APPROVED
By Olivia Yu at 8:01 am, Apr 02, 2018

NMOCD approves of the delineation and remediation completed for 1RP-4524 and grants backfill approval for the excavated area. Area for deferral is appended to the email from 19 March 2018.

October 12, 2017

Reference No. 11135250-4

Mr. Dean Ericson
ETC Field Services LLC
600 N. Marienfeld
Suite 700
Midland, TX 79701

Dear Mr. Ericson:

Re: Remediation Summary Report
Trunk MC-16 inch
ETC Field Services LLC
1RP-4524
Site Location: Unit O, Sec. 33, T 21-S, R 36-E
(Lat 32.428160N°, Long -103.269760W°)
Lea County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. The Trunk MC-16 inch (hereafter referred to as the "Site") is located within Unit O, Section 33, Township 21 South, Range 36 East, in Lea County, New Mexico (see Figure 1). The site is owned by the New Mexico State Land Office.

On November 17, 2016, a release of approximately six barrels (bbls) of natural gas/condensate was reported to the State of New Mexico Oil Conservation Division (NMOCD) via Form C-141. A leaking 16-inch gathering system pipeline was the cause of the release. Contaminated soils were excavated and stockpiled on site (see Figure 2). NMOCD release number 1RP 4524 was assigned.

1. Recommended Remediation Action Limits

Based on information available from the New Mexico Office of the State Engineer New Mexico Water Rights Reporting System website, the closest well with a recorded depth to water measurement is approximately 1 mile from the site. The depth to groundwater measured in this well was 212 feet (ft.) below ground surface (bgs).

Based on information available from the United States Geologic Survey National Water Information System, the depth to groundwater at the Site is approximately 200 ft. bgs. This is based on a water well that is located approximately 0.65 mile east, southeast of the Site (see Appendix A, Water Well Reports for depth to water). Additionally, there are no well head protection areas or surface water bodies within 1,000 ft. of the Site. Therefore, the preliminary total ranking score is 0 (see table below).

GHD
6121 Indian School Road NE Suite 200 Albuquerque New Mexico 87110 USA
T 505 884 0672 F 505 884 4932 W www.ghd.com

Based on this score, the applicable NMOCD Site specific Recommended Remediation Action Limits (RRALs) are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 5,000 mg/kg for total petroleum hydrocarbons (TPH), and 600 mg/kg for chlorides.

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria	Score
Depth to Ground Water (>100 ft. bgs)	0
Wellhead Protection Area (> 1000 ft. from water source, > 200 ft. from domestic source)	0
Distance to Surface Body Water (>1000 ft.)	0
Ranking Criteria Total Score	**0***
*Because the ranking criteria total score is 0, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 5,000 mg/kg for total TPH and 600 ppm for chlorides[1].	

1. NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993 and recent discussions with Mr. Jim Griswold with the NMOCD.

2. Assessment Activities

The impacted area had initially been excavated to a depth of approximately 10 ft. bgs and soil samples were collected by ETC Field Services LLC personnel for laboratory analysis. A sample (BtmHol) was collected from the bottom of the excavation at a depth of approximately 10 ft. bgs on November 7, 2016. The sample was submitted to Xenco Laboratories (Xenco) in Midland, Texas and analyzed for toxicity characteristic leaching procedure (TCLP) BTEX by EPA Method 8260B, TPH by EPA Method 8015B, and chloride by EPA Method 300. The analytical results for this sample were:

- TCLP Benzene: <0.005 milligrams per liter (mg/L)
- Total TCLP BTEX: 0.118 mg/L
- TPH: 15,960 milligrams per kilogram (mg/kg)
- Chloride: 416 mg/kg

Excavation activities to assess the horizontal and vertical extent of impacted soil occurred on July 5, 2017 by GHD. Field screening of soil for petroleum hydrocarbons and chloride was performed to assess the horizontal and vertical extent of contaminated soil in the release area. Field screening of the soil was performed using the PetroFLAG Hydrocarbon Analysis System and a Hach chloride field kit. Test pits (TP-1 through TP-5) were excavated on each side, both ends, and the base of the original excavation (Figure 2). Excavation activities were performed by Diamond Back of Hobbs, New Mexico and observed by GHD. The field screening indicated that impacted soil did not extend to a depth greater than 15 ft. bgs.

Once field screening indicated soil concentrations were near or below the RRALs, soil samples were collected and submitted to Hall Environmental Analysis Laboratory (HEAL) located in Albuquerque, New

Mexico for analysis. The soil samples were analyzed for BTEX by EPA Method 8260B, TPH by EPA Method 8015 full range, and chlorides by EPA Method 300.0 (Table 1).

One sample was collected from the test pit in the base of the excavation (TP-5) at a depth of 16 ft. bgs. Soil samples were also collected for laboratory analysis from four test pits (TP-1 through TP-4) at depths ranging from 4 to 10 ft. bgs.

One sample collected from TP-1 at a depth of 10 ft. bgs contained a benzene concentration of 5 mg/kg and a total BTEX concentration of 93 mg/kg. None of the other submitted samples contained concentrations above the laboratory reporting limits for BTEX. TPH concentrations ranged from below the laboratory reporting limit to 16,590 mg/kg. The highest concentration was found in the sample collected from TP-1 at a depth of 10 ft. bgs. Chloride concentrations ranged from below the laboratory reporting limit to 320 mg/kg, all below the RRAL.

Test pit TP-1 was excavated to the north of the initial release area where there are several buried pipelines. The Fullerton 6-inch and Fullerton 16-inch pipelines both run perpendicular to the Trunk MC-16 inch pipeline. Due to the proximity to these lines, further excavation was not performed in this area.

GHD performed additional soil excavation and assessment sampling on September 5 and 6, 2017. The additional excavation included advancing five additional test pits (TP-6b, TP-7a, TP-8, TP-9c, and TP-10) to the east of the Trunk MC-16 pipeline (Figure 2).

3. Summary and Recommendations

Confirmatory soil samples were collected from the bottom and sidewalls of the release area (see Figure 2) and submitted for laboratory analysis. Based on the laboratory results, the vertical extent of impacted soil has been assessed to below the RRALs. The horizontal extent to the east, south, and west have been assessed to below RRALs. However, BTEX and TPH concentrations on the north end of the excavation, observed in TP-1, are above the RRAL. Additional excavation to the north was prevented due to the presence of several active pipelines.

Based on this and the proximity of the Trunk MC-16 inch pipeline to two other pipelines in this area, GHD recommends the following:

- Request a variance from the NMOCD and the New Mexico State Land Office to leave the impacted soil in place in the area of the pipelines until these pipelines have been abandoned.
- The excavation should be backfilled with clean fill material and wheel compacted to grade.

Following completion of the backfilling, revegetation of the site will be performed. Disturbed areas associated with the remediation efforts will be re-seeded. If after one growing season the vegetation has not taken hold, seeding may need to be repeated until revegetation is successful, as determined by the

State Land Office. The seed will be planted utilizing a drill. The proposed seed mix will consist of Bureau of Land Management mix #2 without love grass.

The site will be visited on a quarterly basis to assess the establishment of vegetative growth. Staff personnel performing the site visit will also look for the presence of noxious weeds at the site as indicated on the New Mexico Noxious Weeds List specified on the United States Department of Agriculture website. If a noxious weed is observed at the site, the New Mexico State Land Office will be contacted to determine the most effective manner to eradicate it.

