

October 10, 2017

Reference No. 11135250-5

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

NMOCD grants backfill approval to 1RP-4523.

Dear Mr. Ericson:

Re: Assessment Summary Report MF-16 Inch ETC Field Services LLC 1RP 4523 Site Location: Unit K, Sec. 29, T 21-S, R 37-E (Lat 32.449613N°, Long -103.18858W°) Lea County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. The MF-16 Inch pipeline (hereafter referred to as the "Site") is located within Unit K, Section 29, Township 21 South, Range 37 East, in Lea County, New Mexico (see Figure 1). The property is privately owned.

On November 17, 2017, a release of approximately 140,000 standard cubic feet (Mscf) of natural gas and seven barrels (bbls) of oil was reported to the State of New Mexico Oil Conservation Division (NMOCD) via Form C-141. A leak from a 16-inch pipeline was the cause of the release. None of the released material was recovered. Contaminated soils were excavated and stockpiled on site (see Figure 2). NMOCD release number 1RP 4523 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 2.7 miles from the Site. The depth to groundwater measured in this well was 70 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 98 ft. bgs. This is based on a water well that is located approximately 1.5 mile north, northwest of the Site (see Appendix A, Water Well Reports for depth to water). There are no well head protection areas or surface water bodies within 1000 feet of the Site. Therefore, the preliminary total ranking score is 10 (see table below).

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), 1,000 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 (50-99 ft. bgs)	10
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	10*

\*Because the ranking criteria total score is 10, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 1,000 mg/kg for total TPH and 600 ppm for chlorides<sup>1</sup>.

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 (BtmHole) was collected from the bottom of the excavation at a depth of approximately 10 ft. bgs on November 8, 2016 (see Figure 2). 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: 0.568 milligrams per liter (mg/L)
- Total TCLP BTEX: 2.93 mg/L
- TPH: 22,160 milligrams per kilogram (mg/kg)
- Chloride: 8.48 mg/kg

Excavation activities to assess the horizontal and vertical extent of impacted soil from the release occurred on July 6, 2017 by GHD. Field screening of soil for petroleum hydrocarbons was performed to assess the horizontal and vertical extent of contaminated soil. Field screening of the soil was performed using the PetroFLAG Hydrocarbon Analysis System. Excavation activities were performed by Diamond Back of Hobbs, New Mexico and observed by GHD.

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 and TPH by EPA Method 8015 full range (Table 1).



Five test pits (TP) were excavated, one on each side and one in the base of the original excavation (Figure 2). One sample was collected from TP-5 in the base of the excavation at a depth of 15 ft. bgs and soil samples were collected from four test pits (TP-1 through TP-4) at a depth of 10 ft. bgs for laboratory analysis. The field screening indicated that impacted soil did not extend to a depth greater than 15 ft. bgs.

The laboratory analytical results were all non-detect and thus, below the RRALs. Initial bottom of excavation and stockpile soil samples did not contain chloride concentrations above the RRAL and thus, the confirmation samples were not analyzed for chloride. Laboratory analytical reports can be found in Appendix B and the results summarized in Table 1.

Additional assessment consisting of three test pits (TP-6 through TP-8) was performed by GHD on September 6, 2017. Soil samples were collected at a depth of 14 ft. bgs in TP-6 and TP-7 and at a depth of 6 ft. bgs in TP-8. The soil samples were submitted to HEAL and analyzed for BTEX by EPA Method 8260B, TPH by EPA Method 8015 full range, and chloride by EPA method 300 (Table 1).

The sample collected from TP-6 was the only one that contained a detectable concentration above the laboratory reporting limit for the constituents analyzed for. This sample contained a total TPH concentration of 81 mg/kg.

### 3. Summary and Recommendations

Soil samples collected from the base of the excavation at a depth of 15 ft. bgs, and the four test pits (see Figure 2) were submitted for laboratory analysis. The laboratory analytical results were all non-detect and thus, below the RRALs. Based on the laboratory results, GHD recommends the following:

- Backfilling of the excavation with clean fill material and wheel compacting to grade.
- Reseed the area with a seed mix that is approved by the land owner.

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.

Sincerely,

GHD

AIC Brand

Alan Brandon Senior Project Manager

AB/mc/01

Bernard Bockisch New Mexico Operations Manager

# Figures



CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-05(000)GN-DL001.dwg



Source: Image © 2017 Google - Imagery Date: November 22, 2016



ETC FIELD SERVICES LEA COUNTY, NEW MEXICO MF-16 PIPELINE ASSESSMENT

### SOIL SAMPLE LOCATION

**FIGURE 2** 

11135250-05

Oct 3, 2017

# **Tables**

Table 1

# ETC Field Services LLC - MF-16 Section 29, Township 21 South, Range 37 East Lea County, New Mexico Soil Analytical Results Summary

Sample ID	Date	Sample Depth	Chlorides	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	ТРН	ТРН	ТРН	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 Remediatio	n Action Levels		600	10	NE	NE	NE	50	NE	NE	NE	1,000
						EXCAVA	FION SAMPLES					
WstPile*	11/08/2016		18.1	0.154*	0.595*	0.226*	0.505*	1.48*	5,720	12,300	NA	18,020.0
FntWal*	11/08/2016	10	7.38	0.0301*	0.19*	0.114*	0.27*	0.604*	1,900.0	5,970.0	NA	7,870.0
BtmHol*	11/08/2016	10	8.48	0.568*	1.05*	0.357*	0.955*	2.93*	7,960.0	14,200.0	NA	22,160.0
NsidWal*	11/08/2016	8	7.87	<0.005*	<0.005*	<0.005*	<0.015*	<0.030*	15.3	60.3	NA	75.6
11135250-05-070617-MG-TP-1-10'	07/06/2017	10	NA	<0.025	< 0.049	< 0.049	<0.098	<0.221	<4.9	<10	<50	<64.9
11135250-05-070617-MG-TP-2-10'	07/06/2017	10	NA	<0.025	< 0.049	< 0.049	< 0.099	<0.222	<4.9	<9.5	<47	<61.4
11135250-05-070617-MG-TP-3-10'	07/06/2017	10	NA	<0.025	< 0.049	< 0.049	< 0.099	<0.222	<4.9	<9.7	<49	<63.6
11135250-05-070617-MG-TP-4-10'	07/06/2017	10	NA	< 0.024	< 0.049	< 0.049	<0.097	<0.219	<4.9	<9.4	<47	<61.3
11135250-05-070617-MG-TP-5-15'	07/06/2017	15	NA	< 0.024	< 0.049	<0.049	<0.098	<0.220	<4.9	<10	<50	<64.9
S-11135250-05-090617-MG-TP-6-14	09/06/2017	14	<30	< 0.024	< 0.049	<0.049	<0.098	<0.220	<4.9	32.0	49.0	81.0
S-11135250-05-090617-MG-TP-7-14	09/06/2017	14	<30	<0.025	< 0.050	< 0.050	<0.10	<0.225	<5.0	<9.6	<48	<62.6
S-11135250-05-090617-MG-TP-8-6	09/06/2017	6	<30	< 0.024	<0.047	<0.047	< 0.095	<0.213	<4.7	<10.0	<51.0	<65.7

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

\* Samples taken 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

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(A CLW##### in the POD sulfix indicates the POD has been replaced & no longer	(R=POD replaced, O=orphar	has beer hed,	r	14.55								
serves a water right	C=the file	is		(quarter (quarter	's are 1 's are s	=NW 2= mallest	⊧NE 3=SW to	4=SE)				
file.)	closed)			largest)			(N	AD83 UTM in	meters)	(In feet	)	
	and the second	POD Sub-	40.00	aaa							W	ater
POD Number L_09966	Code	basin L	County LE	641649 122	Sec Tw 02 17	s Rng S 37E	X 667627	Y 3588089 🌒	DistanceDe 4499	pthWellDepthV 150	Vater Col 70	umn 80
								Ave	rage Depth to V	Water:	70 feet	t i
									Minimum De	apth:	70 feet	
									Maximum De	epth:	70 feet	
Record Count: 1												
Basin/County Sea	irch:											
Basin: Lea Cou	nty	Cour	nty: Lea									
UTMNAD83 Radiu	is Search (i	in meter:	s):									
Easting (X): 67	0275		North	ning (Y): 3	591727			Radius: 4500	motors.			

6/22/17 10:55 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



**USGS Home Contact USGS** Search USGS

National Water Information System: Web Interface

**USGS Water Resources** 

Data Category: Groundwater v

Geographic Area: United States

GO

V

Click to hideNews Bulletins

mE-16" pipeline ~ 1.5 miles

Please see news on new formats

Full News

GO

V

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs site no list =

• 322816103114201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

## USGS 322816103114201 21S.37E.18.442123

Available data for this site

Groundwater: Field measurements

Lea County, New Mexico

Hydrologic Unit Code 13070007 Latitude 32°28'16", Longitude 103°11'42" NAD27

Land-surface elevation 3,513 feet above NAVD88

The depth of the well is 125 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) 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

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AccessibilityPlug-InsFOIAPrivacyPolicies and NoticesU.S. Department of the Interior|U.S. Geological SurveyTitle:Groundwater for USA:Water LevelsURL:https://nwis.waterdata.usgs.gov/nwis/gwlevels?



