent Sample	Added [B] 5000 541375 12/06/2 W Spike	Spiked Sample Result [C] 9840 -001 S 016 IATRIX SPIK Spiked Sample Result	Spiked Sample %R [D] 95 Ba An E / MAT Spiked Sample	Added [E] 5000 tch #: nalyst: S RIX SPI Spike	Spiked Sample Result [F] 9910 1 Matrix SLU KE DUPLICA Duplicate Spiked Sample	Dup. %R [G] 97 c: Soil TE REC Spiked Dup.	% 1 OVERY RPD	Control Limits %R 90-110 STUDY Control Limits	Limits %RPD 20 Control Limits	Flag
Chloride Lab Batch ID: Date Analyzed: Reporting Units:	Analytes 3005135 12/06/2016 mg/kg	Sample Result [A] 5080 QC- Sample ID: Date Prepared: Parent	Added [B] 5000 541375 12/06/2 W	Spiked Sample Result [C] 9840 -001 S 016 IATRIX SPIK Spiked Sample	Spiked Sample %R [D] 95 Ba An E / MAT Spiked	Added [E] 5000 tch #: nalyst: S RIX SPI	Spiked Sample Result [F] 9910 1 Matrix SLU KE DUPLICA Duplicate	Dup. %R [G] 97 :: Soil TE REC Spiked	% 1 OVERY	Control Limits %R 90-110 STUDY Control	Limits %RPD 20 Control	

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

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



## Form 3 - MS / MSD Recoveries



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

Work Order # :				Project ID:									
Lab Batch ID:	3005115 Q	C- Sample ID:	541500	-001 S	Ba	tch #:	1 Matrix	: Soil					
Date Analyzed:	Analyzed: 12/06/2016 Date Prepared:		12/06/2	016	An	alyst: A	ARM						
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY			
ſ	TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag	
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD		
C6-C10 Gasoline	e Range Hydrocarbons	<15.0	999	931	93	999	926	93	1	70-135	35		
C10-C28 Diesel	Range Hydrocarbons	<15.0	999	993	99	999	986	99	1	70-135	35		

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

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

Date Time:     3     4     Preserved where applicable     0n log     Temp:     IR ID:R-8       Date Time:     Received By:     Custody Seal #     Preserved where applicable     0n log     CF:+ 0.1 7.1       Sometitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service where your constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates.     Subcontractors and assigns XENCO's standard terms and conditions of service where your constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates.     Subcontractors and assigns XENCO's standard terms and conditions of service where your constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates.     Preserved where applicable     On log     CF:+ 0.1 7.1     0     0	Preserved where applicable	* Pres	4 Custody Seal # its affiliates, subcontracto	3 Received By: 5 Sient company to XENCO Laboratories and	Date Time: 3 Re 5 4 valid purchase order from clie	t and relinquishment of samples constitutes t	3 Relinquished by: 5
Received By:	Date Time: Rece	зу:	Relinquished By:	Received By:		- amo	Relinquished by:
Received By: 2	te Time:	Зуз	Relinquished By:	Received By CAM LLC	Date Time: Re	YA NO IN	Relinquished by Sampler
racking #	FED-EX / UPS: Tracking #	DING COURIER DELIVE	E POSSESSION, INCLU	eceived by 3:00 pm		TAT Starts Day received by Lab, if received by 3:00 pm	TAT Starts Day rec
				TRRP Checklist			3 Day EMERGENCY
			UST/RG-411	Level 3 (CLP Forms)		Contract TAT	2 Day EMERGENCY
			TRRP Level IV	Level III Std QC+ Forms		CY 7 Day TAT	Next Day EMERGENCY
		Level IV (Full Data Pkg /raw data)	Level IV (Full	Level II Std QC		S Day TAT	Same Day TAT
	Notes:	ACCURATE AND ADDRESS	mation	Data Deliverable Information		Business days)	Turnaround Time ( Business
							9
							8
							3
							σ
							5
							4
	1	K K		1205 S 1	1/ 12	620'	2 Floor-3
	50	1		1200 5 1	0/2/	10/91	1 South Wa
Field Comments	B	MEOH NONE TP Cl	HNO3 H2SO4 NaOH NaHSO4	Time Matrix bottles HCI NaOH/Zn Acetate	Sample Depth Date T	Field ID / Point of Collection	No. Field II
	FC)		Number of preserved bottles	Num	Collection		
WW= Waste Water	( 8					Gren Mell Juer	Samplers' Name:
O = Oil	02	50		Change Change	PO Number:	<b>J</b>	Project Contact
SL = Sludge WW= Waste Water W - Wing	_\	15	ster	Kose Slade	4499	tresolutions.com 432004	1
P = Product SW = Surface water		m 00	N		Lea (	verce Or	
S = Soil/Sed/Solid GW =Ground Water		7	ical Gas	Boyd 4" Historical	Project Location		Company Address:
A= Air				nformation	Project Name/Number:	formation	Client / Reporting Information
Matrix Codes	Analytical Information						
000149	# Xence Job #	Xenco Quote #		www.xenco.com		Service Center - San Antonio, Texas (210-509-3334)	Service Center - San Ar
Tampa, Florida (813-620-2000)	Norcross, Georgia (770-449-8800)	Norcross, I				0300)	Dallas, Texas (214-902-0300)
Lakeland, Florida (863-646-8526)	Texas (432-563-1800)	Odessa, Te				nce 1990 0-4200)	Setting the Standard since 1990 Stafford, Texas (281-240-4200)
		JU1	LUSIODI	Page 1 of		ABRATORIES	
		TTT/	NETONIO				



# **XENCO Laboratories**



RATORIES Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 12/06/2016 03:20:00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 541500	Temperature Measuring device used : R8
Sample Rece	ipt Checklist Comments
#1 *Temperature of cooler(s)?	9.2
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	Νο
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? samples for the analysis of HEM or HEM-SGT which are verif analysts.	
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	Ac+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 12/06/2016

Checklist reviewed by: Mms Moah Kelsey Brooks

Date: 12/07/2016

# Analytical Report 542090

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

### 21-DEC-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)





21-DEC-16

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **542090** Energy Transfer Boyd 4" Historical (East) 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) 542090. 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. 542090 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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Id

Floor-3a @ 30'

## Sample Cross Reference 542090



Energy Transfer Boyd 4" Historical (East)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	12-13-16 16:00	- 30 ft	542090-001





## CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 542090 Report Date:21-DEC-16Date Received:12/14/2016

Sample receipt non conformances and comments:

client called and added chlorides 12/16/16

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 542090

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Wed Dec-14-16 10:15 amReport Date:21-DEC-16Project Manager:Kelsey Brooks

	Lab Id:	542090-001				
Analysis Requested	Field Id:	Floor-3a @ 30'				
Analysis Kequestea	Depth:	30 ft				
	Matrix:	SOIL				
	Sampled:	Dec-13-16 16:00				
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-17-16 13:00	1		1	
	Analyzed:	Dec-17-16 19:30				
	Units/RL:	mg/kg RL				
Chloride		157 5.00				
TPH By SW8015 Mod	Extracted:	Dec-15-16 14:00				
	Analyzed:	Dec-16-16 05:11				
	Units/RL:	mg/kg RL				
C6-C10 Gasoline Range Hydrocarbons		30.2 15.0				
C10-C28 Diesel Range Hydrocarbons		1350 15.0				
C28-C35 Oil Range Hydrocarbons		25.9 15.0				
Total TPH		1410 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

Huns Boah

Kelsey Brooks Project Manager

Final 1.001



## **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



# **Form 2 - Surrogate Recoveries** Project Name: Energy Transfer Boyd 4" Historical (East)

Work Orde Lab Batch #:		Sample: 542090-001 / SMP	Bate	Project ID			
Units:	mg/kg	Date Analyzed: 12/16/16 05:11	SU	JRROGATE F	RECOVERY	STUDY	
	TPH F	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctane			92.3	99.8	92	70-130	
o-Terphenyl			41.1	49.9	82	70-135	
Lab Batch #:	3005863	Sample: 717332-1-BLK / BI	LK Bate	ch: 1 Matrix	<b>x:</b> Solid		
Units:	mg/kg	Date Analyzed: 12/15/16 20:55	SU	JRROGATE F	RECOVERYS	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			114	100	114	70-130	
o-Terphenyl			57.0	50.0	114	70-135	
Lab Batch #:	3005863	Sample: 717332-1-BKS / BI	KS Bate	h: 1 Matrix	x: Solid		
Units:	mg/kg	Date Analyzed: 12/15/16 21:17	st	JRROGATE F	RECOVERY	STUDY	
	TPH F	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctane			111	100	111	70-130	
o-Terphenyl			42.4	50.0	85	70-135	
Lab Batch #:	3005863	Sample: 717332-1-BSD / BS	SD Bate	ch: 1 Matrix	x: Solid		
Units:	mg/kg	Date Analyzed: 12/15/16 21:39	SU	JRROGATE F	RECOVERYS	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			113	100	113	70-130	
o-Terphenyl			45.5	50.0	91	70-130	
Lab Batch #:	3005863	Sample: 541854-020 S / MS					
	mg/kg	Date Analyzed: 12/16/16 02:31		JRROGATE F		STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
r		Analytes			[D]		
1-Chlorooctane			120	99.9	120	70-130	
o-Terphenyl			48.1	50.0	96	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# **Form 2 - Surrogate Recoveries** Project Name: Energy Transfer Boyd 4" Historical (East)

	rders : 54209 #: 3005863	0, Sample: 541854-020 SD / M	MSD Batch	Project ID: 1 Matrix:			
Units:	mg/kg	Date Analyzed: 12/16/16 02:53	SU	RROGATE RI	ECOVERY S	STUDY	
		3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	ctane		120	99.8	120	70-130	
o-Terpheny	yl		50.0	49.9	100	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order #: 542090							Proj	ect ID:			
Analyst: MNR	D	ate Prepar	ed: 12/17/201	6			Date A	nalyzed: 1	2/17/2016		
Lab Batch ID: 3005931 Sample: 717402-1-	BKS	Batch	<b>n #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	DY	
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	242	97	250	248	99	2	90-110	20	
Analyst: ARM	Date Prepared:         12/15/2016         Date Analyzed:         12/15/2016						ļ	ļ			
Lab Batch ID: 3005863 Sample: 717332-1-	-BKS Batch #: 1 Matrix: Solid										
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 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	
Analytes C6-C10 Gasoline Range Hydrocarbons	-		Result	%R		Duplicate	%R	<b>%</b>	%R 70-135	%RPD 35	