Following completion of the above activities, a request for no further action will be made for the Site. Should you have any questions, or require additional information regarding this submittal, please feel free to contact myself or Bernie Bockisch at (505) 884-0672 or Bernard.Bockisch@ghd.com.

Sincerely,

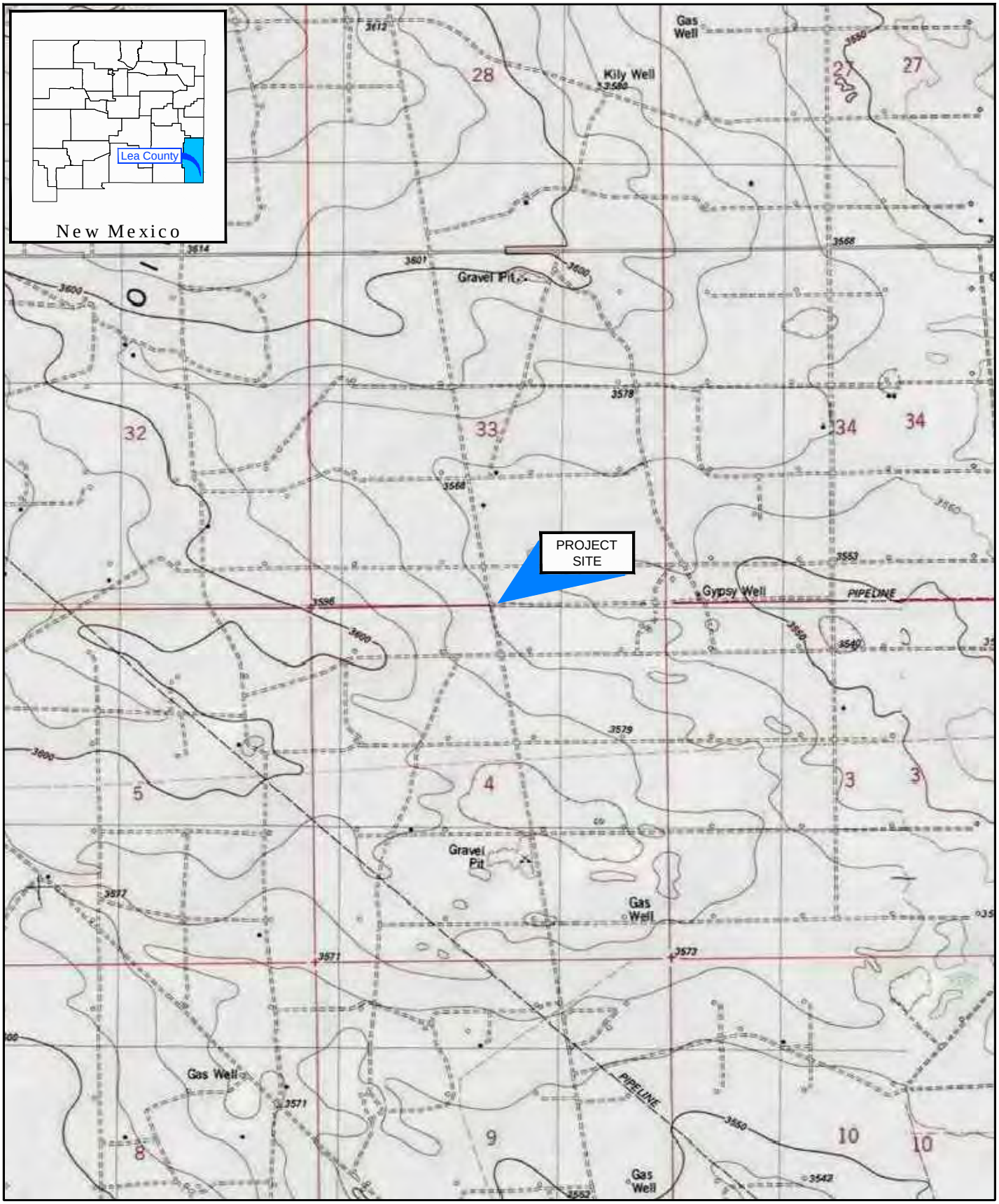
GHD

Alan Brandon
Senior Project Manager

Bernard Bockisch
New Mexico Operations Manager

AB/mc/01

Figures



Source: USGS 7.5 Minute Quad "Oil Center and Eunice, New Mexico"

Lat/Long: 32.428160ÁNorth, 103.26976ÁWest

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

ETC FIELD SERVICES
LEA COUNTY, NEW MEXICO
TRUNK MC-16"