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https://nwis.waterdata.usgs.gov/nwis/gwlevels?site\_no=322816103114201&agency\_cd=U... 6/13/2017

# Appendix B Laboratory Analytical Report

# **Analytical Report 539987**

for

**Energy Transfer- Midland** 

**Project Manager: Johnnie Bradford** 

**MF-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): 539987 MF-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) 539987. 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. 539987 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,

Mans

Kelsey Brooks Project Manager

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## Sample Cross Reference 539987



### Energy Transfer- Midland, Midland, TX

MF-16

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WstPile	S	11-08-16 07:40		539987-001
FntWal	S	11-08-16 07:34	- 10 ft	539987-002
BtmHol	S	11-08-16 07:37	- 10 ft	539987-003
NsidWal	S	11-08-16 07:49	- 8 ft	539987-004



### CASE NARRATIVE



Client Name: Energy Transfer- Midland Project Name: MF-16

Project ID: Work Order Number(s): 539987 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



Johnnie Bradford

Eunice NM

Project Location:

Contact:

Certificate of Analysis Summary 539987 Energy Transfer- Midland, Midland, TX



Project Name: MF-16

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

Project Manager: Kelsey Brooks

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations can reast 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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Project Manager Kelsey Brooks

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Johnnie Bradford

Eunice NM

Project Location:

Contact:

Certificate of Analysis Summary 539987 Energy Transfer-Midland, Midland, TX



Project Name: MF-16

Date Received in Lab: Tue Nov-08-16 02:55 pm

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

87-002 539987-003 (Wal BtmHol ) ft 10 ft 10 ft OIL SOIL -16 07:34 Nov-08-16 07:37 -16 11:00 Nov-09-16 11:00 -16 15:41 Nov-09-16 11:00 -16 15:41 Nov-09-16 11:00 -16 15:41 Nov-09-16 11:00 -16 17:00 Nov-09-16 17:00 -16 17:00 Nov-09-16 02:09 RL mg/kg RL 0 75.0 7960 150	87-002      539987-003      539987-004      87        (Wal      BtmHol      BtmHol      NsidWal        0.ft      10.ft      NsidWal      NsidWal        0.ft      10.ft      SOIL      SOIL        16.07:34      Nov-08-16.07:37      Nov-08-16.07:49      SOIL        -16.07:34      Nov-09-16.11:00      Nov-09-16.11:00      SOIL        -16.11:00      Nov-09-16.11:00      Nov-09-16.11:00      SOIL        -16.11:00      Nov-09-16.11:00      Nov-09-16.11:00      SOIL        -16.11:00      Nov-09-16.15:48      Nov-09-16.15:55      SOIL        -16.11:00      Nov-09-16.15:00      Nov-09-16.15:00      SOIL        -16.17:00      Nov-09-16.15:05      May      SOIL        -16.17:00      Nov-09-16.02:33      May      SOIL        -16.17:00      Nov-09-16.02:33      SOI      SOIL        -16.08:14      Nov-09-16.02:33      May      SOIL        -16.08:14      Nov-09-16.02:33      SOIL      SOIL        -16.08:14      Nov-09-16.02:33      SOIL      SOIL        0      75.0
539987-603 BtmHol 10 ft SOIL Nov-08-16 07:37 Nov-09-16 11:00 Nov-09-16 15:48 mg/kg RL 8.48 5.00 Nov-08-16 17:00 Nov-08-16 17:00 Nov-09-16 02:09 mg/kg RL 14200 150	539987-003      539987-004        BunHol      NsidWal        BunHol      NsidWal        10 ft      SOIL        Nov-08-16 07:37      Nov-08-16 07:49        Nov-09-16 11:00      Nov-09-16 11:00        Nov-09-16 11:00      Nov-09-16 11:00        Nov-09-16 15:48      Nov-09-16 15:55        mg/kg      RL        Nov-09-16 15:48      Nov-09-16 15:55        Nov-09-16 15:48      Nov-09-16 15:55        Nov-09-16 15:48      Nov-09-16 15:55        Nov-09-16 15:48      Nov-09-16 15:55        Nov-09-16 15:54      Nov-09-16 15:55        mg/kg      RL        Nov-09-16 15:53      Nov-09-16 15:55        Nov-09-16 15:00      Nov-09-16 15:55        Nov-09-16 02:09      Nov-08-16 17:00        Nov-09-16 02:09      Nov-09-16 02:33        Nov-1700      Nov-09-16 02:33        Nd/kg
	539987-004 NsidWal 8 ft SOIL Nov-08-16 07:49 Nov-09-16 11:00 Nov-09-16 15:55 mg/kg RL 7.87 5.00 Nov-09-16 17:00 Nov-09-16 02:33 mg/kg RL 15:3 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 tepresent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks Project Manager



## **Flagging Criteria**



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

LOD Limit of Detection

- **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	

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Project Name: MF-16

Work Orden Lab Batch #: 3	s: 53998	7, Sample: 539987-001 / SMP	Bate	Project ID h:   Matrix	: : Soil		
Units: 1	ng/kg	Date Analyzed: 11/09/16 01:20	SU	RROGATE R	ECOVERY	STUDY	
	ТРН	by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			119	99.8	119	70-135	
o-Terphenyl			55.0	49.9	110	70-135	~
Lab Batch #: 3	003551	Sample: 539987-003 / SMP	Batc	h: 1 Matrix	: Soil		
Units: r	ng/kg	Date Analyzed: 11/09/16 02:09	su	RROGATE R	ECOVERY	STUDY	
1-	ТРН	by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		er	89.8	99.9	90	70-135	-
o-Terphenyl			51.8	50.0	104	70-135	
Lab Batch #: 3	003551	Sample: 539987-004 / SMP	Bate	h: 1 Matrix	: Soil	1	
Units: r	ng/kg	Date Analyzed: 11/09/16 02:33	su	RROGATE R	ECOVERY S	STUDY	
	ТРН	by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		the first state of the second state of the	120	99.7	120	70-135	
o-Terphenyl			58.3	49.9	117	70-135	
Lab Batch #; 3	003551	Sample: 539987-002 / SMP	Bate	h; 1 Matrix	: Soil		
Units: r	ng/kg	Date Analyzed: 11/09/16 08:14	su	RROGATE R	ECOVERY	STUDY	
1.	ТРН	by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			108	100	108	70-135	
o-Terphenyl			57.2	50.0	114	70-135	

\* Surrogate outside of Laboratory QC limits

- \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis
- \*\*\* Poor recoveries due to dilution
- Surrogate Recovery [D] = 100 \* A / B
- All results are based on MDL and validated for QC purposes.



Project Name: MF-16

Work On Lab Batch	rders : 53998' #: 3003724	7, Sample: 539987-002 / SMP	Bate	Project ID h: 1 Matrix	: : Soil		
Units:	mg/L	Date Analyzed: 11/11/16 15:42	SL	RROGATE R	ECOVERY	STUDY	
	TCLP B	FEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromoflu	oromethane		0.0503	0.0500	101	75-131	
1,2-Dichlor	roethane-D4		0.0471	0.0500	94	63-144	
Toluene-D8	8	the second se	0.0476	0.0500	95	80-117	
Lab Batch	#: 3003724	Sample: 539987-003 / SMP	Bate	h: 1 Matrix	: Soil		
Units:	mg/L	Date Analyzed: 11/11/16 16:01	SU	RROGATE R	ECOVERY	STUDY	_
	TCLP B'	FEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromoflu	ioromethane		0.0495	0.0500	99	75-131	
1,2-Dichlor	roethane-D4		0.0465	0.0500	93	63-144	
Toluene-D8	8		0.0472	0.0500	94	80-117	
Lab Batch	#: 3003724	Sample: 539987-001 / SMP	Batc	h: l Matrix	: Soil		
Units:	mg/L	Date Analyzed: 11/11/16 16:39	su	RROGATE R	ECOVERY	STUDY	
	TCLP B	FEX by SW 8260B Analytes	Amount Found [A]	Truc Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromoflu	oromethane		0.0519	0.0500	104	75-131	1
1,2-Dichlor	oethane-D4		0.0481	0.0500	96	63-144	
Toluene-D8	3		0.0472	0.0500	94	80-117	
Lab Batch	#: 3003724	Sample: 539987-004 / SMP	Bate	h: 1 Matrix	; Soil		
Units:	mg/L	Date Analyzed: 11/11/16 17:27	SU	RROGATE R	ECOVERY	STUDY	-
	TCLP B	FEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromoflu	oromethane		0.0510	0.0500	102	75-131	1
1,2-Dichlor	oethane-D4		0.0484	0.0500	97	63-144	-
Toluene-D8	3		0.0458	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.