## Form 3 - MS / MSD Recoveries



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

Work Order # :	542090						Project II	):				
Lab Batch ID:	3005931	QC- Sample ID:	541854	-006 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	12/17/2016	Date Prepared:	12/17/2	016	An	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	anic 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]	Kesun [F]	[G]	/0	701		
Chloride		4330	1250	5530	96	1250	5730	112	4	90-110	20	X
Lab Batch ID:	3005931	QC- Sample ID:	542375	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	12/19/2016	Date Prepared:	12/17/2	016	An	alyst: N	MNR					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	anic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[C]	/0K [D]	E]	Kesun [F]	/0K [G]	/0	70K	70KI D	
Chloride		262	250	529	107	250	528	106	0	90-110	20	
Lab Batch ID:	3005863	QC- Sample ID:	541854	-020 S	Ba	tch #:	1 Matrix	: Soil		·	-	
Date Analyzed:	12/16/2016	Date Prepared:	12/15/2	016	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C10 Gasol	ine Range Hydrocarbons	<15.0	999	947	95	998	900	90	5	70-135	35	
C10-C28 Dies	el Range Hydrocarbons	<15.0	999	1020	102	998	996	100	2	70-135	35	

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

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

	Relinguished by:	Doin industried by	Bill to Rose	Special Instructions:									LAB # (lab use only)	1	ORDER #:	/lah liep o							The Env	Xer
		Mother Seen	Bill to Rose Slade at Energy Transfer.	tructions:								Floor-3a @ 30'	FIELD CODE		コロクト七の #		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	The Environmental Lab of Texas	Xenco Laboratories
	Date	Date 12-19-11 1										-		-			A	0	33		10			
	Time	Time			$\left  \cdot \right $		-	-			-		Beginning Depth	_			ees							
7		70					+	-			_		Ending Depth				1		ł					
Received by ELOI:	Received by:	Received by	2									12/13/2016	Date Sampled											
		MANC										1600	Time Sampled				e-mail:	Fax No:						
	<u>8</u>												Field Filtered											
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Time	a <u>-a</u> .	Time	np:r	:R-8			+			-	_	×	NP=Non-Potable Specify Other TPH: 418.1 (8015M) 80 <sup>-</sup>	15B		Π		it F		Pro	77	roje		REC
ŵ	a a a a a a a a a a a a a a a a a a a	D me	Ó1								_	2000	TPH: TX 1005 TX 1006					Report Format:	-11	ject	Project #:	ct N		ÖR
Tem	Sam	Labo		]									Cations (Ca, Mg, Na, K)		1			ñ	PO 批	Project Loc:	ct #	Project Name:		DA
pera	by Saby Co	els o tody	vle S Fr	ıЦ									Anions (CI, SO4, Alkalinity)		707					1	ĺ	11		ND
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 conter(s)	vucs Free of Headspace?		_	_					_	_	SAR / ESP / CEC	201	TCLP: TOTAL:			Standard				nerc	71	AN
Upo	Pr/Cli	ntain s on	aine f He	í –	_			+		_			Metals: As Ag Ba Cd Cr Pb Hg	Se		Ana		Idaro				JY T	hone Fax:	ALY
n Re	ent R	er(s)	asp		-	+	-			-			Volatiles Semivolatiles			Analyze						rans	: e: 4	SIS
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												-	N.O.R.M.					TRRP		County, NM		d 4	Phone: 432-563-1800 Fax: 432-563-1713	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
	FedEx +												Chlorides E 300.1							MN		His	00	
		<	<b>≺</b> ≺																			Energy Transfer Boyd 4" Historical (East)		
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O	Star			$\left  - \right $	_	_	-	$\left  \right $	_		-		RUSH TAT (Pre-Schedule) 24,	, 48,	72 hrs			DES				Eas		
										_		×	Standard TAT									t		

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# **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 12/14/2016 10:15:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 542090	Temperature Measuring device used : R8
Sample Recei	pt Checklist Comments
#1 *Temperature of cooler(s)?	5.2
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	Νο
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace (less than 1/4 inch l	bubble)? N/A
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? If samples for the analysis of HEM or HEM-SGT which are verif analysts.	
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	Ac+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 12/14/2016

Checklist reviewed by: Mmg Moah Kelsey Brooks

Date: 12/14/2016

# Analytical Report 542913

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

04-JAN-17

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)



04-JAN-17



#### Reference: XENCO Report No(s): 542913 Energy Transfer Boyd 4" Historical (East) 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) 542913. 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. 542913 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,

Huns hoah

Kelsey Brooks Project Manager

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



Sample Id

Floor-3b @ 30'

## Sample Cross Reference 542913



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (East)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	12-27-16 11:15	- 30 ft	542913-001



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 542913 
 Report Date:
 04-JAN-17

 Date Received:
 12/27/2016

Sample receipt non conformances and comments:

Call 432-664-6699 with verbals

Sample receipt non conformances and comments per sample:

None



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 542913

TRC Solutions, Inc, Midland, TX





Date Received in Lab:Tue Dec-27-16 01:34 pmReport Date:04-JAN-17Project Manager:Kelsey Brooks

	Lab Id:	542913-0	01			
Analysis Requested	Field Id:	Floor-3b @ 30'				
	Depth:	30 ft				
	Matrix:	SOIL				
	Sampled:	Dec-27-16 1	1:15			
TPH By SW8015 Mod	Extracted:	Dec-27-16 1	6:00			
	Analyzed:	Dec-29-16 09:11				
	Units/RL:	mg/kg	RL			
C6-C10 Gasoline Range Hydrocarbons		ND	15.0			
C10-C28 Diesel Range Hydrocarbons		2080	15.0			
C28-C35 Oil Range Hydrocarbons		ND	15.0			
Total TPH		2080	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

Huns Boah

Kelsey Brooks Project Manager

Final 1.001



## **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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(214) 902 0300	9701 Harry Hines Blvd, Dallas, TX 75220	(214) 351-9139
(210) 509-3334	5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3335
(432) 563-1800	1211 W Florida Ave, Midland, TX 79701	(432) 563-1713
(602) 437-0330	2525 W. Huntington Dr Suite 102, Tempe AZ 85282	
(214) 902 0300 (210) 509-3334 (432) 563-1800	9701 Harry Hines Blvd , Dallas, TX 75220 5332 Blackberry Drive, San Antonio TX 78238 1211 W Florida Ave, Midland, TX 79701	(214) 351-9 (210) 509-3



Work Ord Lab Batch #:		Sample: 542913-001 / SMP	Batc	Project ID: h: 1 Matrix				
U <b>nits:</b>	mg/kg	Date Analyzed: 12/29/16 09:11	SU	RROGATE R	ECOVERY S	STUDY		
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage	
		Analytes			[D]			
1-Chlorooctane	9		126	99.7	126	70-130		
o-Terphenyl			64.5	49.9	129	70-135		
Lab Batch #:	3006647	Sample: 717867-1-BLK / BI	LK Batc	h: 1 Matrix	: Solid	·		
Units:	mg/kg	Date Analyzed: 12/28/16 08:49	SU	RROGATE R	ECOVERY S	STUDY		
	TPH I	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	5		98.2	100	98	70-130		
o-Terphenyl			49.7	50.0	99	70-135		
Lab Batch #:	3006647	Sample: 717867-1-BKS / BI	KS Bate	h: 1 Matrix	: Solid			
Units:	mg/kg	Date Analyzed: 12/28/16 09:23	SU	RROGATE R	ECOVERY S	STUDY		
	ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooctane	e		109	100	109	70-130		
o-Terphenyl			53.2	50.0	106	70-135		
Lab Batch #:	3006647	Sample: 717867-1-BSD / BS	SD Bate	h: 1 Matrix	: Solid			
Units:	mg/kg	Date Analyzed: 12/28/16 09:54	SU	RROGATE R	ECOVERY S	STUDY		
	ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	9	•	109	100	109	70-130		
o-Terphenyl			53.0	50.0	106	70-135		
Lab Batch #:	3006647	Sample: 542785-101 S / MS	Bate	h: 1 Matrix	: Soil			
U <b>nits:</b>	mg/kg	Date Analyzed: 12/28/16 11:06	SU	RROGATE R	ECOVERY S	STUDY		
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage	
		Analytes			[D]			
1-Chlorooctane	e		115	99.8	115	70-130		
o-Terphenyl			55.0	49.9	110	70-135		