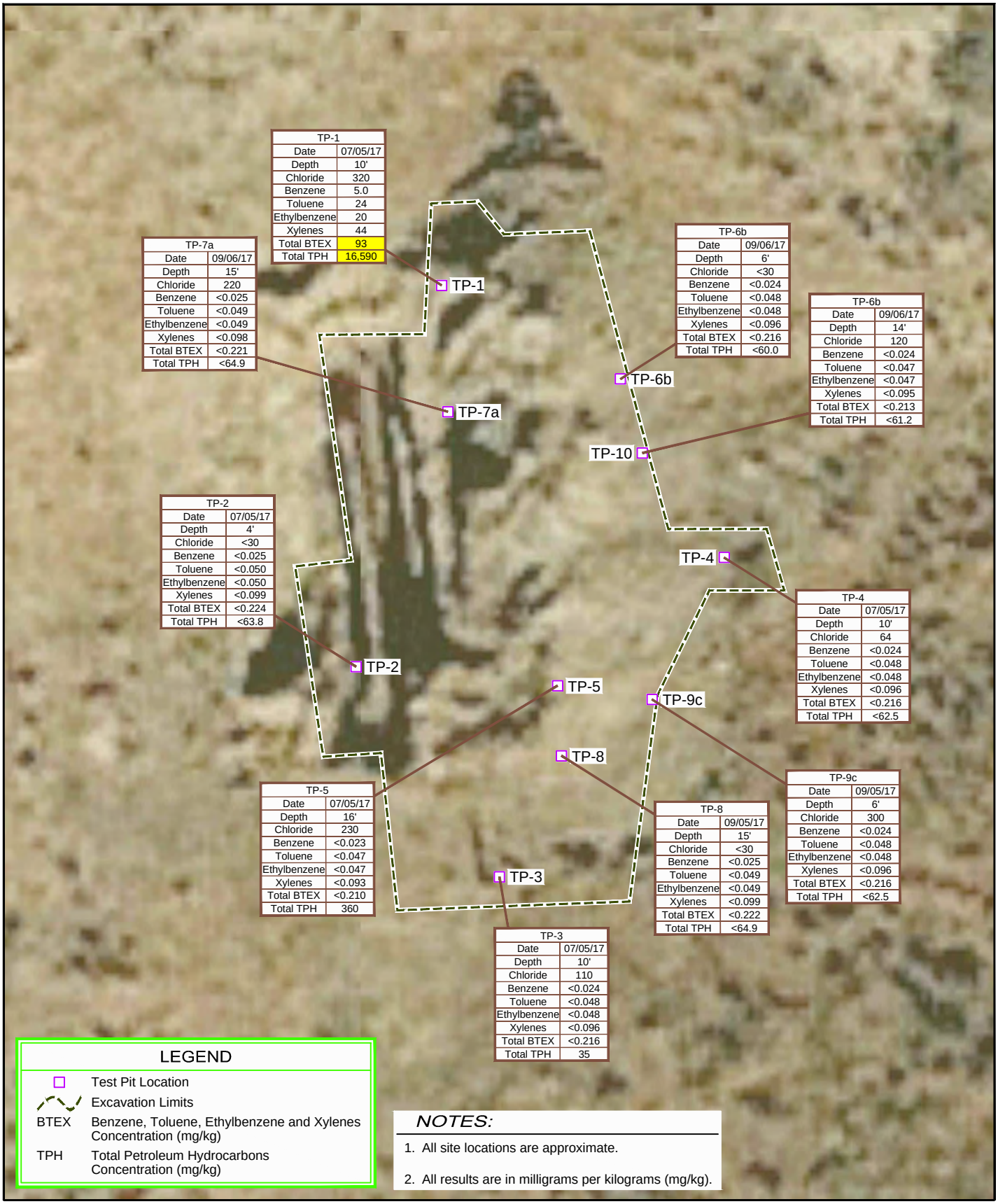
11135250-04

Jul 25, 2017

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-04(000)GN-DL001.dwg



Source: Image É 2017 Google - Imagery Date: February 1, 2017

0 5 10ft

Approximate Scale

ETC FIELD SERVICES
LEA COUNTY, NEW MEXICO
TRUNK MC-16"

11135250-04

Oct 4, 2017

SOIL SAMPLE LOCATION

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-04(000)GN-DL001.dwg

Tables

Table 1

ETC Field Services LLC - Trunk MC-16
Section 33, Township 21 South, Range 36 East
Lea County, New Mexico
Soil Analytical Results Summary

Sample ID	Date	Sample Depth	Chlorides	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH	TPH	TPH	Total TPH
		(ft.)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	GRO (C6-C-10)	DRO (C10-C28)	EXT DRO (C28-C36)	GRO/DRO
									(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMOCD Remediation Action Levels			***600***	***10***	***NE***	***NE***	***NE***	***50***	***NE***	***NE***	***NE***	***5,000***
	EXCAVATION SAMPLES											
WstPile*	11/07/2016	--	308	0.00535*	0.0539*	0.101*	0.843*	0.902*	2,230	7,630	NA	9,860
BtmHol*	11/07/2016	10	416	<0.00500*	<0.00500*	<0.00500*	0.118*	0.118*	4,160	11,800	NA	15,960
S-wal*	11/07/2016	10	324	<0.00500*	0.0362*	0.0239*	0.341*	0.401*	3,710	12,700	NA	16,410
11135250-04-070517-MG-TP-1-10'	07/05/2017	10	320	5.0	24	20	44	93	790	8,900	6,900	16,590
11135250-04-070517-MG-TP-2-4'	07/05/2017	4	<30	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.8	<49	<63.8
11135250-04-070517-MG-TP-3-10'	07/05/2017	10	110	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	35	<49	35
11135250-04-070517-MG-TP-4-10'	07/05/2017	10	64	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.7	<48	<62.5
11135250-04-070517-MG-TP-5-16'	07/05/2017	16	230	<0.023	<0.047	<0.047	<0.093	<0.210	<4.7	200	160	360
S-11135250-04-090617-MG-TP-6b-6	09/06/2017	6	<30	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.2	<46	<60.0
S-11135250-04-090517-MG-TP-8-15	09/05/2017	15	<30	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	<10	<50	<64.9
S-11135250-04-090517-MG-TP-9c-6	09/05/2017	6	300	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.7	<48	<62.5
S-11135250-04-090617-MG-TP-7a-15	09/06/2017	15	220	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	<10	<50	<64.9
S-11135250-04-090617-MG-TP-10-14	09/06/2017	14	120	<0.024	<0.047	<0.047	<0.095	<0.213	<4.7	<9.5	<47	<61.2

Note: Concentrations that are bold exceed the NMOCD Remediation Action Level

* Samples collected by ETC Field Services (BTEX analyzed by 8260 TCLP and reported in milligrams per liter)
NE = Not Established
mg/Kg = milligrams per Kilogram
-- = Not Applicable
NA = Not Analyzed

Appendices

Appendix A
Water Well Report

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00727		CP	LE	1	3	2	05	22S	36E	661130	3588673*	1624	267	212	55
CP 00727 CLW475753	O	CP	LE	1	3	2	05	22S	36E	661130	3588673*	1624	228		

Average Depth to Water: **212 feet**

Minimum Depth: **212 feet**

Maximum Depth: **212 feet**

Record Count:2

UTMNAD83 Radius Search (in meters):

Easting (X): 662653.19 **Northing (Y):** 3589236.73 **Radius:** 2000

***UTM location was derived from PLSS - see Help**

8/28/17 12:13 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

USGS science for a changing world

National Water Information System: Web Interface

Click to hideNews Bulletins

Trunk MC-16

- Please see news on new formats
- Full News

Groundwater levels for the Nation

0.65 mile E, SE

Search Results -- 1 sites found

site_no list =

- 322531103153401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

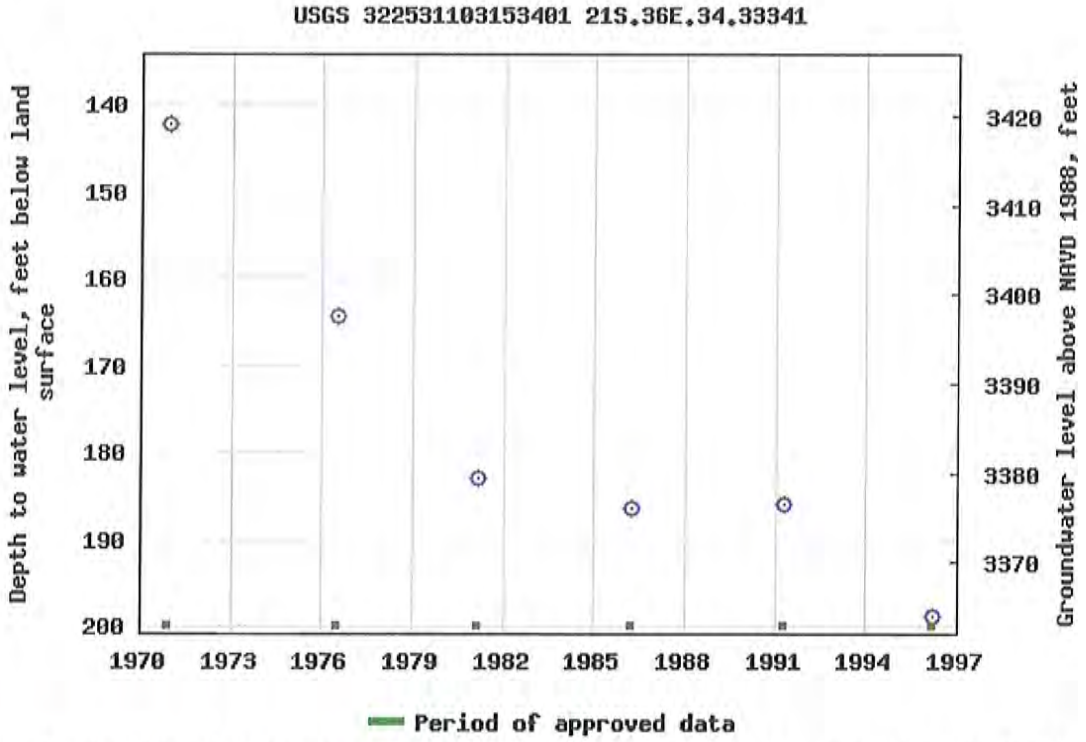
USGS 322531103153401 21S.36E.34.33341

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°25'31", Longitude 103°15'34" NAD27
Land-surface elevation 3,562 feet above NAVD88
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2017-07-18 15:04:58 EDT
0.57 0.49 nadww01