Project Name: MF-16

Work Orders : 539987, Lab Batch #: 3003551	Sample: 715881-1-BLK / Bl	K Bate	Project ID	: : Solid		
Units: mg/kg Dat	e Analyzed: 11/08/16 20:52	SU	RROGATE R	ECOVERY	STUDY	
TPH by SV Analy	V 8015B tes	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 #: 3003724	Sample: 716005-1-BLK / Bl	K Batel	h: 1 Matrix	: Water		
Units: mg/L Dat	e Analyzed: 11/11/16 12:26	SU	RROGATE R	ECOVERY S	STUDY	
TCLP BTEX b	y SW 8260B tes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane		0.0517	0.0500	103	75-131	
1,2-Dichloroethane-D4		0.0478	0.0500	96	63-144	
Toluene-D8		0.0452	0.0500	90	80-117	
Lab Batch #: 3003551	Sample: 715881-1-BKS / BI	KS Batel	n: 1 Matrix	: Solid		
Units: mg/kg Dat	e Analyzed: 11/08/16 21:16	SU	RROGATE R	ECOVERY S	STUDY	_
TPH by SV Analys	V 8015B	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 #: 3003724	Sample: 716005-1-BKS / BK	S Batel	i: 1 Matrix	: Water		
Units: mg/L Date	e Analyzed: 11/11/16 09:50	su	RROGATE R	ECOVERY S	STUDY	
TCLP BTEX by	y SW 8260B es	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane		0.0510	0.0500	102	75-131	
1,2-Dichloroethane-D4		0.0538	0.0500	108	63-144	
Toluene-D8		0.0487	0,0500	97	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 / BAll results are based on MDL and validated for QC purposes.



Project Name: MF-16

Work Orders : 539987, Lab Batch #: 3003551 Sample: 715881-1-BSD / BSI	) Bate	Project ID: h: 1 Matrix	: : Solid		
Units: mg/kg Date Analyzed: 11/08/16 21:40	su	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B Analytes	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 #: 3003724 Sample: 716005-1-BSD / BSI	) Bate	h: 1 Matrix	: Water		
Units: mg/L Date Analyzed: 11/11/16 10:17	SU	RROGATE R	ECOVERY	STUDY	
TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0491	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0461	0.0500	92	63-144	1
Toluene-D8	0.0487	0.0500	97	80-117	1
Lab Batch #: 3003551 Sample: 539784-001 S / MS	Bate	h: l Matrix	: Soil		
Units: mg/kg Date Analyzed: 11/08/16 22:53	su	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B Analytes	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 #: 3003724 Sample: 539915-001 S / MS	Bate	h: I Matrix	: Soil		
Units: mg/L Date Analyzed: 11/11/16 14:04	SU	RROGATE R	ECOVERY S	STUDY	-
TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0510	0.0500	102	75-131	-
1,2-Dichloroethane-D4	0.0563	0.0500	113	63-144	
Toluene-D8	0.0484	0.0500	97	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.



Project Name: MF-16

Work O Lab Batel	orders : 53998 h #: 3003551	7, Sample: 539784-001 SD / M	ISD Bate	Project ID h: 1 Matrix	: : Soil		
Units:	mg/kg	Date Analyzed: 11/08/16 23:17	SU	RROGATE R	ECOVERY	STUDY	
	ТРН	l by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroo	ctane		129	99.9	129	70-135	
o-Terphen	yl		60.6	50.0	121	70-135	11-12-12
Lab Batel Units:	h #: 3003724 mg/L	Sample: 539915-001 SD / M Date Analyzed: 11/11/16 14:25	1SD Bate SU	h:   Matrix /RROGATE R	: Soil ECOVERY	STUDY	
	TCLP B	TEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofl	uoromethane		0.0501	0.0500	100	75-131	
1,2-Dichlo	proethane-D4		0.0492	0.0500	98	63-144	
Toluene-D	8		0.0490	0.0500	98	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.

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# **BS / BSD Recoveries**





BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Date Analyzed: 11/09/2016 Project ID: Date Prepared: 11/09/2016 Batch #: 1 Sample: 715909-1-BKS Work Order #: 539987 Lab Batch ID: 3003608 mg/kg MNR Analyst: Units:

Matrix: Solid

Inorgania Analytes	c Anions b	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]	BIK. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride			<5.00	250	242	26	250	242	46	0	90-110	20	
Analyst: JT	R		Ds	ate Prepare	d: 11/11/20	16			Date Ar	nalyzed:	11/11/2016		
Lab Batch ID: 30	103724	Sample: 716005-1-E	SKS	Batch	#: 1				1	Matrix:	Water		
Units: mg	g/L			BLANI	K/BLANK	SPIKE / F	STANK S	PIKE DUPI	LICATE 1	RECOVI	ERY STUI	X	

TCLP BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result ICI	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	0.469	94	0.500	0.453	16	3	66-142	20	
Toluene	<0.00500	0.500	0.466	93	0.500	0.444	89	5	59-139	20	
Ethylbenzene	<0.00500	0.500	0.466	93	0.500	0.459	92	2	75-125	20	-
m,p-Xylenes	<0.0100	1.00	016.0	16	1.00	0.883	88	3	75-125	20	-
o-Xylene	<0.00500	0.500	0.457	16	0.500	0.462	92	-	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

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# **BS / BSD Recoveries**



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	Fernande

Work Order #: 530987								Proi	ect ID:			
Analyst: DEP		D	ate Prepare	d: 11/14/20	16			Date Ar	alyzed: 1	1/14/2016		
Lab Batch ID: 3003836	Sample: 716061-1	-BKS	Batch	1 #					Matrix: V	Vater		
Units: mg/L			BLANI	K/BLANK	SPIKE / F	STANK S	PIKE DUP	LICATE 1	RECOVE	<b>RY STUI</b>	X	
TCLP Mercury	by SW 7470A	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Bik. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		[V]	[B]	[C]	D	[E]	Duplicate Result [F]	161	%	NoV.	/0.01.0	

Date Prepared: 11/14/2016 0.00196 Batch #: 1 0.00200 <0.000200 Lab Batch ID: 3003887 DEP Mercury Analyst:

Sample: 716077-1-BKS

1 Tinter

20

80-120

2

100

0.00200

0.00200

98

Date Analyzed: 11/14/2016

Matrix: Water

mus: mg/L		BLAN	K/BLANK	SPIKE / 1	BLANK	FIKE DUP	LICATE	KECOVI	ERY STUI	XC	
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]	BIK. 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	7	80-120	20	
Barium	<0.0100	1.00	1.00	100	00'1	10.1	101	1	80-120	20	
Cadmium.	<0.00500	1.00	0.985	66	00'1	0.984	98	0	80-120	20	
Chromium	<0.0100	1.00	0,966	16	1.00	0.968	16	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	86	1.00	0.995	100	4	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

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# **BS / BSD Recoveries**





				ol Flag
			ŊΛ	Contr
	11/08/2016	Solid	ERY STU	Control Limits
ect ID:	alyzed:	Matrix:	RECOV	RPD
Proje	Date An	1	LICATE I	Blk. Spk Dup.
			PIKE DUP	Blank Spike
			<b>SLANK SI</b>	Spike Added
	91		SPIKE / E	Blank Spike
	d: 11/08/20)	#: 1	C/BLANK	Blank Spike
	te Prepare	Batch	BLANK	Spike Added
	Da	KS		Blank Sample Result
		Sample: 715881-1-B.		8015B
#: 539987	ARM	3003551	mg/kg	TPH by SW
Work Order	Analyst:	Lab Batch ID:	Units:	

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





: 539987	3003608	11/09/201	ts: mg/kg
Work Order #	Lab Batch ID:	Date Analyzed	Reporting Uni

Batch #: QC-Sample ID: 539986-001 S Date Prepared: 11/09/2016

Matrix: Soil -

Project ID:

Analyst: MNR

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorgan	nic Anions by EPA 300/300.1	Parent	:	Spiked Sample	Spiked		Duplicate	Spiked	-	Control	Control	ļ
D	Analytes	Sample Result [A]	Spike Added [B]	[C]	Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Dup. %R [G]	KPD %	Limits %R	Limits %RPD	50 50
Chloride		308	250	548	96	250	559	100	2	011-06	20	
Lab Batch ID:	3003608	QC-Sample ID:	540004	-004 S	Bat	ch #:	1 Matrix	c: Soil	I.			
Date Analyzed:	11/09/2016	Date Prepared:	11/09/2	016	An	alyst: N	INR					
Reporting Units:	mg/kg		M	ATRIX SPIKI	E/MATI	IIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inoroa	nic Anions hv EPA 300/300 1	Parent	ľ.	Spiked Sample	Spiked		Duplicate	Spiked		Control	Control	

	lytes	Result [A]	Added	[C]	Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Dup. %R [G]	%	Limits %R	Limits %RPD	Flag
Chloride		1870	1250	3080	79	1250	3050	-94	1	90-110	20	
Lab Batch ID: 3003724		QC-Sample ID.	: 539915-	-001 S	Bat	ch #:	I Matrix	:: Soil				
Date Analyzed: 11/11/20	16	Date Prepared	: 11/11/2	016	Ans	alyst: J	TR					
Reporting Units: mg/L			M	ATRIX SPIKI	E/MAT	UAS XIS	KE DUPLICA	TE RECO	OVERY (	STUDY		
TCLP BTE. Anal	X by SW 8260B lytes	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

20 20 20 20 20 66-142 75-125 59-139 75-125 75-125 2 -e i 3 16 88 68 16 16 0.456 0.456 0.443 0.454 0.884 0.500 0.500 0.500 0.500 1.00 94 92 68 16 93 0.469 0.463 0.454 0.459 0.890 0.500 0.500 0.500 0.500 1.00 <0.00500 <0.00500 <0.00500 <0.00500 <0.0100> Ethylbenzene m,p-Xylenes o-Xylene Benzene Toluene

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.

Final 1.000

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# Form 3 - MS / MSD Recoveries

Project Name: MF-16



539987	3003836	11/14/2016	mg/L
Work Order #:	Lab Batch ID:	Date Analyzed:	Reporting Units:

Batch #: QC-Sample ID: 539905-001 S

Matrix: Soil Project ID: ÷

Date Prepared: 11/14/2016

Parent

Analyst: DEP

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCL	P Mercury by SW 7470A	Parent	Cuttor	Spiked Sample	Spiked		Duplicate	Spiked		Control	Control	ſ
	Analytes	campic Result [A]	Added [B]	[C]	Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Nup. %R [G]	%	Limits %R	Limits %RPD	E ao
Mercury		<0.000200	0.00200	0.00215	108	0.00200	0.00212	106	-	75-125	20	
Lab Batch ID:	3003836	QC- Sample ID:	540191	-001 S	Bat	ch #:	1 Matrix	:: Soil				
Date Analyzed:	11/14/2016	Date Prepared:	11/14/2	016	An	alyst: D	EP					
Reporting Units:	mg/L		M	ATRIX SPIKI	TAM/3	IIAS XIS	CE DUPLICA	TE RECO	DVERY	STUDY		
1.CTE	D M T	Parent		Sniked Samula	Snited		Dunlieata	Cnilvad		Control	Control	

TCI	LP Mercury by SW 7470A Analytes	Farent 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	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	Bat	ch #:	I Matrix	c: Solid				]
Date Analyzed:	11/14/2016	Date Prepared	: 11/14/2	016	An	alyst: D	EP					
Reporting Units:	mg/L		N	IATRIX SPIKE	TAM/2	AIX SPIF	<b>E DUPLICA</b>	TE RECO	<b>DVERV</b>	STUDY		
		Daront										

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	Fla
Arsenic	<0.0500	5.00	5.15	103	5.00	5.09	102	-	80-120	20	
Barium	3.10	5.00	8.07	66	5.00	8.11	100	0	80-120	20	
Cadmium	<0.0250	5.00	4.97	66	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, J = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spliked.

Final 1.000

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# Form 3 - MS / MSD Recoveries





1866	03551	08/2016	/kg
Work Order # : 53	Lab Batch ID: 30	Date Analyzed: 11	Reporting Units: mg

Project ID: Batch #: 1 QC-Sample ID: 539784-001 S

Analyst: ARM

Date Prepared: 11/08/2016

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW 8015B	Sample Result	Spike	Spiked Sample Result [C]	Sample %R	Spike	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
26-C10 Gasoline Range Hydrocarbons	<15.0	666	914	16	141	937	94	6	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	666	983	98	666	1010	101	~	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.

Final 1.000

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# 

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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													8	unalyti	al Info	matio								Matrix Codes
Client / Reporting information			Projec	t Informa	tion																			
Company Name / Branch: Energy Transfer Company Field Services	2P	oject Name/N	umber;																					W = Water S = Soil/Sed/Solid
Company Address:	<u>n 7</u>	oject Location	- #								l	<del>_,</del>												GW =Ground Water
600 N. Marienfeld, Midland, Texas 79701	r																							P = Product
Email: Phone No:	11	volce To:									ł		<b></b>											SW = Surface water
johnnie.bradford@energytransfer.com (432) 450-5542	S	ame as a	bove									tals	••••••											SL = Słudge OW =Ocean/Sea Water
Project Contact: Johnnie Bradford		5										Me												WI = Wipe
Samplers's Name - Johnnie Bradford		O Number: N	one								(	4 8												WW= Waste Water
		Collection				Numb	er of pr	eserve	bott	5	ETX	CR/		s										A = Air
No. Field (D / Point of Callection				<u></u>		Zn			¥		P BI	PR		ride						- 1				
	Sample Depth	Date	Time	Matrix bo	HCI	NaOH/. Acetate	HNO3 H2SO4	NaOH	NaHSC	MEOH	TCLI	TCL	TPH	Chlo									Fiel	d Comments
1 WstPile	0	11/8/2016	7:40	s	1						×	×	×	×										
2 FntWal	10	11/8/2016	7:34	s							×	×	×	×										
3 BtmHol	10	11/8/2016	7:37	S							×	×	×	×										
4 NSidWal	8	11/8/2016	7:49	S							×	×	×	×										
σ,										<u> </u>														
0																								
7																								
00																								
9													••••											
10																				_				
Turnaround Time ( Business days)			North A.	Data	Deliverat	la Informa	ation	1	1995 (A. 19	1919		300				lotes:		1. N. C.			協力	の語の		
Same Day TAT X 6 Day TAT			Leve	I ti Std QC				evel IV	(Full D	ata Pk	g íraw	data)												
Next Day EMERGENCY			X Leve	I III Std Qo	2+ Forms			RRP Le	vel IV															
2 Day EMERGENCY			Leve	13 (CLP F	orms)			ST / RO	411															
3 Day EMERGENCY			TRRI	• Checkils	#																			
TAT Starts Day received by Lab, if received by 5:00	pm														FED-D	X/UP	S: Tra	sking a	*					
Refinentiated by Sample	MUST BE DO	DCUMENTED I	BELOW EACH	TIME SAN	IPLES CH	ANGE PO	SSESSIC	N, INCL	UDING	COUR	ER DEI	NERY					0.4846					(N) (N)	100	
1 John Maring and John Maring	11/8/244	5041	1 King	NH .		ſ	2 10	Inquis	ned By				1/-2	ilime:	14:	ञ	lecely	ed By:						
Filinquished by:	ate Time:		Received B	Y.			4 72	linquis	hed By	.1			Date	Time:		· · · · ·	tecelv	ed By:			-	em		IR ID:R-8
Relinquished by: D	ate Time:		Received B 5	Ŷ			ρ	stody \$	seal #			Pres	erved	where	applic	abte		× 10	n Ice			Corr	ecte	d Temp: 4.500
invurse, volue: suplutative or trust occurrent and reiniquistiment or samples construct any losses or expenses incurred by the Client if such losse are due to circumstance forms will be enforced unless previously negatiated under a fully executed client cost to the supervision of the supervision of the supervision of the supervision of the terms will be enforced unless previously negatiated under a fully executed client cost to the supervision of the supervision of the supervision of the supervision of the terms will be enforced unless previously negatiated under a fully executed client cost terms will be enforced unless previously negatiated under a fully executed the terms of the supervision of the supervision of the supervision of the supervision of the terms of the supervision of the supervision of the supervision of the supervision of the terms of the supervision of the supervision of the supervision of the supervision of the terms of the supervision of the supervision of the supervision of the supervision of the terms of terms of the supervision of terms of	es a valid pure as beyond the intract,	control of Xend	m cilent compt to. A minimum	any to Xenc charge of t	o, its affilia \$75 will be	applied to	each pro	lect. Xer	ssigns : Ico's liai	tandard bility will	be limit	led to th	ditions le cost o	of servi	ies, Xeni Ies, Anj	io will b sample	s recel	ed by 2	the co fence l	ut not	mpies analyze	and sh 9d will 1	be invo	assume any responsibility for viced at \$5 per sample. These



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



Client: Energy Transfer- Midland Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/08/2016 02:55:00 PM Temperature Measuring device used : R8 Work Order #: 539987 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)? Houston Yes #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:

FRAMER essica.