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Work Order Lab Batch #: 3		, Sample: 542785-101 SD / M	Project ID: MSD Batch: 1 Matrix: Soil								
Units: n	ng/kg	Date Analyzed: 12/28/16 11:40	te Analyzed: 12/28/16 11:40 SURROGATE RECOVERY STUDY								
		y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane			115	99.7	115	70-130					
o-Terphenyl			53.8	49.9	108	70-135					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order	·#: 542913		Project ID:										
Analyst:	ARM	D	<b>Date Prepared:</b> 12/27/2016				<b>Date Analyzed:</b> 12/28/2016						
Lab Batch ID	: 3006647 Sample: 717867-1-	<b>Sample:</b> 717867-1-BKS <b>Batch #:</b> 1						Matrix: Solid					
Units:	Jnits:       mg/kg         BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
	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		
Analy	vtes		[B]	[C]	[D]	[E]	Result [F]	[G]					
C6-C10 G	asoline Range Hydrocarbons	<15.0	1000	897	90	1000	937	94	4	75-125	25		
C10-C28	Diesel Range Hydrocarbons	<15.0	1000	1030	103	1000	1040	104	1	75-125	25		

Relative Percent Difference RPD =  $200^{\circ}$  (C-F)/(C+F) Blank Spike Recovery [D] =  $100^{\circ}$ (C)/[B] Blank Spike Duplicate Recovery [G] =  $100^{\circ}$ (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 (East)

Work Order # :	542913	Project ID:										
Lab Batch ID:3006647QC- Sample ID:5		542785	-101 S	Ba	tch #:	1 Matrix	: Soil					
Date Analyzed:	12/28/2016	Date Prepared:		12/27/2016		Analyst: ARM						
<b>Reporting Units:</b>	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Т	TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C10 Gasoline	e Range Hydrocarbons	<15.0	998	951	95	997	920	92	3	75-125	25	
C10-C28 Diesel	Range Hydrocarbons	<15.0	998	1020	102	997	998	100	2	75-125	25	

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

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

TAT Starts Day received by Lab, if received by 3:00 pm       TAT Starts Day received by Lab, if received by 3:00 pm       Sample: Sample: Custory Must       Relinquished by:     Date       3     Belinquished by:       4     Relinquished by:       5     Date	Next Day EMERGENCY     7 Day TAT     2 Day EMERGENCY     Contract TAT     a nav EMERGENCY	8 9 10 Turnaround Time (Business days) Same Day TAT	1 Floor-SbC 301 2 4 6 7	No. Field ID / Point of Collection	Client/Reporting Information Company Name/Branch: TRC Company Address: 2057 Commerce Dr 79703 Email: Narcen Etrc Solut H22 Phone Na: 3044	Service Center - San Antonio, Texas (210-509-3334)
BE ACCMENTED BE Time: Re Time: Re Time: Re Filme: Re Re Re Re Re Re Re Re Re Re Re Re Re R	Level III Std QC+ Forms II HHP Level IV	e Information		Onlie     Number:       Time     # of       HCI     NaOH/Zn       Acctate     HOI       HNO3     Of preserved bottles       H2SO4     Preserved bottles       NaOH     NaHSO4       NAOH     NaHSO4       MEOH     NONE	Project Information Project Name/Number: Project Location Lea Cty NM Lea Cty NM Lea Cty NM Lea Cty NM Lea Cty NM Lea Cty NM Lea Cty NM	CHAIN OF CUSTODY Page 1 of CUSTODY Odessa, Tex Norcross, G Xence Quote #
ELIVERY     FED-EX / UPS: Tracking #       Pate Time:     Hepelyed By:       Date Time:     Hepelyed By:       Date Time:     Received By:       Preserved where applicable     On Ice       Cooler Teml     Temp:       IR ID:R-8       CF:+ 0.1       Corrected Temp:     5.8 C		normania Normania Call 432 Lole 4-lolo 99 w/ Verbals		W = Wipe O = Oil WW= Waste Water Field Comments	Analytical Information Matrix Codes A= Air S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surice water SL = Sludge WW= Waste Water	as (432-563-1800) eorgia (770-449-8800) Xenco Job # SYJJ 15
U C C			Page 11 of 1	2	Final 1.001	

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## **XENCO** Laboratories



**NCO** Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 12/27/2016 01:34:00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 542913	Temperature Measuring device used : R8
Sample Rece	ipt Checklist Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	Νο
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	Νο
#21 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? samples for the analysis of HEM or HEM-SGT which are veri analysts.	
#23 >10 for all samples preserved with NaAsO2+NaOH, Zn/	Ac+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer

Date: 12/27/2016

Checklist reviewed by: Mms Moah Kelsey Brooks

Date: 12/28/2016

# Analytical Report 543050

for TRC Solutions, Inc

Project Manager: Nikki Green

#### 09-JAN-17

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)



09-JAN-17



Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): 543050

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) 543050. 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. 543050 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,

Huns Hoah

Kelsey Brooks Project Manager

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## Sample Cross Reference 543050



### TRC Solutions, Inc, Midland, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor-3c @ 34'	S	12-28-16 16:00	- 34 ft	543050-001



CASE NARRATIVE

Client Name: TRC Solutions, Inc Project Name: -

Project ID: Work Order Number(s): 543050

Report Date: 09-JAN-17 Date Received: 12/29/2016

#### Sample receipt non conformances and comments:

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

None

#### Analytical non conformances and comments:

Batch: LBA-3007108 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030. Lab Sample ID 543050-001 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: 543050-001.

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





Nikki Green Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 543050

TRC Solutions, Inc, Midland, TX

Project Name: -



Date Received in Lab:Thu Dec-29-16 10:42 amReport Date:09-JAN-17Project Manager:Kelsey Brooks

	Lab Id:	543050-0	01			
Analysis Requested	Field Id:	Floor-3c	) 34'			
Anulysis Requested	Depth:	34 ft				
	Matrix:	SOIL				
	Sampled:	Sampled: Dec-28-16 16:00				
BTEX by EPA 8021B	Extracted:	Jan-06-17 (	9:00			
	Analyzed:	Jan-06-17 1	1:31			
	Units/RL:	mg/kg	RL			
Benzene		ND	0.00150			
Toluene		0.00324	0.00200			
Ethylbenzene		ND	0.00200			
m_p-Xylenes		ND	0.00200			
o-Xylene		ND	0.00299			
Total Xylenes		ND	0.00200			
Total BTEX		0.00324	0.00150			
TPH By SW8015 Mod	Extracted:	Jan-04-17 (	9:00			
	Analyzed:	Jan-04-17 1	5:01			
	Units/RL:	mg/kg	RL			
C6-C10 Gasoline Range Hydrocarbons		33.0	15.0			
C10-C28 Diesel Range Hydrocarbons		2250	15.0			
C28-C35 Oil Range Hydrocarbons		ND	15.0			
Total TPH		2280	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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Version: 1.%

Huns Boah

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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: -

	#: 3006885	Sample: 543050-001 / SMP					
Units:	mg/kg	Date Analyzed: 01/04/17 15:01	SU	RROGATE R	RECOVERY S	STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooct	ane		91.1	99.7	91	70-130	
o-Terpheny	l		51.9	49.9	104	70-135	
Lab Batch	#: 3007108	Sample: 543050-001 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/06/17 11:31	SU	RROGATE R	RECOVERY S	STUDY	
	BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	henzene		0.0308	0.0300	103	80-120	
4-Bromoflu			0.0276	0.0300	92	80-120	
	#: 3006885	Sample: 718042-1-BLK / B			: Solid	00 120	
Units:	mg/kg	Date Analyzed: 01/04/17 13:39		RROGATE R		STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes		[D]	[D]	70K	
1-Chlorooct	ane		98.6	100	99	70-130	
o-Terpheny	l		47.2	50.0	94	70-135	
Lab Batch	#: 3007108	Sample: 718191-1-BLK / B	LK Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/06/17 15:38	SU	RROGATE R	RECOVERY S	STUDY	
	ВТЕХ	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluor	obenzene		0.0279	0.0300	93	80-120	
4-Bromoflu			0.0260	0.0300	87	80-120	
	#: 3006885	Sample: 718042-1-BKS / B			: Solid		
Units:	mg/kg	Date Analyzed: 01/04/17 14:07	SU	RROGATE R	RECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooct	ane		101	100	101	70-130	
o-Terpheny			48.2	50.0	96	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Form 2 - Surrogate Recoveries