Appendix B
Laboratory Analytical Report

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 14, 2017

Bernie Bockish
GHD
6121 Indian School Road, NE #200
Albuquerque, NM 87110
TEL: (505) 884-0672
FAX

RE: MC 16 OrderNo.: 1707306

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/7/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: 11135250-04-070517MGTP2-4
Project: MC 16
Collection Date: 7/5/2017 10:30:00 AM
Lab ID: 1707306-001
Matrix: SOIL
Received Date: 7/7/2017 10:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/12/2017 2:51:13 PM	32761
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/11/2017 5:07:51 PM	32705
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2017 5:07:51 PM	32705
Surr: DNOP	89.0	70-130		%Rec	1	7/11/2017 5:07:51 PM	32705
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/11/2017 7:58:32 PM	32708
Surr: BFB	94.9	54-150		%Rec	1	7/11/2017 7:58:32 PM	32708
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	7/12/2017 2:30:22 PM	32708
Toluene	ND	0.050		mg/Kg	1	7/12/2017 2:30:22 PM	32708
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2017 2:30:22 PM	32708
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2017 2:30:22 PM	32708
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	7/12/2017 2:30:22 PM	32708
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	7/12/2017 2:30:22 PM	32708
Surr: Dibromofluoromethane	108	70-130		%Rec	1	7/12/2017 2:30:22 PM	32708
Surr: Toluene-d8	98.8	70-130		%Rec	1	7/12/2017 2:30:22 PM	32708

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: 11135250-04-070517MGTP1-10
Project: MC 16
Collection Date: 7/5/2017 11:00:00 AM
Lab ID: 1707306-002
Matrix: SOIL
Received Date: 7/7/2017 10:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	320	30		mg/Kg	20	7/12/2017 3:03:37 PM	32761
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	8900	980		mg/Kg	100	7/11/2017 6:35:07 PM	32705
Motor Oil Range Organics (MRO)	6900	4900		mg/Kg	100	7/11/2017 6:35:07 PM	32705
Surr: DNOP	0	70-130	S	%Rec	100	7/11/2017 6:35:07 PM	32705
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	790	240		mg/Kg	50	7/11/2017 12:42:10 PM	32708
Surr: BFB	165	54-150	S	%Rec	50	7/11/2017 12:42:10 PM	32708
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	5.0	0.47		mg/Kg	20	7/12/2017 2:59:36 PM	32708
Toluene	24	0.95		mg/Kg	20	7/12/2017 2:59:36 PM	32708
Ethylbenzene	20	0.95		mg/Kg	20	7/12/2017 2:59:36 PM	32708
Xylenes, Total	44	1.9		mg/Kg	20	7/12/2017 2:59:36 PM	32708
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	20	7/12/2017 2:59:36 PM	32708
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	20	7/12/2017 2:59:36 PM	32708
Surr: Dibromofluoromethane	102	70-130		%Rec	20	7/12/2017 2:59:36 PM	32708
Surr: Toluene-d8	100	70-130		%Rec	20	7/12/2017 2:59:36 PM	32708

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: 11135250-04-070517MGTP4-10
Project: MC 16
Collection Date: 7/5/2017 11:40:00 AM
Lab ID: 1707306-003
Matrix: SOIL
Received Date: 7/7/2017 10:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	64	30		mg/Kg	20	7/12/2017 3:16:02 PM	32761
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/11/2017 7:03:54 PM	32705
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/11/2017 7:03:54 PM	32705
Surr: DNOP	77.0	70-130		%Rec	1	7/11/2017 7:03:54 PM	32705
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/11/2017 1:54:54 PM	32708
Surr: BFB	105	54-150		%Rec	1	7/11/2017 1:54:54 PM	32708
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	7/12/2017 3:28:56 PM	32708
Toluene	ND	0.048		mg/Kg	1	7/12/2017 3:28:56 PM	32708
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2017 3:28:56 PM	32708
Xylenes, Total	ND	0.096		mg/Kg	1	7/12/2017 3:28:56 PM	32708
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	7/12/2017 3:28:56 PM	32708
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	7/12/2017 3:28:56 PM	32708
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/12/2017 3:28:56 PM	32708
Surr: Toluene-d8	96.2	70-130		%Rec	1	7/12/2017 3:28:56 PM	32708

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: 11135250-04-070517MGTP5-16
Project: MC 16
Collection Date: 7/5/2017 12:20:00 PM
Lab ID: 1707306-004
Matrix: SOIL
Received Date: 7/7/2017 10:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	230	30		mg/Kg	20	7/12/2017 3:28:26 PM	32761
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	200	9.2		mg/Kg	1	7/12/2017 12:35:36 PM	32705
Motor Oil Range Organics (MRO)	160	46		mg/Kg	1	7/12/2017 12:35:36 PM	32705
Surr: DNOP	96.4	70-130		%Rec	1	7/12/2017 12:35:36 PM	32705
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/11/2017 8:22:37 PM	32708
Surr: BFB	119	54-150		%Rec	1	7/11/2017 8:22:37 PM	32708
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	7/12/2017 3:58:17 PM	32708
Toluene	ND	0.047		mg/Kg	1	7/12/2017 3:58:17 PM	32708
Ethylbenzene	ND	0.047		mg/Kg	1	7/12/2017 3:58:17 PM	32708
Xylenes, Total	ND	0.093		mg/Kg	1	7/12/2017 3:58:17 PM	32708
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	7/12/2017 3:58:17 PM	32708
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	7/12/2017 3:58:17 PM	32708
Surr: Dibromofluoromethane	109	70-130		%Rec	1	7/12/2017 3:58:17 PM	32708
Surr: Toluene-d8	97.1	70-130		%Rec	1	7/12/2017 3:58:17 PM	32708