Jessica Kramer

Date: 11/08/2016

**Checklist reviewed by:** 

Amo roam Kelsey Brooks

Date: 11/09/2016



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

July 14, 2017

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

RE: MF 16

OrderNo.: 1707310

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 <u>www.hallenvironmental.com</u> 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,

andis

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported: 7/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: GHD** 

Project: MF 16

### Client Sample ID: 11135250-05-070617-MGTP-1-Collection Date: 7/6/2017 10:50:00 AM Presived Date: 7/7/2017 10:25:00 AM

Lab ID: 1707310-001	Matrix:		Received I	<b>Date:</b> 7/7	2/2017 10:25:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	7/12/2017 1:00:35 PM	32747
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	7/12/2017 1:00:35 PM	32747
Surr: DNOP	93.8	70-130	%Rec	1	7/12/2017 1:00:35 PM	32747
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/12/2017 1:56:49 PM	32740
Surr: BFB	92.3	54-150	%Rec	1	7/12/2017 1:56:49 PM	32740
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	DJF
Benzene	ND	0.025	mg/Kg	1	7/12/2017 5:54:58 PM	32740
Toluene	ND	0.049	mg/Kg	1	7/12/2017 5:54:58 PM	32740
Ethylbenzene	ND	0.049	mg/Kg	1	7/12/2017 5:54:58 PM	32740
Xylenes, Total	ND	0.098	mg/Kg	1	7/12/2017 5:54:58 PM	32740
Surr: 1,2-Dichloroethane-d4	109	70-130	%Rec	1	7/12/2017 5:54:58 PM	32740
Surr: 4-Bromofluorobenzene	87.5	70-130	%Rec	1	7/12/2017 5:54:58 PM	32740
Surr: Dibromofluoromethane	107	70-130	%Rec	1	7/12/2017 5:54:58 PM	32740
Surr: Toluene-d8	98.8	70-130	%Rec	1	7/12/2017 5:54:58 PM	32740

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

**Oualifiers:** 

\*

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 10 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Date Reported: 7/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: GHD** 

Project: MF 16

## Client Sample ID: 11135250-05-070617-MGTP-5-Collection Date: 7/6/2017 11:15:00 AM

Lab ID: 1707310-002	Matrix:		Received I	<b>Date:</b> 7/7	7/2017 10:25:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	7/12/2017 2:07:13 PM	32747
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	7/12/2017 2:07:13 PM	32747
Surr: DNOP	92.4	70-130	%Rec	1	7/12/2017 2:07:13 PM	32747
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/12/2017 2:21:03 PM	32740
Surr: BFB	96.7	54-150	%Rec	1	7/12/2017 2:21:03 PM	32740
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analys	: DJF
Benzene	ND	0.024	mg/Kg	1	7/12/2017 7:22:02 PM	32740
Toluene	ND	0.049	mg/Kg	1	7/12/2017 7:22:02 PM	32740
Ethylbenzene	ND	0.049	mg/Kg	1	7/12/2017 7:22:02 PM	32740
Xylenes, Total	ND	0.098	mg/Kg	1	7/12/2017 7:22:02 PM	32740
Surr: 1,2-Dichloroethane-d4	106	70-130	%Rec	1	7/12/2017 7:22:02 PM	32740
Surr: 4-Bromofluorobenzene	89.9	70-130	%Rec	1	7/12/2017 7:22:02 PM	32740
Surr: Dibromofluoromethane	108	70-130	%Rec	1	7/12/2017 7:22:02 PM	32740
Surr: Toluene-d8	98.1	70-130	%Rec	1	7/12/2017 7:22:02 PM	32740

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

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Date Reported: 7/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: GHD** 

Project: MF 16

### Client Sample ID: 11135250-05-070617-MGTP-2-Collection Date: 7/6/2017 11:30:00 AM of read Datas 7/7/2017 10.25.00 AM n.

Lab ID: 1707310-003	Matrix:		Received I	Date: 7/7	7/2017 10:25:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	7/12/2017 2:29:30 PM	32747
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/12/2017 2:29:30 PM	32747
Surr: DNOP	92.1	70-130	%Rec	1	7/12/2017 2:29:30 PM	32747
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/12/2017 3:33:58 PM	32740
Surr: BFB	102	54-150	%Rec	1	7/12/2017 3:33:58 PM	32740
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	: DJF
Benzene	ND	0.025	mg/Kg	1	7/12/2017 7:51:00 PM	32740
Toluene	ND	0.049	mg/Kg	1	7/12/2017 7:51:00 PM	32740
Ethylbenzene	ND	0.049	mg/Kg	1	7/12/2017 7:51:00 PM	32740
Xylenes, Total	ND	0.099	mg/Kg	1	7/12/2017 7:51:00 PM	32740
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	1	7/12/2017 7:51:00 PM	32740
Surr: 4-Bromofluorobenzene	91.1	70-130	%Rec	1	7/12/2017 7:51:00 PM	32740
Surr: Dibromofluoromethane	104	70-130	%Rec	1	7/12/2017 7:51:00 PM	32740
Surr: Toluene-d8	99.5	70-130	%Rec	1	7/12/2017 7:51:00 PM	32740

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

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 10 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Date Reported: 7/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: GHD** 

Project: MF 16

### Client Sample ID: 11135250-05-070617-MGTP-3-Collection Date: 7/6/2017 11:45:00 AM

<b>Lab ID:</b> 1707310-004	Matrix:		Received I	Date: 7/7	7/2017 10:25:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	7/12/2017 2:51:56 PM	32747
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	7/12/2017 2:51:56 PM	32747
Surr: DNOP	80.3	70-130	%Rec	1	7/12/2017 2:51:56 PM	32747
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/12/2017 3:58:16 PM	32740
Surr: BFB	97.7	54-150	%Rec	1	7/12/2017 3:58:16 PM	32740
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	DJF
Benzene	ND	0.025	mg/Kg	1	7/12/2017 8:19:50 PM	32740
Toluene	ND	0.049	mg/Kg	1	7/12/2017 8:19:50 PM	32740
Ethylbenzene	ND	0.049	mg/Kg	1	7/12/2017 8:19:50 PM	32740
Xylenes, Total	ND	0.099	mg/Kg	1	7/12/2017 8:19:50 PM	32740
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	7/12/2017 8:19:50 PM	32740
Surr: 4-Bromofluorobenzene	93.1	70-130	%Rec	1	7/12/2017 8:19:50 PM	32740
Surr: Dibromofluoromethane	103	70-130	%Rec	1	7/12/2017 8:19:50 PM	32740
Surr: Toluene-d8	105	70-130	%Rec	1	7/12/2017 8:19:50 PM	32740

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

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 10 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Date Reported: 7/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: GHD** 

Project: MF 16

## Client Sample ID: 11135250-05-070617-MGTP-4-Collection Date: 7/6/2017 12:00:00 PM

Lab ID: 1707310-005	Matrix:		Received 1	<b>Date:</b> 7/7	7/2017 10:25:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	7/12/2017 3:14:14 PM	32747
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/12/2017 3:14:14 PM	32747
Surr: DNOP	91.1	70-130	%Rec	1	7/12/2017 3:14:14 PM	32747
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/12/2017 4:22:33 PM	32740
Surr: BFB	102	54-150	%Rec	1	7/12/2017 4:22:33 PM	32740
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst	: DJF
Benzene	ND	0.024	mg/Kg	1	7/12/2017 8:48:37 PM	32740
Toluene	ND	0.049	mg/Kg	1	7/12/2017 8:48:37 PM	32740
Ethylbenzene	ND	0.049	mg/Kg	1	7/12/2017 8:48:37 PM	32740
Xylenes, Total	ND	0.097	mg/Kg	1	7/12/2017 8:48:37 PM	32740
Surr: 1,2-Dichloroethane-d4	109	70-130	%Rec	1	7/12/2017 8:48:37 PM	32740
Surr: 4-Bromofluorobenzene	90.1	70-130	%Rec	1	7/12/2017 8:48:37 PM	32740
Surr: Dibromofluoromethane	109	70-130	%Rec	1	7/12/2017 8:48:37 PM	32740
Surr: Toluene-d8	102	70-130	%Rec	1	7/12/2017 8:48:37 PM	32740