Project Name: -

	r <b>ders :</b> 54305 #: 3007108	0, Sample: 718191-1-BKS / BI	KS Batcl	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 01/06/17 08:20	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R 80-120 80-120 7 STUDY Control Limits %R 70-130 70-135 70-135	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0296	0.0300	99	80-120	
4-Bromoflu	lorobenzene		0.0347	0.0300	116	80-120	
Lab Batch	#: 3006885	Sample: 718042-1-BSD / BS	SD Batcl	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/04/17 14:33	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flags
1.011		Analytes	101	100		50.100	
1-Chlorooc			101	100	101		
o-Terpheny		0	48.5	50.0	97	70-135	
	#: 3007108	Sample: 718191-1-BSD / BS					
Units:	mg/kg	Date Analyzed: 01/06/17 09:03	SU	RROGATE R	ECOVERY	STUDY	
	втех	X by EPA 8021B	Amount Found	True Amount	Recovery	Limits	Flags
		Analytes	[A]	[B]	%R [D]	70K	
1,4-Difluor	obenzene		0.0317	0.0300	106	80-120	
4-Bromoflu	orobenzene		0.0352	0.0300	117	80-120	
Lab Batch	#: 3007108	Sample: 543050-001 S / MS	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/06/17 09:53	SU	RROGATE R	ECOVERY S	STUDY	
	ВТЕХ	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	obenzene		0.0344	0.0300	115	80-120	
· ·	lorobenzene		0.0320	0.0300	107	80-120	
	#: 3007108	Sample: 543050-001 SD / M					
Units:	mg/kg	<b>Date Analyzed:</b> 01/06/17 10:09		RROGATE R		STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluor			0.0300	0.0300	100	80-120	
4-Bromoflu	orobenzene		0.0266	0.0300	89	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



### Project Name: -

						Proj	ject ID:			
D	ate Prepai	red: 01/06/20	17		<b>Date Analyzed:</b> 01/06/2017					
BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
	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
<0.00150			<u> </u>				20	70-130	35	
<0.00190	0.100	0.108	108	0.0996	0.0920	85	20	70-130	35	
< 0.00200	0.100	0.111	111	0.0996	0.0875	88	24	71-129	35	
< 0.00200	0.200	0.223	112	0.199	0.182	91	20	70-135	35	
< 0.00301	0.100	0.110	110	0.0996	0.0917	92	18	71-133	35	
D	ate Prepai	red: 01/04/20	17			Date A	nalyzed: (	01/04/2017		
BKS	Batch #: 1 Matrix: Solid									
	BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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
<15.0	1000	968	97	1000	946	95	2	75-125	25	
<15.0	1000	940	94	1000	1020	102	8	75-125	25	
	BIank Sample Result [A] <0.00150 <0.00200 <0.00200 <0.00200 <0.00301 D BKS BIank Sample Result [A] <15.0	Blank         Spike           Sample Result         Added           [A]         [B]           <0.00150	Bark         Batch #: 1           Blank         Spike         Blank           Sample Result         Added         Spike           [A]         [B]         [C]           <0.00150	BLANK /BLANK SPIKE / 1           Blank Sample Result [A]         Spike Added         Blank Spike Result [C]         Blank Spike %R [D]           <0.00150	Biank         Spike         Blank         Blank         Spike         Added         Spike         Blank         Spike         Added         Spike         Spike         Added         Spike         Spike         Added         Spike         Spike         Added         Spike         Spike         Spike         Spike         Spike         Added         Spike         Spike <th< td=""><td>Bark         Batch #: 1           BLANK /BLANK SPIKE / BLANK SPIKE DUP           Blank         Spike         Moded         Spike         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Duplicate         Duplicate         Spike         Spike</td><td>Date Prepared:         01/06/2017         Date A           3KS         Batch #:         1           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE           Blank Sample Result [A]         Spike Added         Blank Spike Result [B]         Blank [C]         Spike Poplicate (B]         Blank Spike Result [B]         Blank Spike Poplicate (B]         Blank Spike Poplicate (B]         Blank Spike Poplicate (B]         Blank Spike Poplicate Poplicate Poplicate         Blank Spike Poplicate         Blank Spike Poplicate         Blank Spike Poplicate         Blank Spike Poplicate         Blank Poplicate         Poplicate         Poplicate         Poplicate         Blank Poplicate         Blank Poplicate         Blank Poplicate         Blank Poplicate         Blank Poplicate         Poplicate         Blank Poplicate         Blank Poplicate         Poplicate         <t< td=""><td>Barting         Barting         Matrix: 5           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE         RECOV           Blank Sample Result [A]         Spike Added         Blank Spike Result [C]         Blank Spike [D]         Spike Spike [D]         Blank Spike (C]         Blank Spike Spike Spike Spike Spike (C]         Blank Spike</td><td>Date Prepared:         01/06/2017         Date Analyzed:         01/06/2017           3KS         Batch #:         1         Matrix:         Solid           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE         RECOVERY STUI           Sample Result         Spike Added         Blank Spike Result [C]         Blank Spike (D]         Spike (B]         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Ne         Blank Spike Ne         Spike Ne         Blank Spike NE</td><td>Date Prepared:         01/06/2017         Date Analyzed:         01/06/2017           3KS         Batch #:         1         Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Matrix:         Solid           Matrix:         Solid           Blank         Blank         Spike Result         Blank [I]         Spike IC]         Blank Spike %R         Spike Added         Blank Spike Puplicate         Blank Spike Puplicate         Blank Spike Puplicate         Blank Spike IG]         Blank         Spike Size         Blank Spike         Blank Spike         Spike Matrix         Blank Spike         Spike Puplicate         Blank Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Blank Spike         Spike         Blank Added         <t< td=""></t<></td></t<></td></th<>	Bark         Batch #: 1           BLANK /BLANK SPIKE / BLANK SPIKE DUP           Blank         Spike         Moded         Spike         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Blank         Spike         Duplicate         Duplicate         Duplicate         Spike         Spike	Date Prepared:         01/06/2017         Date A           3KS         Batch #:         1           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE           Blank Sample Result [A]         Spike Added         Blank Spike Result [B]         Blank [C]         Spike Poplicate (B]         Blank Spike Result [B]       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       3KS         Batch #:         1         Matrix:         Solid           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE         RECOVERY STUI           Sample Result         Spike Added         Blank Spike Result [C]         Blank Spike (D]         Spike (B]         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Ne         Blank Spike Ne         Spike Ne         Blank Spike NE</td><td>Date Prepared:         01/06/2017         Date Analyzed:         01/06/2017           3KS         Batch #:         1         Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Matrix:         Solid           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(C]         Blank Spike	Date Prepared:         01/06/2017         Date Analyzed:         01/06/2017           3KS         Batch #:         1         Matrix:         Solid           BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE         RECOVERY STUI           Sample Result         Spike Added         Blank Spike Result [C]         Blank Spike (D]         Spike (B]         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Added         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Spike Ne         Blank Ne         Blank Spike Ne         Spike Ne         Blank Spike NE	Date Prepared:         01/06/2017         Date Analyzed:         01/06/2017           3KS         Batch #:         1         Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Imate Analyzed:         01/06/2017           Matrix:         Solid           Matrix:         Solid           Matrix:         Solid           Blank         Blank         Spike Result         Blank [I]         Spike IC]         Blank Spike %R         Spike Added         Blank Spike Puplicate         Blank Spike Puplicate         Blank Spike Puplicate         Blank Spike IG]         Blank         Spike Size         Blank Spike         Blank Spike         Spike Matrix         Blank Spike         Spike Puplicate         Blank Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Spike         Blank Spike         Spike         Blank Spike         Spike         Blank Added <t< td=""></t<>

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



### Form 3 - MS / MSD Recoveries





Work Order # :	543050						Project ID	):				
Lab Batch ID:	3007108	QC- Sample ID:	543050	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	01/06/2017	Date Prepared:	01/06/2	017	An	alyst: A	LJ					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICAT	FE REC	OVERY	STUDY		
Ι	BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		< 0.00151	0.101	0.0316	31	0.0994	0.0318	32	1	70-130	35	Х
Toluene		0.00324	0.101	0.0195	16	0.0994	0.0219	19	12	70-130	35	X
Ethylbenzene		< 0.00202	0.101	0.00874	9	0.0994	0.0113	11	26	71-129	35	Х
m_p-Xylenes		<0.00202	0.202	0.0155	8	0.199	0.0190	10	20	70-135	35	X
o-Xylene		< 0.00302	0.101	0.00908	9	0.0994	0.0114	11	23	71-133	35	Х

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

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

Page 10 of 12

A M CR LES       Page       C         George       Constant       Constant       Constant         George       Immunotion       Project Internation       Terrore (20.500-100)         Monto       Terrore (20.500-333)       Immunotion       Terrore (20.500-100)         Monto       Terrore (20.500-333)       Terrore (20.500-100)       Terrore (20.500-100)         Monto       Terrore (20.500-330)       Terrore (20.500-300)       Terrore (20.500-300)       Terrore (20.500-300)         Dect       Terrore (20.500-300)       Terrore (20.500-300)       Terrore (20.500-300)       Terrore (20.500-300)       Terrore (20.500-300)         Promet of collection       Terrore (20.500-300)       Ter	d By:		Preserved where applicable	Custody Seal #	S Date Time: Received By: Custody Seal # Pres	n 22	Date Time:		elinquished by:
Bit Duty Fields     Page 1     O     Control     Sea A (20.505/100)     Labora, Field (00.505/100)     Labora, Field (00.505/100)     Labora, Field (00.505/100)     Temps				4	7				
Bit Die Artificitie     Page     O     Calculation     Calculation </td <td></td> <td>-</td> <td>Data Tia</td> <td>Belinguished By:</td> <td>ceived By:</td> <td>1</td> <td>Date Time:</td> <td></td> <td>No. No. No.</td>		-	Data Tia	Belinguished By:	ceived By:	1	Date Time:		No. No. No.
Bartol And Tork Ed.     Figs. 1     Or     Occasion     Occasion     National, Torking 100       Bit Andread     Figs. 1     Maximum     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Maximum     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Figs. 1     Project Nationalism     National, Torking 100     National, Torking 100       Sim Andread     Sim Andread     Sim Andread     National, Torking 100     National, Torking 100       Call Mark Mark Mark Mark Mark Mark Mark Mark	əd By:		Date Tin	Relinquished By:	1 1 0 WANDER	R CPUI	Date Time:	$\geq$	telinquished by Sampler:
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Radia Vision Relief     Fage     Cl       Radia Vision Relief     Fage     Fage       Radia Vision Relief     Fa					TRRP Checklist				3 Day EMERGENCY
Bit of State 100     Page     Page     O     Constant Constant     Constant Constant     Find Constant       Bit of State 2000     State 2000     State 2000     State 2000     State 2000     State 2000     Transport Find Bit       State 2000     State 2000     State 2000     State 2000     State 2000     State 2000     Transport Find Bit       State 2000     State 2000     State 2000     State 2000     State 2000     State 2000     Transport Find Bit       State 2000     Transport Find Bit       State 2000				UST/RG-411	Level 3 (CLP Forms)			Contract TAT	2 Day EMERGENCY
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## **XENCO Laboratories**



Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 12/29/2016 10:42:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 543050	Temperature Measuring device used : R8
Sample Recei	pt Checklist Comments
#1 *Temperature of cooler(s)?	8.4
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	Νο
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? I samples for the analysis of HEM or HEM-SGT which are verif analysts.	
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	nc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 12/29/2016

Checklist reviewed by: Mms Hoah Kelsey Brooks

Date: 12/30/2016

## **Analytical Report 544787**

for TRC Solutions, Inc

Project Manager: Nikki Green

Energy Transfer Boyd 4" Historical (East)

27-JAN-17

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)



27-JAN-17

Project Manager: Nikki Green TRC Solutions, Inc 2057 Commerce Midland, TX 79703

#### Reference: XENCO Report No(s): 544787 Energy Transfer Boyd 4" Historical (East) 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) 544787. 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. 544787 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,

Huns hoah

Kelsey Brooks Project Manager

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#### Sample Id

Floor-1 @20'
Northwall-1 @19'
Eastwall-1a @ 19'
Floor-2 @20'
Eastwall-2a @ 20'
Floor-4 @ 20'
Floor-3c @ 34'
Northwall-2 @ 29'
Eastwall-3 @ 29'
Southwall-1b @ 29'
Westwall-1 @ 29'

## Sample Cross Reference 544787



### TRC Solutions, Inc, Midland, TX

Energy Transfer Boyd 4" Historical (East)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	01-24-17 09:00	- 20 ft	544787-001
S	01-24-17 09:10	- 19 ft	544787-002
S	01-24-17 09:15	- 19 ft	544787-003
S	01-24-17 09:20	- 20 ft	544787-004
S	01-24-17 09:25	- 20 ft	544787-005
S	01-24-17 09:30	- 20 ft	544787-006
S	01-24-17 09:40	- 34 ft	544787-007
S	01-24-17 10:20	- 29 ft	544787-008
S	01-24-17 10:45	- 29 ft	544787-009
S	01-24-17 11:25	- 29 ft	544787-010
S	01-24-17 11:50	- 29 ft	544787-011



### CASE NARRATIVE



Client Name: TRC Solutions, Inc Project Name: Energy Transfer Boyd 4" Historical (East)

Project ID: Work Order Number(s): 544787 Report Date: 27-JAN-17 Date Received: 01/24/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3008339 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3008588 Inorganic Anions by EPA 300/300.1

Lab Sample ID 545051-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 544787-003, -005, -006, -007, -008, -009, -010, -011. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

## Certificate of Analysis Summary 544787

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Tue Jan-24-17 01:55 pmReport Date:27-JAN-17Project Manager:Kelsey Brooks

	Lab Id:	544787-0	001	544787-0	002	544787-0	003	544787-	004	544787-	005	544787-0	006
An shusis Down astad	Field Id:	Floor-1 @	20'	Northwall-1	@19'	Eastwall-1a	@ 19'	Floor-2 (	020'	Eastwall-2a	@ 20'	Floor-4 @	ı) 20'
Analysis Requested	Depth:	20 ft		19 ft		19 ft		20 ft		20 ft		20 ft	
	Matrix:	SOIL	,	SOIL		SOIL		SOIL	,	SOIL	,	SOIL	
	Sampled:	Jan-24-17	09:00	Jan-24-17 (	09:10	Jan-24-17	09:15	Jan-24-17	09:20	Jan-24-17	09:25	Jan-24-17	09:30
BTEX by EPA 8021B	Extracted:	Jan-24-17	15:30	Jan-24-17 1	5:30	Jan-24-17	15:30	Jan-24-17	15:30	Jan-24-17	15:30	Jan-24-17	15:30
	Analyzed:	Jan-24-17	17:00	Jan-24-17 1	7:17	Jan-24-17	17:33	Jan-24-17	17:50	Jan-24-17	18:06	Jan-24-17	18:22
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00149	ND	0.00152	ND	0.00152	ND	0.00150	ND	0.00148	ND	0.00152
Toluene		ND	0.00199	ND	0.00202	ND	0.00203	ND	0.00200	ND	0.00198	ND	0.00202
Ethylbenzene		ND	0.00199	ND	0.00202	ND	0.00203	ND	0.00200	ND	0.00198	ND	0.00202
m_p-Xylenes		ND	0.00199	ND	0.00202	ND	0.00203	ND	0.00200	ND	0.00198	ND	0.00202
o-Xylene		ND	0.00298	ND	0.00304	ND	0.00304	ND	0.00299	ND	0.00296	ND	0.00303
Total Xylenes		ND	0.00199	ND	0.00202	ND	0.00203	ND	0.00200	ND	0.00198	ND	0.00202
Total BTEX		ND	0.00149	ND	0.00152	ND	0.00152	ND	0.00150	ND	0.00148	ND	0.00152
Inorganic Anions by EPA 300/300.1	Extracted:					Jan-26-17	16:11			Jan-26-17	16:11	Jan-26-17	16:11
	Analyzed:					Jan-26-17	20:18			Jan-26-17	18:39	Jan-26-17	18:46
	Units/RL:					mg/kg	RL			mg/kg	RL	mg/kg	RL
Chloride						294	5.00			295	5.00	13.2	5.00
TPH By SW8015 Mod	Extracted:	Jan-25-17	16:00	Jan-25-17 1	6:00	Jan-25-17	16:00	Jan-25-17	16:00	Jan-25-17	16:00	Jan-25-17	16:00
	Analyzed:	Jan-26-17	01:39	Jan-26-17 0	02:51	Jan-26-17	03:15	Jan-26-17	03:40	Jan-26-17	04:05	Jan-26-17	04:30
	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 Organics		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

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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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



Nikki Green

Lea County, NM

**Project Id:** 

**Project Location:** 

**Contact:** 

## Certificate of Analysis Summary 544787

TRC Solutions, Inc, Midland, TX

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



Date Received in Lab:Tue Jan-24-17 01:55 pmReport Date:27-JAN-17Project Manager:Kelsey Brooks

	Lab Id:	544787-0	07	544787-0	08	544787-0	009	544787-0	010	544787-0	)11	
Analysis Requested	Field Id:	Floor-3c @	) 34'	Northwall-2 (	@ 29'	Eastwall-3	@ 29'	Southwall-11	o @ 29'	Westwall-1 (	@ 29'	
Απαιγείε Λεγμεείευ	Depth:	34 ft		29 ft		29 ft		29 ft		29 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Jan-24-17 0	9:40	Jan-24-17 1	0:20	Jan-24-17	10:45	Jan-24-17	11:25	Jan-24-17 1	11:50	
BTEX by EPA 8021B	Extracted:			Jan-24-17 1	5:30	Jan-24-17	15:30	Jan-24-17	15:30	Jan-24-17 1	15:30	
	Analyzed:			Jan-24-17 1	8:38	Jan-24-17	18:54	Jan-24-17	19:10	Jan-24-17 1	19:26	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene				ND	0.00150	ND	0.00147	ND	0.00149	ND	0.00149	
Toluene				ND	0.00200	ND	0.00196	ND	0.00198	ND	0.00198	
Ethylbenzene				ND	0.00200	ND	0.00196	ND	0.00198	ND	0.00198	
m_p-Xylenes				ND	0.00200	ND	0.00196	ND	0.00198	ND	0.00198	
o-Xylene				ND	0.00299	ND	0.00294	ND	0.00298	ND	0.00297	
Total Xylenes				ND	0.00200	ND	0.00196	ND	0.00198	ND	0.00198	
Total BTEX				ND	0.00150	ND	0.00147	ND	0.00149	ND	0.00149	
Inorganic Anions by EPA 300/300.1	Extracted:	Jan-26-17 1	6:11	Jan-26-17 1	6:11	Jan-26-17	16:11	Jan-26-17	16:11	Jan-26-17 1	6:11	
	Analyzed:	Jan-26-17 1	8:53	Jan-26-17 1	9:14	Jan-26-17	19:21	Jan-26-17	19:28	Jan-26-17 1	19:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		44.1	5.00	54.4	5.00	645	5.00	220	5.00	301	5.00	
TPH By SW8015 Mod	Extracted:			Jan-25-17 1	6:00	Jan-25-17	16:00	Jan-25-17	16:00	Jan-25-17 1	6:00	
	Analyzed:			Jan-26-17 0	4:55	Jan-26-17	05:20	Jan-26-17	05:45	Jan-26-17 0	06:10	
	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 Organics				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	