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: 11135250-04-070517MGTP3-10
Project: MC 16
Collection Date: 7/5/2017 12:40:00 PM
Lab ID: 1707306-005
Matrix: SOIL
Received Date: 7/7/2017 10:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	110	30		mg/Kg	20	7/12/2017 3:40:50 PM	32761
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	35	9.8		mg/Kg	1	7/11/2017 8:01:08 PM	32705
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2017 8:01:08 PM	32705
Surr: DNOP	84.3	70-130		%Rec	1	7/11/2017 8:01:08 PM	32705
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/11/2017 8:46:39 PM	32708
Surr: BFB	102	54-150		%Rec	1	7/11/2017 8:46:39 PM	32708
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	7/12/2017 4:27:31 PM	32708
Toluene	ND	0.048		mg/Kg	1	7/12/2017 4:27:31 PM	32708
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2017 4:27:31 PM	32708
Xylenes, Total	ND	0.096		mg/Kg	1	7/12/2017 4:27:31 PM	32708
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	7/12/2017 4:27:31 PM	32708
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	7/12/2017 4:27:31 PM	32708
Surr: Dibromofluoromethane	109	70-130		%Rec	1	7/12/2017 4:27:31 PM	32708
Surr: Toluene-d8	96.9	70-130		%Rec	1	7/12/2017 4:27:31 PM	32708

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707306**

14-Jul-17

Client: GHD

Project: MC 16

Sample ID	**1707306-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**11135250-04-070517**	Batch ID:	**32705**		RunNo:	**44112**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**		SeqNo:	**1393016**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	43	9.1	45.70	0	94.7	55.8	122				
Surr: DNOP	3.9		4.570		84.5	70	130				

Sample ID	**1707306-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**11135250-04-070517**	Batch ID:	**32705**		RunNo:	**44112**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**		SeqNo:	**1393017**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	55	9.7	48.50	0	113	55.8	122	23.5	20	R	
Surr: DNOP	4.7		4.850		97.4	70	130	0	0		

Sample ID	**LCS-32705**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID:	**32705**		RunNo:	**44112**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**		SeqNo:	**1393023**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	51	10	50.00	0	102	73.2	114				
Surr: DNOP	4.5		5.000		89.6	70	130				

Sample ID	**MB-32705**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID:	**32705**		RunNo:	**44112**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**		SeqNo:	**1393024**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	9.9		10.00		98.8	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707306**

14-Jul-17

Client: GHD

Project: MC 16

Sample ID	**MB-32708**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**32708**	RunNo:	**44123**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**	SeqNo:	**1392985**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	54	150			

Sample ID	**LCS-32708**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**32708**	RunNo:	**44123**					
Prep Date:	**7/10/2017**	Analysis Date:	**7/11/2017**	SeqNo:	**1392986**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.0	76.4	125			
Surr: BFB	1200		1000		116	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707306**

14-Jul-17

Client: GHD

Project: MC 16

Sample ID **mb-32708**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **32708**	RunNo: **44140**
Prep Date: **7/10/2017**	Analysis Date: **7/11/2017**	SeqNo: **1393696** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		91.6	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.48		0.5000		96.9	70	130			

Sample ID **lcs-32708**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **32708**	RunNo: **44140**
Prep Date: **7/10/2017**	Analysis Date: **7/11/2017**	SeqNo: **1393697** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	122	70	130			
Toluene	1.0	0.050	1.000	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.56		0.5000		111	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.2	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		109	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: GHD | Work Order Number: 1707306 | RcptNo: 1

Received By: Erin Melendrez 7/7/2017 10:25:00 AM

Completed By: Ashley Gallegos 7/7/2017 3:45:41 PM

Reviewed By: 7/10/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good	Yes			

Chain-of-Custody Record

Client: GHD Services, Inc

Mailing Address: 6121 Indian School Rd Ste 200 NE Albuquerque, NM 87110

Phone #: 505 884 0762

email or Fax#: Bernard.Bockisch@ghd.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: MC-16, ~~MF16~~

Project #:

Project Manager: Bernard Bockisch

Sampler: Michael Gant

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1 - 0.1(cf) = 5.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1707306	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)	BTEX (8260)			Air Bubbles (Y or N)
~~7/5~~																						
7/5	1030	S	S-1135250-04-070517-MC-TP-2-4'	4oz Soil Jar	ICE	-001			X									X	X			
7/5	1100	S	S-1135250-04-070517-MC-TP-1-10'			-002			X									X	X			
7/5	1140	S	S-1135250-04-070517-MC-TP-4-10'			-003			X									X	X			
7/5	1220	S	S-1135250-04-070517-MC-TP-5-16'			-004			X									X	X			
7/5	1240	S	S-1135250-04-070517-MC-TP-3-10'			-005			X									X	X			
7/6	~~1050~~	S	S-1135250-05-070617-MC-TP-1-10'						X										X			
7/6	1115	S	S-1135250-05-070617-MC-TP-5-16'						X										X			
7/6	1130	S	S-1135250-05-070617-MC-TP-2-10'						X										X			
7/6	1145	S	S-1135250-05-070617-MC-TP-3-16'						X										X			
7/6	1200	S	S-1135250-05-070617-MC-TP-3-10'						X										X			

on Separate Report See email

Date	Time	Relinquished by	Received by	Date	Time
7/6/17	1415			7/6/17	1415
7/6/17	1900			7/7/17	1025

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 20, 2017

Bernie Bockisch

GHD
6121 Indian School Road, NE #200
Albuquerque, NM 87110
TEL: (505) 884-0672
FAX

RE: Trunk MC 16 OrderNo.: 1709706

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/12/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: Trunk MC 16

Lab Order: 1709706

Lab ID: 1709706-001 **Collection Date:** 9/5/2017 1:15:00 PM
Client Sample ID: S-11135250-04-090517-MG-TP-8-15' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/15/2017 7:06:17 PM	33876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/15/2017 5:50:28 PM	33875
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/15/2017 5:50:28 PM	33875
Surr: DNOP	80.0	70-130		%Rec	1	9/15/2017 5:50:28 PM	33875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2017 10:59:48 PM	33871
Surr: BFB	95.2	54-150		%Rec	1	9/15/2017 10:59:48 PM	33871
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/15/2017 10:59:48 PM	33871
Toluene	ND	0.049		mg/Kg	1	9/15/2017 10:59:48 PM	33871
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2017 10:59:48 PM	33871
Xylenes, Total	ND	0.099		mg/Kg	1	9/15/2017 10:59:48 PM	33871
Surr: 4-Bromofluorobenzene	105	66.6-132		%Rec	1	9/15/2017 10:59:48 PM	33871

Lab ID: 1709706-002 **Collection Date:** 9/5/2017 2:15:00 PM
Client Sample ID: S-11135250-04-090517-MG-TP-9c-6' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	300	30		mg/Kg	20	9/15/2017 7:18:41 PM	33876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/15/2017 6:19:23 PM	33875
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2017 6:19:23 PM	33875
Surr: DNOP	81.4	70-130		%Rec	1	9/15/2017 6:19:23 PM	33875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2017 11:23:08 PM	33871
Surr: BFB	103	54-150		%Rec	1	9/15/2017 11:23:08 PM	33871
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/15/2017 11:23:08 PM	33871
Toluene	ND	0.048		mg/Kg	1	9/15/2017 11:23:08 PM	33871
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2017 11:23:08 PM	33871
Xylenes, Total	ND	0.096		mg/Kg	1	9/15/2017 11:23:08 PM	33871
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	9/15/2017 11:23:08 PM	33871