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

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	GHD										
Project:	MF 16										
Sample ID	LCS-32747	SampT	ype: LC	s	Test	Code: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 32	747	R	unNo: 4	4147				
Prep Date:	7/11/2017	Analysis D	ate: 7/	12/2017	S	eqNo: 1	393409	Units: <b>mg/K</b>	ģ		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range ( Surr: DNOP	Organics (DRO)	46 4.6	10	50.00 5.000	0	92.5 93.0	73.2 70	114 130			
Sample ID	MB-32747	SampT	ype: ME	BLK	Test	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	PBS	Batch	ID: 32	747	R	unNo: 4	4147				
Prep Date:	7/11/2017	Analysis D	ate: 7/	12/2017	S	eqNo: 1	393410	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	ND	10								
Surr: DNOP	je Organics (MRO)	ND 9.5	50	10.00		95.4	70	130			
Sample ID	1707310-001AMS	SampT	ype: <b>M</b> \$	6	Test	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	11135250-05-0706	17 Batch	ID: 32	747	R	unNo: 4	4147		C	•	
Prep Date:	7/11/2017	Analysis D	ate: 7/	12/2017	S	eqNo: 1	394365	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	46	10	50.40	0	91.6	55.8	122			
Surr: DNOP		4.4		5.040		87.6	70	130			
Sample ID	1707310-001AMS	D SampT	ype: <b>M\$</b>	SD	Test	Code: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	11135250-05-0706	17 Batch	ID: 32	747	R	unNo: 4	4147				
Prep Date:	7/11/2017	Analysis D	ate: 7/	12/2017	S	eqNo: 1	394366	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	49	10	50.45	0	96.8	55.8	122	5.67	20	
		4.0		5.045		91.9	70	130	0	0	
Sample ID	MB-32779	SampT	ype: ME	BLK	Test	Code: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	PBS	Batch	ID: 32	779	R	unNo: 4	4187				
Prep Date:	7/13/2017	Analysis D	ate: 7/	13/2017	S	eqNo: 1	394824	Units: %Re	6		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		12		10.00		117	70	130			
Sample ID	LCS-32779	SampT	ype: LC	s	Test	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 32	779	R	unNo: 4	4187				
Prep Date:	7/13/2017	Analysis D	ate: 7/	13/2017	S	eqNo: 1	394828	Units: %Ree	0		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 6 of 10

Client:	GHD										
Project:	MF 16										
Sample ID	LCS-32779	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 32	779	F	RunNo: 4	4187				
Prep Date:	7/13/2017	Analysis D	ate: 7	/13/2017	S	SeqNo: 1	394828	Units: %Re	c		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		5.7		5.000		114	70	130			

### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 7 of 10

Client:	GHD										
Project:	MF 16										
Sample ID	MB-32740	Samp	Гуре: МІ	BLK	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	PBS	Batc	h ID: 32	740	F	RunNo: 4	4163				
Prep Date:	7/11/2017	Analysis E	Date: 7	12/2017	S	SeqNo: 1	394414	Units: <b>mg/ł</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	ND	5.0								
Surr: BFB		970		1000		96.9	54	150			
Sample ID	LCS-32740	Samp	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	е	
Client ID:	LCSS	Batc	h ID: 32	740	F	RunNo: 4	4163				
Prep Date:	7/11/2017	Analysis E	Date: 7	12/2017	S	SeqNo: 1	394415	Units: mg/ł	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB		1100		1000		109	54	150			
Sample ID	1707310-002AMS	Samp	Гуре: М	S	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	е	
Client ID:	11135250-05-0706	617 Batc	h ID: 32	740	F	RunNo: 4	4163				
Prep Date:	7/11/2017	Analysis [	Date: 7	/12/2017	5	SeqNo: 1	394421	Units: mg/ł	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	29	4.8	23.95	0	122	77.8	128			
Surr: BFB		1000		957.9		109	54	150			
Sample ID	1707310-002AMS	D Samp	Гуре: М	SD	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	11135250-05-0706	617 Batc	h ID: 32	740	F	RunNo: 4	4163				
Prep Date:	7/11/2017	Analysis E	Date: 7	12/2017	S	SeqNo: 1	394422	Units: <b>mg/ł</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	30	4.9	24.34	0	123	77.8	128	2.72	20	
Surr: BFB		1100		973.7		114	54	150	0	0	

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 8 of 10

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc

WO#:	1707310
	14-Jul-17

# Client:GHDProject:MF 16

Sample ID mb-32740	SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: PBS	Batc	h ID: 32	740	F	RunNo: 4	4176				
Prep Date: 7/11/2017	Analysis E	Date: 7/	12/2017	S	SeqNo: 1	394707	Units: mg/k	٨g		
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	0.54		0.5000		108	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.9	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			
Sample ID Ics-32740	Samp	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: LCSS	Batc	h ID: 32	740	F	RunNo: 4	4176				
Prep Date: 7/11/2017	Analysis E	Date: 7/	12/2017	5	SeqNo: 1	394708	Units: <b>mg/</b>	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	70	130			
Toluene	0.91	0.050	1.000	0	91.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.57		0.5000		115	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.4	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Sample ID 1707310-001ams	Samp	Гуре: М	3	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: 11135250-05-0706	617 Batc	h ID: 32	740	F	RunNo: 4	4176				
Prep Date: 7/11/2017	Analysis [	Date: 7/	12/2017	5	SeqNo: 1	394710	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9569	0	112	61.9	146			
Toluene	0.96	0.048	0.9569	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.4785		101	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.4785		90.0	70	130			
Surr: Dibromofluoromethane	0.47		0.4785		98.7	70	130			
Surr: Toluene-d8	0.49		0.4785		103	70	130			
Sample ID 1707310-001amsc	Samp	Гуре: МS	SD	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: 11135250-05-0706	617 Batc	h ID: 32	740	F	RunNo: 4	4176				
Prep Date: 7/11/2017	Analysis [	Date: 7/	12/2017	5	SeqNo: 1	394711	Units: mg/h	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9814	0	112	61.9	146	2.21	20	
Toluene	0.93	0.049	0.9814	0	94.9	70	130	3.18	20	

### **Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 9 of 10

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

### Client: GHD Project: MF 16

Tujeci.	IVI

Sample ID 1707310-001ams	d SampT	уре: М	SD	Test	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: 11135250-05-070	617 Batch	n ID: 32	740	R	RunNo: 4	4176				
Prep Date: 7/11/2017	Analysis D	ate: 7/	12/2017	S	SeqNo: 1	394711	Units: <b>mg/k</b>	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.52		0.4907		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.44		0.4907		90.4	70	130	0	0	
Surr: Dibromofluoromethane	0.51		0.4907		105	70	130	0	0	
Surr: Toluene-d8	0.49		0.4907		100	70	130	0	0	

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 10 of 10

ENVIRONMENTAL ANALYSIS LABORATORY	Albu TEL: 505-345-3975 Website: www.hau	4901 Hawkir querque, NM 8 FAX: 505-345- llenvironmental	1107 1109 <b>San</b> 11.com	Sample Log-In Check List				
Client Name: GHD	Work Order Number:	1707310		RcptNo: 1				
Received By: Erin Melendrez	7/7/2017 10:25:00 AM		ina	7				
Completed By: Ashley Gallegos	7/7/2017 3:55:26 PM		A					
Reviewed By:	7/10/17		. 0					
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?		<u>Courier</u>						
<u>Log In</u>								
4. Was an attempt made to cool the samp	les?	Yes 🔽	No 🗌					
5. Were all samples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗌					
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌					
7. Sufficient sample volume for indicated te	est(s)?	Yes 🗹	No 🗀					
8. Are samples (except VOA and ONG) pro	perly preserved?	Yes 🔽	No 🗌					
9. Was preservative added to bottles?		Yes 🗌	No 🗹					
10.VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🔽				
11. Were any sample containers received be	roken?	Yes 🗌	No 🔽	# of procession				
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🔽	No 🗌	bottles checked for pH: (<2 or >12 un	less noted)			
13. Are matrices correctly identified on Chair	of Custody?	Yes 🔽	No 🗌	Adjusted?				
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 🗌	Checked by:				

### Special Handling (if applicable)

\_

Person N	otified:			Date			
By Whon	1: <b>[</b>	ana ana amin'ny fanina amin'ny fanina amin'ny fanina amin'ny fanina amin'ny fanina amin'ny fanina amin'ny fanin	and the second secon	¯ Via∶	□ eMail □	Phone 🗍 Fa	x
Regardin	g: [		alla la				
Client Ins	tructions:						
. Additional rem	arks:			• • • • • • • • • • • • • • • • • • • •			
. Cooler Inform	ation						
			1	F	_		
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By	