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

Page 6 of 17



## **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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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	



Lab Batch	#: 3008339	Sample: 544787-001 / SMP	Batc	h: 1 Matri	x: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 01/24/17 17:00	SU	JRROGATE I	RECOVERYS	STUDY	
	BTEX	L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoro	benzene		0.0328	0.0300	109	80-120	
4-Bromoflu	orobenzene		0.0336	0.0300	112	80-120	
Lab Batch	#: 3008339	Sample: 544787-002 / SMP	Batc	h: 1 Matri	x: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 17:17	SU	JRROGATE I	RECOVERYS	STUDY	
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro		Anarytes	0.0351	0.0300	117	80-120	
4-Bromoflu	orobenzene		0.0310	0.0300	103	80-120	
Lab Batch	#: 3008339	Sample: 544787-003 / SMP	Batc	h: 1 Matri	x: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 17:33	SU	JRROGATE I	RECOVERY	STUDY	
		C by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoro	benzene		0.0359	0.0300	120	80-120	
4-Bromoflu			0.0290	0.0300	97	80-120	
Lab Batch	#: 3008339	Sample: 544787-004 / SMP	Batc	h: 1 Matri	x: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 17:50	SU	JRROGATE I	RECOVERYS	STUDY	
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0360	0.0300	120	80-120	
4-Bromoflue	orobenzene		0.0299	0.0300	100	80-120	
Lab Batch	#: 3008339	Sample: 544787-005 / SMP	Batc	h: 1 Matri	x: Soil	1	
Units:	mg/kg	Date Analyzed: 01/24/17 18:06	SU	JRROGATE I	RECOVERY	STUDY	
		A by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluoro			0.0345	0.0300	115	80-120	
,			0.00 10	0.0500	115	00120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Units:	ma/ka	Data Analyzad, 01/24/17 19.22	~		ECOL/EDI		
Units:	mg/kg	Date Analyzed: 01/24/17 18:22	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	ry Control Limits %R 80-120 80-120 RY STUDY ry Control Limits %R 80-120 80-120 80-120 RY STUDY ry Control Limits %R 80-120 80-120 RY STUDY ry Control Limits %R 80-120 80-120 80-120 RY STUDY ry Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluor	obenzene		0.0355	0.0300	118	80-120	
4-Bromoflu	orobenzene		0.0288	0.0300	96	80-120	
Lab Batch	#: 3008339	Sample: 544787-008 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 18:38	SU	RROGATE R	ECOVERY S	STUDY	
		A by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flag
1,4-Difluoro			0.0346	0.0300	115	80-120	
4-Bromoflu			0.0293	0.0300	98	80-120	
Lab Batch	#: 3008339	Sample: 544787-009 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 18:54	SU	RROGATE R	ECOVERY S	STUDY	
		by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flag
		Analytes			[D]		
1,4-Difluor			0.0346	0.0300	115		
4-Bromoflu			0.0299	0.0300	100	80-120	
	#: 3008339	Sample: 544787-010 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/24/17 19:10	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found	True Amount	Recovery %R	Limits	Flag
		Analytes	[A]	[B]	[D]		
1,4-Difluoro	obenzene	Analytes	[A] 0.0347	(B) 0.0300	[ <b>D</b> ]	80-120	
1,4-Difluoro 4-Bromoflu		Analytes					
4-Bromoflu		Analytes  Sample: 544787-011 / SMP	0.0347	0.0300	116 102		
4-Bromoflu Lab Batch	orobenzene		0.0347 0.0306 Batc	0.0300	116 102 : Soil	80-120	
4-Bromoflu Lab Batch	orobenzene #: 3008339 mg/kg BTEX	Sample: 544787-011 / SMP Date Analyzed: 01/24/17 19:26	0.0347 0.0306 Batc	0.0300 0.0300 h: 1 Matrix	116       102       : Soil       ECOVERY S       Recovery %R	80-120 STUDY Control Limits	Flag
4-Bromoflu	orobenzene #: 3008339 mg/kg BTEX	Sample: 544787-011 / SMP Date Analyzed: 01/24/17 19:26	0.0347 0.0306 Batcl SU Amount Found	0.0300 0.0300 h: 1 Matrix RROGATE R True Amount	116       102       : Soil       ECOVERY S       Recovery	80-120 STUDY Control Limits %R	Flag

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



TT	~/1-~	Sample: 544787-001 / SMP					
Units: m	ng/kg	Date Analyzed: 01/26/17 01:39	SU	JRROGATE R	ECOVERY S	STUDY	
	ТРН Е	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]	70-130         70-135         70-135         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-135         X         STUDY         Control         Limits         %R         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-130         70-135	
1-Chlorooctane			83.8	99.8	84	70-130	
o-Terphenyl			45.8	49.9	92	70-135	
Lab Batch #: 3	008470	Sample: 544787-002 / SMP	Bato	ch: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 01/26/17 02:51	SU	URROGATE R	ECOVERYS	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flage
1-Chlorooctane		Analytes	87.3	99.7	88	70-130	
o-Terphenyl			47.7	49.9	96		
Lab Batch #: 3	008470	Sample: 544787-003 / SMP	Bato	ch: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 01/26/17 03:15	SU	JRROGATE R	ECOVERY	STUDY	
	TPH E	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flag
		Analytes	[]	- 1	[D]	,	
1-Chlorooctane			86.9	100	87	70-130	
o-Terphenyl			48.1	50.0	96	70-135	
Lab Batch #: 3	008470	Sample: 544787-004 / SMP	Bate	ch: 1 Matrix	: Soil		
Units: m	ng/kg	Date Analyzed: 01/26/17 03:40	SU	JRROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flage
1-Chlorooctane		Anaryus	96.8	99.9	97	70-130	
o-Terphenyl			53.9	50.0	108		
Lab Batch #: 3	008470	Sample: 544787-005 / SMP	Bate			/0155	
	ng/kg	<b>Date Analyzed:</b> 01/26/17 04:05		JRROGATE R		STUDY	
	TPH E	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes	-		[D]		
1-Chlorooctane			70.2	99.9	70	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



	: 3008470	Sample: 544787-006 / SMP	Batc				
Units:	mg/kg	<b>Date Analyzed:</b> 01/26/17 04:30	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R           70-130           70-135           STUDY           Control Limits %R           70-130           70-130           70-130           70-130           70-130           70-130           70-130           STUDY           Control Limits %R           70-130           70-135           STUDY           Control Limits %R           70-130           70-130           70-130           70-130           70-130           70-135	Flags
		Analytes			[D]		
1-Chloroocta	ne		74.5	99.8	75	70-130	
o-Terphenyl			41.0	49.9	82	70-135	
Lab Batch #	: 3008470	Sample: 544787-008 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/26/17 04:55	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flage
1-Chloroocta	ne	Analytes	90.9	99.7	91	70-130	
o-Terphenyl			49.6	49.9	99		
Lab Batch #	: 3008470	Sample: 544787-009 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/26/17 05:20	su	RROGATE R	ECOVERYS	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flags
		Analytes			[D]		
1-Chloroocta	ne		88.7	99.7	89	70-130	
o-Terphenyl			48.5	49.9	97	70-135	
Lab Batch #	: 3008470	Sample: 544787-010 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/26/17 05:45	SU	<b>RROGATE R</b>	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flags
1-Chloroocta	ne	<i>.</i>	83.8	99.9	84	70-130	
			46.0	50.0	92	70-135	
o-Terphenyl			<b>D</b> (	h: 1 Matrix	: Soil	I	
	: 3008470	Sample: 544787-011 / SMP	Batc				
Lab Batch #	: 3008470 mg/kg	Sample: 544787-011 / SMP Date Analyzed: 01/26/17 06:10		JRROGATE R	ECOVERY S	STUDY	
o-Terphenyl Lab Batch # Units:	mg/kg TPH I	Date Analyzed:         01/26/17 06:10           By SW8015 Mod			Recovery %R	Control Limits	Flag
Lab Batch #	mg/kg TPH I	Date Analyzed: 01/26/17 06:10	SU Amount Found	JRROGATE R True Amount	Recovery	Control Limits	Flag

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



T T_+ \$4		Sample: 718963-1-BLK / B					
Units:	mg/kg	Date Analyzed: 01/24/17 16:44	SU	JRROGATE R	ECOVERY S	STUDY	
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluoro	benzene		0.0359	0.0300	120	80-120	
4-Bromofluc			0.0301	0.0300	100	80-120	
Lab Batch	#: 3008470	Sample: 718965-1-BLK / B	LK Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/26/17 00:25	SU	JRROGATE R	ECOVERY S	STUDY	
		3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chloroocta			124	100	124	70-130	
o-Terphenyl			64.3	50.0	124	70-135	
	#: 3008339	<b>Sample:</b> 718963-1-BKS / B			_	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Units:	mg/kg	Date Analyzed: 01/24/17 15:11		JRROGATE R	ECOVERYS	STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoro	benzene		0.0282	0.0300	94	80-120	
4-Bromofluc	orobenzene		0.0308	0.0300	103	80-120	
Lab Batch	#: 3008470	Sample: 718965-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/26/17 00:50	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		128	100	128	70-130	
o-Terphenyl			63.6	50.0	127	70-135	
	#: 3008339	Sample: 718963-1-BSD / B	SD Bate	h: 1 Matrix	: Solid	I	
Units:	mg/kg	Date Analyzed: 01/24/17 15:27	SU	JRROGATE R	ECOVERY	STUDY	
		K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluoro			0.0297	0.0300	99	80-120	
4-Bromofluc	rohenzene		0.0289	0.0300	96	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