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: Trunk MC 16

Lab Order: 1709706

Lab ID: 1709706-003 **Collection Date:** 9/6/2017 2:30:00 PM
Client Sample ID: S-11135250-04-090617-MG-TP-7a-15' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	220	30		mg/Kg	20	9/15/2017 7:31:06 PM	33876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/18/2017 3:31:13 PM	33875
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/18/2017 3:31:13 PM	33875
Surr: DNOP	76.4	70-130		%Rec	1	9/18/2017 3:31:13 PM	33875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/18/2017 9:31:16 AM	33871
Surr: BFB	97.6	54-150		%Rec	1	9/18/2017 9:31:16 AM	33871
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/18/2017 9:31:16 AM	33871
Toluene	ND	0.049		mg/Kg	1	9/18/2017 9:31:16 AM	33871
Ethylbenzene	ND	0.049		mg/Kg	1	9/18/2017 9:31:16 AM	33871
Xylenes, Total	ND	0.098		mg/Kg	1	9/18/2017 9:31:16 AM	33871
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	9/18/2017 9:31:16 AM	33871

Lab ID: 1709706-004 **Collection Date:** 9/6/2017 4:00:00 PM
Client Sample ID: S-11135250-04-090617-MG-TP-6b-6' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/15/2017 7:43:31 PM	33876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/15/2017 7:16:40 PM	33875
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2017 7:16:40 PM	33875
Surr: DNOP	80.4	70-130		%Rec	1	9/15/2017 7:16:40 PM	33875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/16/2017 1:44:33 AM	33871
Surr: BFB	94.6	54-150		%Rec	1	9/16/2017 1:44:33 AM	33871
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/16/2017 1:44:33 AM	33871
Toluene	ND	0.048		mg/Kg	1	9/16/2017 1:44:33 AM	33871
Ethylbenzene	ND	0.048		mg/Kg	1	9/16/2017 1:44:33 AM	33871
Xylenes, Total	ND	0.096		mg/Kg	1	9/16/2017 1:44:33 AM	33871
Surr: 4-Bromofluorobenzene	104	66.6-132		%Rec	1	9/16/2017 1:44:33 AM	33871

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: Trunk MC 16

Lab Order: 1709706

Lab ID: 1709706-005
Collection Date: 9/6/2017 4:30:00 PM
Client Sample ID: S-11135250-04-090617-MG-TP-10-14'
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	120	30		mg/Kg	20	9/15/2017 7:55:55 PM	33876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/15/2017 7:45:29 PM	33875
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/15/2017 7:45:29 PM	33875
Surr: DNOP	85.6	70-130		%Rec	1	9/15/2017 7:45:29 PM	33875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/16/2017 2:08:07 AM	33871
Surr: BFB	99.1	54-150		%Rec	1	9/16/2017 2:08:07 AM	33871
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/16/2017 2:08:07 AM	33871
Toluene	ND	0.047		mg/Kg	1	9/16/2017 2:08:07 AM	33871
Ethylbenzene	ND	0.047		mg/Kg	1	9/16/2017 2:08:07 AM	33871
Xylenes, Total	ND	0.095		mg/Kg	1	9/16/2017 2:08:07 AM	33871
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	9/16/2017 2:08:07 AM	33871

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709706**

20-Sep-17

Client: GHD

Project: Trunk MC 16

Sample ID	**MB-33876**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**33876**	RunNo:	**45653**					
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**	SeqNo:	**1450182**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33876**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**33876**	RunNo:	**45653**					
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**	SeqNo:	**1450183**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709706**

20-Sep-17

Client: GHD

Project: Trunk MC 16

Sample ID	**LCS-33875**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**33875**		RunNo:	**45643**				
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**		SeqNo:	**1448863**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	73.2	114			
Surr: DNOP	4.7		5.000		94.6	70	130			

Sample ID	**MB-33875**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**33875**		RunNo:	**45643**				
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**		SeqNo:	**1448864**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709706**

20-Sep-17

Client: GHD

Project: Trunk MC 16

Sample ID	**MB-33871**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**33871**		RunNo:	**45651**				
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**		SeqNo:	**1449668**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		105	54	150			

Sample ID	**LCS-33871**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**33871**		RunNo:	**45651**				
Prep Date:	**9/14/2017**	Analysis Date:	**9/15/2017**		SeqNo:	**1449669**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	114	76.4	125			
Surr: BFB	1100		1000		114	54	150			

Sample ID	**MB-33888**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**33888**		RunNo:	**45702**				
Prep Date:	**9/15/2017**	Analysis Date:	**9/18/2017**		SeqNo:	**1450912**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		105	54	150			

Sample ID	**LCS-33888**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**33888**		RunNo:	**45702**				
Prep Date:	**9/15/2017**	Analysis Date:	**9/18/2017**		SeqNo:	**1450913**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		115	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709706**

20-Sep-17

Client: GHD

Project: Trunk MC 16

Sample ID **MB-33871**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33871**	RunNo: **45651**
Prep Date: **9/14/2017**	Analysis Date: **9/15/2017**	SeqNo: **1449704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132			

Sample ID **LCS-33871**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33871**	RunNo: **45651**
Prep Date: **9/14/2017**	Analysis Date: **9/15/2017**	SeqNo: **1449705** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	114	80	120			
Toluene	1.1	0.050	1.000	0	111	80	120			
Ethylbenzene	1.1	0.050	1.000	0	114	80	120			
Xylenes, Total	3.5	0.10	3.000	0	116	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	66.6	132			

Sample ID **MB-33888**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33888**	RunNo: **45702**
Prep Date: **9/15/2017**	Analysis Date: **9/18/2017**	SeqNo: **1450947** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		120	66.6	132			

Sample ID **LCS-33888**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33888**	RunNo: **45702**
Prep Date: **9/15/2017**	Analysis Date: **9/18/2017**	SeqNo: **1450948** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		122	66.6	132			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: GHD | Work Order Number: 1709706 | RcptNo: 1

Received By: Erin Melendrez 9/12/2017 10:15:00 AM

Completed By: Ashley Gallegos 9/13/2017 3:16:13 PM

Reviewed By: SRC 09/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	Good	Yes			

Chain-of-Custody Record

Client: CHD Services, Inc

Mailing Address: 121 Indian School Rd Ste 200 NE Albuquerque, NM 87110

Phone #: 505 884 0672

email or Fax#: Bernard.Backisch@chd.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: ~~2014~~ Trunk MC-16

Project #: 111135250-04

Project Manager: Bernard Backisch

Sampler: Michael Gant

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709706	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride 300				Air Bubbles (Y or N)
9/5	1315	S	111135250-04-090517-MC-TP-8-15'	4oz Soil Jar	ICE	-001	X		X									X				
9/5	1415	S	S-111135250-04-090512-MC-TP-2-6'			-002	X		X									X				
9/6	1430	S	S-111135250-04-090617-MC-TP-7a-15'			-003	X		X									X				
9/6	1600	S	S-111135250-04-090617-MC-TP-4b-6'			-004	X		X									X				
9/6	1630	S	S-111135250-04-090617-MC-TP-10-14'			-005	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/11/17	0840			9/11/17	0840
9/4/17	1800			9/12/17	1015

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

courier

Analytical Report 539986

for

Energy Transfer- Midland

Project Manager: Johnnie Bradford

Trunk MC-16

15-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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15-NOV-16

Project Manager: **Johnnie Bradford**
Energy Transfer- Midland
600 N Marienfield Ste 700
Midland, TX 79701