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	hain	-of-C	ustody Record	Turn-Around	Time.			2			ŋ,	ų		3		i)	1	
Client	OHE	Service	ces. Inc	□ Standard	D Rush					E I		Ż	Ë.	ō	ξ		Z C	_ )
				Project Name						MUMM	haller	2.			5,	š	Š	
Mailing	Address	1,613.	Indian School Rd Sto 200	140-FE	WHY !!			4901	Hawk	Ins N	A - 3	nonq	endia	NN	8710	0		
NEV	11 bug	Uppedu	ONTS MN STUD	Project #:			-	Ta	2.305	15,30	25	Eav	EDE -	44	50,	2		
Phone	# SOC	984	0762					5	2000	20.01	Ana	lysis	Requ	rest	101			
email o	L Fax#:	Bernal	al Backeel Orghal can	Project Mana	ger:		(	(VII	1-		-	(*0	<	-	-	-		1
DA/OC	Package: dard		C Level 4 (Full Validation)	Bernar	& Bock	isch	1208) \$	O ME			(SWI	DS'*Od	PCB's		(2)	(9	-	_
Accred	itation AP	D Oth	er	Sampler: M	ichael Be	AINT 832-374-5	SW1 -	Hd / O	(1.8	(1.4(	S 0128	'ZON'E	2808 /		(1	296		IN
DEDC	(Type)			Sample Temp	perature 5.	-0.1(cf)=5.0	- 38	(GK	Lt po	og po	alete	ON'I	səbi	(1	101-	8)		(V, V)
H.C.	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	TM + XƏT8	TM + X318	orteM) H97	EDB (Metho	128) 2'HA9 M 8 A838	O,∃) ≳noinA	oitae9 1806	OV) 80928	ime2) 0728	STEX		selddug Yik
715	1030	s	HE ALL INVELIGING TO STUBILS	4250:1 Jar	TLE			X				1	3		17	1	1	1
312	100	5	1-1-1-1-2002-Lisato-po-astseni-4	L		Amolion	E	4	11	1	+				~	X		
312	1140	5	ofth-dr-am-mesono-po-occessin-a			V	1	X							×	X		-
715	orti	J	5-48555-04-00517-40-18-516		DI	h Separate		X		T	+		1		×	X		-
14	TXHO	5	6-LUTECOCOL - ATRICIA IN- TP-3-10		rep	port see emp	11	X			-		17		F	k	1	
7/C	1050	\$	8-1-37-31/1407 0 70411-MC-TP- 1-0			-001		X						-	-	×		-
91C	1115	Ś	1-2-21			-002		X						-		×		-
716	1130	5	5-143256-05. 6706 n. NGTP-2-10			-003		X		1	-					X		-
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716	1300	S	01-2-11-24-LIT920-59-0525511145			582		×						-	-	×		
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				(	*			-										-
Date: 7/6/17	1415	Relinquis	int out	Received	14	Ably Me	Rema	urks:										12
Date:	Time:	Relinguis	hed by.	Rectived A		TIT AT 1025												
1110	MI	10		1 2		1 11 1												

### Andy Freeman

From: Sent: To: Subject: Attachments: Brandon, Alan K. <Alan.Brandon@ghd.com> Friday, July 07, 2017 11:34 AM Andy Freeman Trunk-MC and MF-16 COC Trunk MC and MF-16 COC.pdf

Andy,

These samples should be arriving today or already have. Can you please split the reporting between the 2 sites as noted on the attached?

Thanks

CONFIDENTIALITY NOTICE: This email, including any attachments, is confidential and may be privileged. If you are not the intended recipient please notify the sender immediately, and please delete it; you should not copy it or use it for any purpose or disclose its contents to any other person. GHD and its affiliates reserve the right to monitor and modify all email communications through their networks.



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

September 18, 2017 Bernie Bockisch GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110

TEL: (505) 884-0672 FAX

RE: MF 16

OrderNo.: 1709690

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 3 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 <u>www.hallenvironmental.com</u> 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,

andis

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analy	vtical	Rer	ort
1 MILCILLY	ucai	INCH	JUI U

Lab Order: 1709690

Date Reported: 9/18/2017

CLIENT: (	GHD				Lab O	<b>)rder:</b> 1709	9690
Project: N	MF 16						
Lab ID:	1709690-001			Collection <b>E</b>	<b>Date:</b> 9/6	5/2017 10:20:00 /	AM
Client Sample ID:	S-11135250-05-0906	17-MG-TP-6	5-14'	Ma	trix: SC	DIL	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS					A	nalyst: MRA
Chloride		ND	30	mg/Kg	20	9/15/2017 5:39:2	4 PM 33876
EPA METHOD 801	15M/D: DIESEL RANGE		6			A	nalyst: <b>TOM</b>
Diesel Range Orga	nics (DRO)	32	9.3	mg/Kg	1	9/15/2017 4:25:1	4 PM 33875
Motor Oil Range O	rganics (MRO)	49	47	mg/Kg	1	9/15/2017 4:25:1	4 PM 33875
Surr: DNOP		85.2	70-130	%Rec	1	9/15/2017 4:25:1	4 PM 33875
EPA METHOD 801	15D: GASOLINE RANG	Ε				A	nalyst: <b>NSB</b>
Gasoline Range Or	ganics (GRO)	ND	4.9	mg/Kg	1	9/15/2017 9:49:5	1 PM 33871
Surr: BFB		106	54-150	%Rec	1	9/15/2017 9:49:5	1 PM 33871
EPA METHOD 802	21B: VOLATILES					A	nalyst: <b>NSB</b>
Benzene		ND	0.024	mg/Kg	1	9/15/2017 9:49:5	1 PM 33871
Toluene		ND	0.049	mg/Kg	1	9/15/2017 9:49:5	1 PM 33871
Ethylbenzene		ND	0.049	mg/Kg	1	9/15/2017 9:49:5	1 PM 33871
Xylenes, Total		ND	0.098	mg/Kg	1	9/15/2017 9:49:5	1 PM 33871
Surr: 4-Bromoflu	orobenzene	116	66.6-132	%Rec	1	9/15/2017 9:49:5	1 PM 33871
Lab ID:	1709690-002			Collection <b>D</b>	<b>Date:</b> 9/6	5/2017 10:30:00	AM
<b>Client Sample ID:</b>	S-11135250-05-0906	17-MG-TP-7	'-14'	Ma	trix: SO	DIL	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS					A	nalyst: MRA
Chloride		ND	30	mg/Kg	20	9/15/2017 6:16:3	8 PM 33876
EPA METHOD 801	15M/D: DIESEL RANGE		6			A	nalyst: <b>TOM</b>
Diesel Range Orga	nics (DRO)	ND	9.6	mg/Kg	1	9/15/2017 4:53:2	5 PM 33875
Motor Oil Range O	rganics (MRO)	ND	48	mg/Kg	1	9/15/2017 4:53:2	5 PM 33875
Surr: DNOP		86.3	70-130	%Rec	1	9/15/2017 4:53:2	5 PM 33875
EPA METHOD 801	15D: GASOLINE RANG	Ε				A	nalyst: <b>NSB</b>
Gasoline Range Or	ganics (GRO)	ND	5.0	mg/Kg	1	9/15/2017 10:13:	10 PM 33871
Surr: BFB	<b>o</b> ( )	97.0	54-150	%Rec	1	9/15/2017 10:13:	10 PM 33871
EPA METHOD 802	21B: VOLATILES					A	nalyst: <b>NSB</b>
Benzene		ND	0.025	mg/Kg	1	9/15/2017 10:13:	10 PM 33871
Toluene		ND	0.050	mg/Kg	1	9/15/2017 10:13:	10 PM 33871
Ethylbenzene		ND	0.050	mg/Kg	1	9/15/2017 10:13:	10 PM 33871
Xylenes, Total		ND	0.10	mg/Kg	1	9/15/2017 10:13:	10 PM 33871
Surr: 4-Bromoflu	orobenzene	106	66.6-132	%Rec	1	9/15/2017 10:13:	10 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.
  - D Sample Diluted Due to Matrix
  - H Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Analytical	Report
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Lab Order: 1709690

Date Reported: 9/18/2017

CLIENT: Project:	GHD MF 16				Lab O	<b>order:</b> 170	9690	
Lab ID:	1709690-003			Collection D	ate: 9/6	5/2017 11:05:00	AM	
<b>Client Sample ID</b>	: S-11135250-05-090	)617-MG-TP-8	8-6'	Ma	t <b>rix:</b> SO	IL		
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch	ID
EPA METHOD 30	0.0: ANIONS					A	nalyst: MF	RA
Chloride		ND	30	mg/Kg	20	9/15/2017 6:29:0	)3 PM 33	876
EPA METHOD 80	015M/D: DIESEL RAN	GE ORGANICS	5			A	nalyst: TC	M
Diesel Range Org	anics (DRO)	ND	10	mg/Kg	1	9/15/2017 5:21:4	43 PM 33	875
Motor Oil Range	Organics (MRO)	ND	51	mg/Kg	1	9/15/2017 5:21:4	43 PM 33	875
Surr: DNOP		75.5	70-130	%Rec	1	9/15/2017 5:21:4	43 PM 33	875
EPA METHOD 80	)15D: GASOLINE RAN	IGE				A	nalyst: NS	ЗB
Gasoline Range C	Drganics (GRO)	ND	4.7	mg/Kg	1	9/15/2017 10:36	:29 PM 33	871
Surr: BFB		100	54-150	%Rec	1	9/15/2017 10:36	:29 PM 33	871
EPA METHOD 80	21B: VOLATILES					A	nalyst: NS	ЗB
Benzene		ND	0.024	mg/Kg	1	9/15/2017 10:36	:29 PM 33	871
Toluene		ND	0.047	mg/Kg	1	9/15/2017 10:36	:29 PM 33	871
Ethylbenzene		ND	0.047	mg/Kg	1	9/15/2017 10:36	:29 PM 33	871
Xylenes, Total		ND	0.095	mg/Kg	1	9/15/2017 10:36	:29 PM 33	871
Surr: 4-Bromof	luorobenzene	110	66.6-132	%Rec	1	9/15/2017 10:36	:29 PM 33	871