Units:	ma/l-a	Data Analyzad: 01/26/17 01:16		DDOG - TT -	EGOLIERI										
Units:	mg/kg	Date Analyzed: 01/26/17 01:16	SU	RROGATE R	ROGATE RECOVERY STUDY										
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags								
		Analytes			[D]										
1-Chlorooc	tane		118	100	118	70-130									
o-Terpheny			59.8	50.0	120	70-135									
Lab Batch	#: 3008339	Sample: 544787-001 S / MS	B Bate	h: 1 Matrix	: Soil										
Units:	mg/kg	Date Analyzed: 01/24/17 15:44	SU	RROGATE R	RECOVERY S	STUDY									
		L by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags								
1,4-Difluor		Anarytes	0.0340	0.0300	113	80-120									
, 	orobenzene		0.0340	0.0300	113	80-120									
	#: 3008470	Sample: 544787-001 S / MS				80-120									
Lab Batch Units:	mg/kg	Date Analyzed: 01/26/17 02:02	•												
Units:	iiig/kg	Date Analyzed: 01/20/17 02:02	SU	RROGATE R	RECOVERYS	STUDY									
	ТРН В	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags								
		Analytes			[D]										
1-Chlorooc	tane		103	99.9	103	70-130									
o-Terpheny	'l		51.6	50.0	103	70-135									
Lab Batch	#: 3008339	Sample: 544787-001 SD / M	ASD Bate	h: 1 Matrix	: Soil										
Units:	mg/kg	Date Analyzed: 01/24/17 16:00	SU	RROGATE R	RECOVERY	STUDY									
		L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags								
140.0		Analytes	0.0016	0.0200		00.100									
1,4-Difluor			0.0346	0.0300	115	80-120									
	lorobenzene	Sec. 1. 544797.001.9D / 1	0.0339	0.0300	113	80-120									
	#: 3008470	Sample: 544787-001 SD / M													
Units:	mg/kg	Date Analyzed: 01/26/17 02:26	SU	RROGATE R	RECOVERYS	STUDY									
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage								
		<sup>1</sup> xmary tt.3	99.9	99.9	100	70-130									
1-Chlorooc															

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



### **BS / BSD Recoveries**



### **Project Name: Energy Transfer Boyd 4'' Historical (East)**

Work Order #: 544787, 544787							Pro	ject ID:					
Analyst: ALJ	D	ate Prepai	red: 01/24/201	17	Date Analyzed: 01/24/2017								
Lab Batch ID: 3008339 Sample: 718963-1-E	BKS	Batc	<b>h #:</b> 1					Matrix: Solid					
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
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	< 0.00149	0.0994	0.109	110	0.0998	0.101	101	8	70-130	35			
Toluene	< 0.00199	0.0994	0.102	103	0.0998	0.0953	95	7	70-130	35			
Ethylbenzene	< 0.00199	0.0994	0.110	111	0.0998	0.114	114	4	71-129	35			
m_p-Xylenes	< 0.00199	0.199	0.233	117	0.200	0.219	110	6	70-135	35			
o-Xylene	< 0.00298	0.0994	0.111	112	0.0998	0.104	104	7	71-133	35			
Analyst: MGO	D	ate Prepai	red: 01/26/20	17	Date Analyzed: 01/26/2017								
Lab Batch ID: 3008588 Sample: 719103-1-E	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid				
Units: mg/kg		BLAN	K /BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY			
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	264	106	250	264	106	0	90-110	20			

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



544787

Work Order # :

### Form 3 - MS / MSD Recoveries



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

**Project ID:** 

Lab Batch ID:	3008339	QC- Sample ID:	544787-	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	01/24/2017	Date Prepared:	01/24/20	017	An	alyst: A	ALJ					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIKI	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021B	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]				
Benzene		< 0.00150	0.100	0.0878	88	0.0996	0.0784	79	11	70-130	35	
Toluene		<0.00200	0.100	0.0816	82	0.0996	0.0734	74	11	70-130	35	
Ethylbenzene		<0.00200	0.100	0.0948	95	0.0996	0.0823	83	14	71-129	35	
m_p-Xylenes		<0.00200	0.200	0.184	92	0.199	0.160	80	14	70-135	35	
o-Xylene		<0.00301	0.100	0.0895	90	0.0996	0.0787	79	13	71-133	35	
Lab Batch ID:	3008588	QC- Sample ID:	544787-	-003 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	01/26/2017	Date Prepared:	01/26/20	017	An	alyst: N	/IGO					
Date Analyzed: Reporting Units:	01/26/2017 mg/kg	Date Prepared:				·	AGO <b>KE DUPLICA</b> '	TE REC	OVERY	STUDY		
Reporting Units:		Parent Sample	M Spike	ATRIX SPIKI Spiked Sample Result	E / MAT Spiked Sample	RIX SPI	KE DUPLICA Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Reporting Units:	mg/kg	Parent	М	ATRIX SPIKI	E / MAT	RIX SPI	KE DUPLICA' Duplicate	Spiked		Control	1	Flag
Reporting Units:	mg/kg nic Anions by EPA 300/300.1	Parent Sample Result	M Spike Added	ATRIX SPIKI Spiked Sample Result	E / MAT Spiked Sample %R	RIX SPI Spike Added	KE DUPLICA Duplicate Spiked Sample	Spiked Dup. %R	RPD	Control Limits	Limits	Flag
Reporting Units:	mg/kg nic Anions by EPA 300/300.1	Parent Sample Result [A]	M Spike Added [B] 250	ATRIX SPIKI Spiked Sample Result [C] 567	E / MAT Spiked Sample %R [D] 109	RIX SPI Spike Added [E]	KE DUPLICA' Duplicate Spiked Sample Result [F]	<b>Spiked</b> <b>Dup.</b> <b>%R</b> <b>[G]</b> 111	RPD	Control Limits %R	Limits %RPD	
Reporting Units:	<sup>mg/kg</sup> nic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A] 294	M Spike Added [B] 250 545051-	ATRIX SPIKI Spiked Sample Result [C] 567 -001 S	E / MAT Spiked Sample %R [D] 109 Ba	RIX SPI Spike Added [E] 250	KE DUPLICA Duplicate Spiked Sample Result [F] 572 1 Matrix	<b>Spiked</b> <b>Dup.</b> <b>%R</b> <b>[G]</b> 111	RPD	Control Limits %R	Limits %RPD	
Reporting Units: Inorga Chloride Lab Batch ID:	mg/kg nic Anions by EPA 300/300.1 Analytes 3008588	Parent Sample Result [A] 294 QC- Sample ID:	M Spike Added [B] 250 545051- 01/26/20	ATRIX SPIKI Spiked Sample Result [C] 567 -001 S 017	E / MAT Spiked Sample %R [D] 109 Ba An	Spike Added [E] 250 tch #: alyst: M	KE DUPLICA Duplicate Spiked Sample Result [F] 572 1 Matrix	Spiked Dup. %R [G] 111 x: Soil	<b>RPD</b> %	Control Limits %R 90-110	Limits %RPD	
Reporting Units: Inorga Chloride Lab Batch ID: Date Analyzed: Reporting Units:	mg/kg nic Anions by EPA 300/300.1 Analytes 3008588 01/26/2017	Parent Sample Result [A] 294 QC- Sample ID: Date Prepared: Parent Sample	M Spike Added [B] 250 545051- 01/26/20 M Spike	ATRIX SPIKI Spiked Sample Result [C] 567 -001 S 017 ATRIX SPIKI Spiked Sample Result	E / MAT) Spiked Sample %R [D] 109 Ba An E / MAT) Spiked Sample	RIX SPI Spike Added [E] 250 tch #: alyst: M RIX SPI Spike	KE DUPLICA' Duplicate Spiked Sample Result [F] 572 1 Matrix AGO KE DUPLICA' Duplicate Spiked Sample	Spiked Dup. %R [G] 111 :: Soil TE REC Spiked Dup.	RPD % 1 OVERY RPD	Control Limits %R 90-110 STUDY Control Limits	Limits %RPD 20 Control Limits	
Reporting Units: Inorga Chloride Lab Batch ID: Date Analyzed: Reporting Units:	mg/kg nic Anions by EPA 300/300.1 Analytes 3008588 01/26/2017 mg/kg	Parent Sample Result [A] 294 QC- Sample ID: Date Prepared: Parent	M Spike Added [B] 250 545051- 01/26/20 M	ATRIX SPIKI Spiked Sample Result [C] 567 -001 S 017 ATRIX SPIKI Spiked Sample	E / MAT Spiked Sample %R [D] 109 Ba An E / MAT Spiked	Spike Added [E] 250 tch #: alyst: M RIX SPI	KE DUPLICA' Duplicate Spiked Sample Result [F] 572 1 Matrix AGO KE DUPLICA' Duplicate	Spiked Dup. %R [G] 111 x: Soil TE REC Spiked	RPD % 1	Control Limits %R 90-110 STUDY Control	Limits %RPD 20 Control	X

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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