Reference: XENCO Report No(s): **539986**
Trunk MC-16
Project Address: Eunice NM

Johnnie Bradford:

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) 539986. 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. 539986 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 539986

Energy Transfer- Midland, Midland, TX

Trunk MC-16

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WstPile	S	11-07-16 08:57		539986-001
BtmHole	S	11-07-16 09:00	- 10 ft	539986-002
S-Wal	S	11-07-16 09:03	- 10 ft	539986-003

Client Name: Energy Transfer- Midland
Project Name: Trunk MC-16

Project ID:
Work Order Number(s): *539986*

Report Date: *15-NOV-16*
Date Received: *11/08/2016*

Sample receipt non conformances and comments:

Level III Std QC+Forms

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 539986

Energy Transfer- Midland, Midland, TX

Project Name: Trunk MC-16

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Tue Nov-08-16 02:55 pm
Report Date: 15-NOV-16
Project Manager: Kelsey Brooks

Analysis Requested												
	Lab Id:	539986-001		539986-002		539986-003						
	Field Id:	WstPile		BtmHole		S-Wal						
	Depth:			-10 ft		-10 ft						
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	Nov-07-16 08:57		Nov-07-16 09:00		Nov-07-16 09:03						
TCLP BTEX by SW 8260B SUB: TX104704215	*Extracted:*	Nov-14-16 15:44		Nov-14-16 15:42		Nov-14-16 15:43						
	Analyzed:	Nov-14-16 18:06		Nov-14-16 17:28		Nov-14-16 17:47						
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL					
Benzene		0.00535	0.00500	ND	0.00500	ND	0.00500					
Toluene		0.0539	0.00500	ND	0.00500	0.0362	0.00500					
Ethylbenzene		0.101	0.00500	ND	0.00500	0.0239	0.00500					
m,p-Xylenes		0.587	0.0100	ND	0.0100	0.183	0.0100					
o-Xylene		0.256	0.00500	0.118	0.00500	0.158	0.00500					
TCLP Mercury by SW 7470A SUB: TX104704215	*Extracted:*	Nov-14-16 09:30		Nov-14-16 09:30		Nov-14-16 09:30						
	Analyzed:	Nov-14-16 15:55		Nov-14-16 15:59		Nov-14-16 16:01						
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL					
Mercury		ND	0.000200	ND	0.000200	ND	0.000200					
TCLP Metals by SW846 6010B SUB: TX104704215	*Extracted:*	Nov-14-16 09:30		Nov-14-16 09:30		Nov-14-16 09:30						
	Analyzed:	Nov-14-16 21:13		Nov-14-16 21:22		Nov-14-16 21:25						
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL					
Arsenic		ND	0.0500	0.0695	0.0500	ND	0.0500					
Barium		0.490	0.0500	0.527	0.0500	1.72	0.0500					
Cadmium		ND	0.0250	ND	0.0250	ND	0.0250					
Chromium		ND	0.0500	ND	0.0500	ND	0.0500					
Lead		ND	0.0500	ND	0.0500	ND	0.0500					
Selenium		ND	0.100	ND	0.100	ND	0.100					
Silver		ND	0.100	ND	0.100	ND	0.100					

Certificate of Analysis Summary 539986

Energy Transfer- Midland, Midland, TX

Project Name: Trunk MC-16

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Tue Nov-08-16 02:55 pm
Report Date: 15-NOV-16
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	539986-001		539986-002		539986-003					
	Field Id:	WstPile		BtmHole		S-Wal					
	Depth:			10 ft		10 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Nov-07-16 08:57		Nov-07-16 09:00		Nov-07-16 09:03					
Inorganic Anions by EPA 300/300.1	*Extracted:*	Nov-09-16 11:00		Nov-09-16 11:00		Nov-09-16 11:00					
	Analyzed:	Nov-09-16 14:17		Nov-09-16 14:38		Nov-09-16 14:45					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		308	5.00	416	5.00	324	5.00				
TPH by SW 8015B	*Extracted:*	Nov-08-16 17:00		Nov-08-16 17:00		Nov-08-16 17:00					
	Analyzed:	Nov-09-16 00:06		Nov-09-16 00:31		Nov-09-16 00:55					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		2230	74.9	4160	74.9	3710	74.7				
C10-C28 Diesel Range Hydrocarbons		7630	74.9	11800	74.9	12700	74.7				
Total TPH		9970	74.9	16100	74.9	16500	74.7				

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Trunk MC-16

Work Orders : 539986,

Project ID:

Lab Batch #: 3003551 **Sample:** 539986-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/09/16 00:06

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.8	129	70-135	
o-Terphenyl	64.3	49.9	129	70-135	

Lab Batch #: 3003551 **Sample:** 539986-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/09/16 00:31

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	59.2	49.9	119	70-135	

Lab Batch #: 3003551 **Sample:** 539986-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/09/16 00:55

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.6	114	70-135	
o-Terphenyl	60.7	49.8	122	70-135	

Lab Batch #: 3003850 **Sample:** 539986-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 11/14/16 17:28

TCLP BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0604	0.0500	121	75-131	
1,2-Dichloroethane-D4	0.0452	0.0500	90	63-144	
Toluene-D8	0.0461	0.0500	92	80-117	

* 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: Trunk MC-16

Work Orders : 539986,

Project ID:

Lab Batch #: 3003850 **Sample:** 539986-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 11/14/16 17:47

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0592	0.0500	118	75-131	
1,2-Dichloroethane-D4	0.0441	0.0500	88	63-144	
Toluene-D8	0.0465	0.0500	93	80-117	

Lab Batch #: 3003850 **Sample:** 539986-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 11/14/16 18:06

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0457	0.0500	91	63-144	
Toluene-D8	0.0486	0.0500	97	80-117	

Lab Batch #: 3003551 **Sample:** 715881-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/08/16 20:52

SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	64.4	50.0	129	70-135	

Lab Batch #: 3003850 **Sample:** 716102-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/14/16 13:36

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0528	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0455	0.0500	91	63-144	
Toluene-D8	0.0455	0.0500	91	80-117	

* 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: Trunk MC-16

Work Orders : 539986,

Project ID:

Lab Batch #: 3003551 **Sample:** 715881-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/08/16 21:16

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	64.0	50.0	128	70-135	

Lab Batch #: 3003850 **Sample:** 716102-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/14/16 11:01

TCLP BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0512	0.0500	102	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 3003551 **Sample:** 715881-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/08/16 21:40

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	64.8	50.0	130	70-135	

Lab Batch #: 3003850 **Sample:** 716102-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/14/16 11:20

TCLP BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0489	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0506	0.0500	101	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

* 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: Trunk MC-16

Work Orders : 539986,

Project ID:

Lab Batch #: 3003551 **Sample:** 539784-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/08/16 22:53

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.9	128	70-135	
o-Terphenyl	60.8	50.0	122	70-135	

Lab Batch #: 3003850 **Sample:** 540067-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 11/14/16 15:32

TCLP BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0474	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0483	0.0500	97	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 3003551 **Sample:** 539784-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/08/16 23:17

TPH by SW 8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	60.6	50.0	121	70-135	

Lab Batch #: 3003850 **Sample:** 540067-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 11/14/16 15:52

TCLP BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0470	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0496	0.0500	99	63-144	
Toluene-D8	0.0493	0.0500	99	80-117	