Relinquished by Relinquished by Relinquished by Relinquished by	Special		1										LAB # (lab use only)	(lab use only) ORDER #:								Xer The Env
Relinquished by:     JUDIN     1/2 4/17     13       Relinquished by:     UDIN     1/2 4/17     13       Relinquished by:     Date     1	Special Instructions:	Westwall-1 @ 29	Southwall-1b @ 29	Eastwall-3 @ 29'	Northwall-2 @ 29'	Floor-3c @ 34'	Floor-4 @ 20'	Eastwall-2a @ 20'	Floor-2 @ 20'	Eastwall-1a @ 19'	Northwall-1 @ 19'	Floor-1 @ 20'	FIELD CODE	only ** 544787		ture:	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name TRC Solutions, Inc	Project Manager: Nikki Green	Xenco Laboratories
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els on container(s) els on container(s) tody seals on cooler(s) nple Hand Delivered by Sampler/Client Rep. ? by Courier? UPS by Courier? Temp: Temp: nperature Upo CF:+ 0 Correc	Cor	_											SAR / ESP / CEC		TCI P-		Standard				erg	PI
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Labels on container(s) Custody seals on container(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS. DH Temperature Upo CF:+ 0.1 1 Corrected	3. 13	×	×	×	×	+	×	×	×	×	×		RCI	1.1.1.1.1.1.1	-		Ц Тя		County, NM		Зоус	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST t I-20 East Phone: 432-563-1800 xas 79765 Fax: 432-563-1713
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## **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC						
Date/ Time Received: 01/24/2017 01:55:00 PM	Air and Metal samples Acceptable Range: Ambient						
Work Order #: 544787	Temperature Measuring device used : R8						
Sample Recei	ipt Checklist Comments						
#1 *Temperature of cooler(s)?	10.4						
#2 *Shipping container in good condition?	N/A						
#3 *Samples received on ice?	Yes						
#4 *Custody Seal present on shipping container/ cooler?	N/A						
#5 *Custody Seals intact on shipping container/ cooler?	N/A						
#6 Custody Seals intact on sample bottles?	N/A						
#7 *Custody Seals Signed and dated?	N/A						
#8 *Chain of Custody present?	Yes						
#9 Sample instructions complete on Chain of Custody?	Yes						
#10 Any missing/extra samples?	Νο						
#11 Chain of Custody signed when relinquished/ received?	Yes						
#12 Chain of Custody agrees with sample label(s)?	Yes						
#13 Container label(s) legible and intact?	Yes						
#14 Sample matrix/ properties agree with Chain of Custody?	Yes						
#15 Samples in proper container/ bottle?	Yes						
#16 Samples properly preserved?	Yes						
#17 Sample container(s) intact?	Yes						
#18 Sufficient sample amount for indicated test(s)?	Yes						
#19 All samples received within hold time?	Yes						
#20 Subcontract of sample(s)?	N/A						
#21 VOC samples have zero headspace (less than 1/4 inch l	bubble)? N/A						
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? If samples for the analysis of HEM or HEM-SGT which are verif analysts.							
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	Ac+NaOH? N/A						

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 01/24/2017

Checklist reviewed by: Mmg Moah Kelsey Brooks

Date: 01/24/2017



### Photographic Documentation

### Client: ETC Field Services, LLC Project Name: Boyd 4 Inch Historical East

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

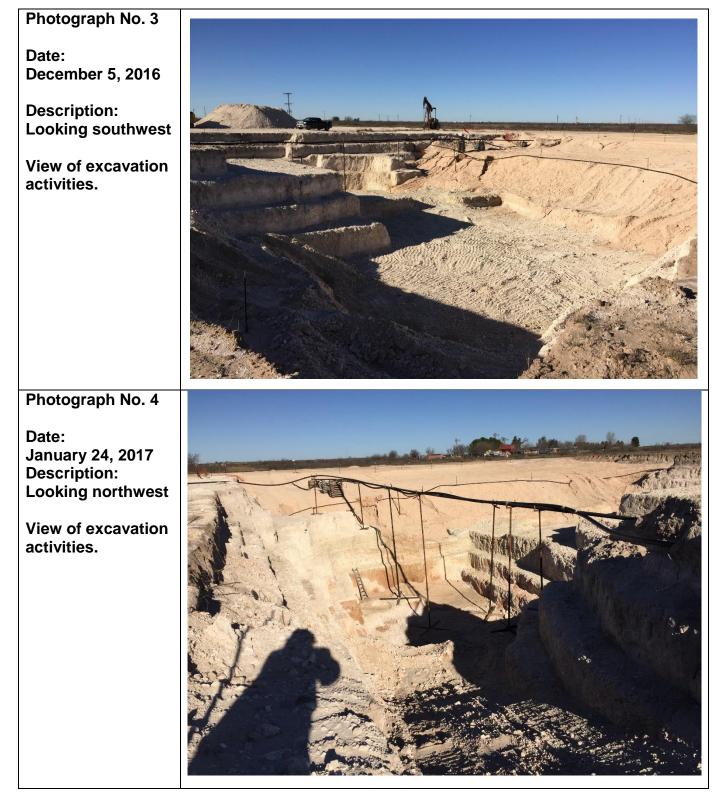




### Photographic Documentation

### Client: ETC Field Services, LLC Project Name: Boyd 4 Inch Historical East

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





### Photographic Documentation

Client: ETC Field Services, LLC Project Name: Boyd 4 Inch Historical East **Prepared by:** TRC Environmental Corp. **Location:** Lea County, NM



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RECEIVED State of New Mexic Energy Minerals and Natural By JKeyes at 12:18 pm, May 12, 2016

**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.

Values Deserved Luleser

**Release Notification and Corrective Action** 

		OPERATOR	🛛 Initial Report	Final Report
Name of Company: E.T.C. Field Services		Contact: Rose Slade		
Address: P.O. Box 1226 Jal, NM 88252		Telephone No.: 210-403-652	25 or 432.940.5147	
Facility Name: Boyd 4 Inch (Historical) West		Facility Type: Natural Gas C	Bathering	
Surface Owner: Irwin Boyd	Mineral Owner	: Federal		

#### **LOCATION OF RELEASE**

Unit L	Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	"P"	23	22 S	37 E					Lea

Latitude: N32.372074° Longitude: W103.127151°

#### NATURE OF RELEASE Values of Dalagas University

Type of Release. Crude off, Froduced water, & Natural Gas	volume of Kelease. Unknown					
Source of Release: 4 inch steel pipeline	Date and Hour of Occurrence: Unknown	Date and H Unknown	lour of Discovery			
Was Immediate Notice Given?	If YES, To Whom?	Ulikilowii				
Yes ⊠ No □ Not Required						
By Whom?	Date and Hour:					
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.				
🗌 Yes 🖾 No						
If a Watercourse was Impacted, Describe Fully.*						
	1 .1 .4. 1 1 . 1 1 . 1	1.1 1 .	a			
Describe Cause of Problem and Remedial Action Taken.* A release occu	irred on the 4" inch lateral pipeline and	d the release is	s historical.			
Describe Area Affected and Cleanup Action Taken.* From September 18						
approximately 587 cubic yards (cy) of impacted soil from the area of imp						
The area excavated by the previous contractor was left exposed and is re-						
preliminary soil status samples were collected from the existing excavati						
observations, it was determined the analytical results from soil samples c	ollected on January 219, 2016 were li	kely not an ac	curate representation of the			
remaining soil impact at the Release Site.						
On Marsh 8, 2016, a hand av converse utilized to collect additional soil as	unles for laboratory analysis. In additi	ion three (2)				
On March 8, 2016, a hand auger was utilized to collect additional soil sau collected from near or on the caliche well pad located immediately south						
March 8, 2016, ETC conducted a soil investigation activities designed to						
March 8, 2016, ETC conducted a soli investigation activities designed to	vertically and norizontally defineate t	ne Release Sit	e.:			
After completion of the soil investigation, a meeting was scheduled with	the NMOCD Hobbs District Office or	d the property	landowner. It was acreed the			
Release Site will be excavated to 20' bgs and the impacted soil will be tr						
soil samples will be collected and analyzed for concentrations of BTEX,						
NMOCD permission to backfill the excavation and a Remediation Summ						
restored to its proper vegetative state when completed.	ary and she closure Request will be	sublinitied to ti	ie www.oed. The site will be			
I hereby certify that the information given above is true and complete to	the best of my knowledge and underst	and that nursu	ant to NMOCD rules and			
regulations all operators are required to report and/or file certain release						
public health or the environment. The acceptance of a C-141 report by the						
should their operations have failed to adequately investigate and remedia						
or the environment. In addition, NMOCD acceptance of a C-141 report						
federal, state, or local laws and/or regulations.	does not reneve the operator of respon	storing for con	inpliance with any other			
	OIL CONSER		NUSION			
	<u>OIL CONSER</u>	VATIONI	DIVISION			
Signature: Rose L. Slade						
Signution 1650 2. Suut	Approved by NMOCD. Janik the	sc-^				
Printed Name: Rose L. Slade	Approved by NMOCD:					
Timed Paine. Rose E. Slade						
Title: Senior Environmental Specialist	Approval Date: 05/12/2016	Expiration D	ate: 07/12/2016			
E-mail Address: rose.slade@energytransfer.com	Conditions of Approval: Delineate ar	nples only	Attached 🔲 1RP 4277			
E man / Kuress. rose.stade@energytransier.com	Conditions of Approval. Delineate ar	d remediate	"IVV1612244072			

per NMOCD guidelines

nJXK1613344072

pJXK1613344207