* 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: Trunk MC-16

Work Order #: 539986 **Project ID:**

Analyst: MNR **Date Prepared:** 11/09/2016 **Date Analyzed:** 11/09/2016

Lab Batch ID: 3003608 **Sample:** 715909-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	242	97	250	242	97	0	90-110	20	

Analyst: JTR **Date Prepared:** 11/14/2016 **Date Analyzed:** 11/14/2016

Lab Batch ID: 3003850 **Sample:** 716102-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP BTEX by SW 8260B 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	<0.00500	0.500	0.525	105	0.500	0.509	102	3	66-142	20	
Toluene	<0.00500	0.500	0.523	105	0.500	0.506	101	3	59-139	20	
Ethylbenzene	<0.00500	0.500	0.536	107	0.500	0.522	104	3	75-125	20	
m,p-Xylenes	<0.0100	1.00	1.04	104	1.00	1.02	102	2	75-125	20	
o-Xylene	<0.00500	0.500	0.547	109	0.500	0.538	108	2	75-125	20	

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

Version: 1.%

BS / BSD Recoveries

Project Name: Trunk MC-16

Work Order #: 539986 **Project ID:**

Analyst: DEP **Date Prepared:** 11/14/2016 **Date Analyzed:** 11/14/2016

Lab Batch ID: 3003836 **Sample:** 716061-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A 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
Mercury	<0.000200	0.00200	0.00196	98	0.00200	0.00200	100	2	80-120	20	

Analyst: DEP **Date Prepared:** 11/14/2016 **Date Analyzed:** 11/14/2016

Lab Batch ID: 3003887 **Sample:** 716077-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B 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
Arsenic	<0.0100	1.00	1.00	100	1.00	1.02	102	2	80-120	20	
Barium	<0.0100	1.00	1.00	100	1.00	1.01	101	1	80-120	20	
Cadmium	<0.00500	1.00	0.985	99	1.00	0.984	98	0	80-120	20	
Chromium	<0.0100	1.00	0.966	97	1.00	0.968	97	0	80-120	20	
Lead	<0.0100	1.00	1.02	102	1.00	1.02	102	0	80-120	20	
Selenium	<0.0200	1.00	0.984	98	1.00	0.995	100	1	80-120	20	
Silver	<0.0200	0.500	0.503	101	0.500	0.499	100	1	80-120	20	

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

Version: 1.%

BS / BSD Recoveries

Project Name: Trunk MC-16

Work Order #: 539986 **Project ID:**

Analyst: ARM **Date Prepared:** 11/08/2016 **Date Analyzed:** 11/08/2016

Lab Batch ID: 3003551 **Sample:** 715881-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	1000	100	1000	1010	101	1	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1090	109	1000	1090	109	0	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: Trunk MC-16

Work Order # : 539986 **Project ID:**

Lab Batch ID: 3003608 **QC- Sample ID:** 539986-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/09/2016 **Date Prepared:** 11/09/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	308	250	548	96	250	559	100	2	90-110	20	

Lab Batch ID: 3003608 **QC- Sample ID:** 540004-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/09/2016 **Date Prepared:** 11/09/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1870	1250	3080	97	1250	3050	94	1	90-110	20	

Lab Batch ID: 3003850 **QC- Sample ID:** 540067-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/14/2016 **Date Prepared:** 11/14/2016 **Analyst:** JTR

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP BTEX by SW 8260B 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	<0.00500	0.500	0.524	105	0.500	0.524	105	0	66-142	20	
Toluene	<0.00500	0.500	0.521	104	0.500	0.512	102	2	59-139	20	
Ethylbenzene	<0.00500	0.500	0.535	107	0.500	0.532	106	1	75-125	20	
m,p-Xylenes	<0.0100	1.00	1.05	105	1.00	1.02	102	3	75-125	20	
o-Xylene	<0.00500	0.500	0.524	105	0.500	0.549	110	5	75-125	20	

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

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

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: Trunk MC-16

Work Order # : 539986 **Project ID:**

Lab Batch ID: 3003836 **QC- Sample ID:** 539905-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/14/2016 **Date Prepared:** 11/14/2016 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A 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
Mercury	<0.000200	0.00200	0.00215	108	0.00200	0.00212	106	1	75-125	20	

Lab Batch ID: 3003836 **QC- Sample ID:** 540191-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/14/2016 **Date Prepared:** 11/14/2016 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A 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
Mercury	<0.000200	0.00200	0.00213	107	0.00200	0.00212	106	0	75-125	20	

Lab Batch ID: 3003887 **QC- Sample ID:** 540125-001 S **Batch #:** 1 **Matrix:** Solid

Date Analyzed: 11/14/2016 **Date Prepared:** 11/14/2016 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B 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
Arsenic	<0.0500	5.00	5.15	103	5.00	5.09	102	1	80-120	20	
Barium	3.10	5.00	8.07	99	5.00	8.11	100	0	80-120	20	
Cadmium	<0.0250	5.00	4.97	99	5.00	5.00	100	1	80-120	20	
Chromium	<0.0500	5.00	4.75	95	5.00	4.77	95	0	80-120	20	
Lead	<0.0500	5.00	5.03	101	5.00	5.06	101	1	80-120	20	
Selenium	<0.100	5.00	5.14	103	5.00	5.16	103	0	80-120	20	
Silver	<0.100	2.50	2.54	102	2.50	2.55	102	0	80-120	20	

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

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

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: Trunk MC-16

Work Order # : 539986 **Project ID:**

Lab Batch ID: 3003551 **QC- Sample ID:** 539784-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/08/2016 **Date Prepared:** 11/08/2016 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	999	914	91	999	937	94	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	999	983	98	999	1010	101	3	70-135	35	

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.

CHAIN OF CUSTODY

Page ___ Of ___

XENCO LABORATORIES

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Stafford,Texas (281-240-4200) | San Antonio, Texas (210-509-3334) | Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job 539986

Client / Reporting Information

Company Name / Branch: Energy Transfer Company Field Services

Company Address: 600 N. Marienfeld, Midland, Texas 79701

Email: johnnie.bradford@energytransfer.com | Phone No: (432) 450-5542

Project Contact: Johnnie Bradford

Samplers's Name - Johnnie Bradford

Project Information

Project Name/Number: Trunk MC-16

Project Location: Eunice NM

Invoice To: Same as above

PO Number: None

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TCLP BETX	TCLP RCRA 8 Metals	TPH	Chlorides	Field Comments
1	WstPile	0	11/7/2016	8:57	S	1									X	X	X	X	
2	BtmHol	10	11/7/2016	9:00	S	1									X	X	X	X	
3	S-Wal	10	11/7/2016	9:03	S	1									X	X	X	X	
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [X] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [X] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Johnnie Bradford	11/05/2016 1455	1	2	11/8/16 14:55	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice
			5			X

Temp: IR ID:R-8
CF:+ 0.1 4.8°C
Corrected Temp: 4.9°C

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Energy Transfer- Midland

Date/ Time Received: 11/08/2016 02:55:00 PM

Work Order #: 539986

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.9	
#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 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)?	Yes	Houston
#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 samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A	
#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 Kramer
Jessica Kramer
Date: 11/08/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 11/09/2016