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

Qualifiers:

\*

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded

Hall Environmental Analysis Laboratory, Inc.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 6
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Page 3 of 6

# Client:GHDProject:MF 16

Sample ID MB-33876 Client ID: PBS	SampType: <b>n</b> Batch ID: <b>3</b>	nblk 3876	Tes F	tCode: EF RunNo: 45	PA Method 5653	300.0: Anion	IS		
Prep Date: 9/14/2017	Analysis Date:	9/15/2017	S	SeqNo: 14	450182	Units: <b>mg/k</b>	٢g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 1.5	5							
Sample ID LCS-33876	SampType: Id	cs	Tes	tCode: EF	PA Method	300.0: Anion	S		
Sample ID LCS-33876 Client ID: LCSS	SampType: Io Batch ID: 3	cs 3876	Tes F	tCode: EF RunNo: 45	PA Method 5653	300.0: Anion	IS		
Sample ID LCS-33876 Client ID: LCSS Prep Date: 9/14/2017	SampType: Ic Batch ID: 3 Analysis Date: 9	cs 3876 9/15/2017	Tes F S	tCode: EF RunNo: 45 SeqNo: 14	PA Method 5653 450183	<b>300.0: Anion</b> Units: <b>mg/F</b>	is (g		
Sample ID LCS-33876 Client ID: LCSS Prep Date: 9/14/2017 Analyte	SampType: Io Batch ID: 3 Analysis Date: 9 Result PQL	cs 3876 9/15/2017 SPK value	Tes F S SPK Ref Val	tCode: EF RunNo: 45 SeqNo: 14 %REC	PA Method 5653 150183 LowLimit	300.0: Anion Units: mg/K HighLimit	is (g %RPD	RPDLimit	Qual

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GHD

Sample ID LCS-33875	SampT	ype: LC	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	n ID: 33	875	F	RunNo: 4	5643				
Prep Date: 9/14/2017	Analysis D	ate: 9/	15/2017	5	SeqNo: 1	448863	Units: <b>mg/k</b>	٢g		
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	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Sample ID MB-33875 Client ID: PBS	SampT Batch	ype: ME	BLK 875	Tes F	tCode: E RunNo: 4	PA Method 5643	8015M/D: Di	esel Rang	e Organics	
Sample ID MB-33875 Client ID: PBS Prep Date: 9/14/2017	SampT Batch Analysis D	ype: <b>ME</b> 1D: <b>33</b> ate: <b>9</b> /	BLK 875 15/2017	Tes F S	tCode: E RunNo: 4 SeqNo: 1	PA Method 5643 448864	8015M/D: Di Units: mg/ł	esel Rang	e Organics	
Sample ID MB-33875 Client ID: PBS Prep Date: 9/14/2017 Analyte	SampT Batch Analysis D Result	ype: ME DD: 33 Pate: 9/	BLK 875 15/2017 SPK value	Tes F S SPK Ref Val	tCode: E RunNo: 4 SeqNo: 1 %REC	PA Method 5643 448864 LowLimit	8015M/D: Di Units: mg/F HighLimit	esel Rang (g %RPD	e Organics RPDLimit	Qual
Sample ID MB-33875 Client ID: PBS Prep Date: 9/14/2017 Analyte Diesel Range Organics (DRO)	SampT Batch Analysis D Result ND	ype: ME 1 ID: 33 pate: 9/ PQL 10	BLK 875 15/2017 SPK value	Tes F S SPK Ref Val	tCode: E RunNo: 4 SeqNo: 1 %REC	PA Method 5643 448864 LowLimit	8015M/D: Di Units: mg/ł HighLimit	esel Rang (g %RPD	e Organics RPDLimit	Qual
Sample ID MB-33875 Client ID: PBS Prep Date: 9/14/2017 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	SampT Batch Analysis D Result ND ND	ype: <b>ME</b> n ID: <b>33</b> Pate: <b>9</b> / PQL 10 50	BLK 875 15/2017 SPK value	Tes F S SPK Ref Val	tCode: E RunNo: 4 SeqNo: 1 %REC	PA Method 5643 448864 LowLimit	8015M/D: Di Units: mg/H HighLimit	esel Rang (g %RPD	e Organics RPDLimit	Qual

### **Qualifiers:**

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- Page 4 of 6

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	GHD										
Project:	MF 16										
Sample ID	MB-33871	Samp	Гуре: <b>М</b> І	BLK	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	PBS	Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis E	Date: <b>9</b> /	/15/2017	S	SeqNo: 1	449668	Units: mg/ł	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	ND	5.0								
Surr: BFB		1100		1000		105	54	150			
Sample ID	LCS-33871	Samp	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	LCSS	Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis E	Date: 9,	/15/2017	5	SeqNo: 1	449669	Units: mg/ł	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	28	5.0	25.00	0	114	76.4	125			
Surr: BFB		1100		1000		114	54	150			
Sample ID	1709690-002AMS	Samp	Гуре: М	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	S-11135250-05-09	06 Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis E	Date: 9/	/15/2017	5	SeqNo: 1	449674	Units: mg/ł	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	33	4.8	23.99	0	137	77.8	128			S
Surr: BFB		1100		959.7		118	54	150			
Sample ID	1709690-002AMSI	Samp]	Гуре: М	SD	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	S-11135250-05-09	06 Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis E	Date: 9/	/15/2017	S	SeqNo: 1	449675	Units: mg/ł	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	32	4.6	22.96	0	138	77.8	128	3.83	20	S
Surr: BFB		1100		918.3		117	54	150	0	0	

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1709690
	10 0 17

Client: Project:	GHD MF 16										
Sample ID	MB-33871	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis [	Date: 9/	15/2017	ç	SeaNo: 1	449704	Units: ma/k	(a		
Angleta	••••	Desert				× <b>DCO</b>			-9 0/ DDD		0
Analyte		Result	PQL 0.025	SPK value	SPK Ref val	%REC	LOWLIMIT	HignLimit	%RPD	RPDLIMIt	Quai
Toluene		ND	0.020								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Bron	nofluorobenzene	1.2		1.000		117	66.6	132			
Sample ID	LCS-33871	Samp	Гуре: <b>LC</b>	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis [	Date: <b>9/</b>	15/2017	S	SeqNo: 1	449705	Units: mg/k	٢g		
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-Bron	nofluorobenzene	1.2		1.000		118	66.6	132			
Sample ID	1709690-001AMS	Samp	Гуре: <b>МS</b>	5	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	S-11135250-05-09	906 Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis [	Date: <b>9/</b>	15/2017	S	SeqNo: 1	449711	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.023	0.9242	0	119	80.9	132			
Toluene		1.1	0.046	0.9242	0.01268	116	79.8	136			
Ethylbenzene		1.1	0.046	0.9242	0	121	79.4	140			
Xylenes, Total	a	3.4	0.092	2.773	0	124	78.5	142			
Surr: 4-Bron	nofluorobenzene	1.1		0.9242		115	66.6	132			
Sample ID	1709690-001AMS	D Samp	Гуре: <b>МS</b>	SD .	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	S-11135250-05-09	BO6 Batc	h ID: 33	871	F	RunNo: 4	5651				
Prep Date:	9/14/2017	Analysis [	Date: 9/	15/2017	5	SeqNo: 1	449712	Units: <b>mg/ł</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.023	0.9166	0	122	80.9	132	1.73	20	
Ioluene		1.1	0.046	0.9166	0.01268	121	79.8	136	3.68	20	
Ethylbenzene		1.2	0.046	0.9166	0	127	79.4	140	3.60	20	
xylenes, I otal	afluarah an	3.5	0.092	2.750	0	128	/8.5	142	2.28	20	
Surr: 4-Bron	ioiluoropenzene	1.1		0.9166		124	66.6	132	0	U	

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Page 6 of 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental An Albuqı TEL: 505-345-3975 F/ Website: www.halle	alysis Laborato 4901 Hawkins terque, NM 871 1X: 505-345-41 nvironmental.c	ory NE 109 <b>Samp</b> 107 om	ble Log-In Check Lis	t
Client Name: GHD	Work Order Number: 1	709690		RcptNo: 1	
Received By: Erin Melendrez 9/	12/2017 10:15:00 AM 13/2017 1:54:49 PM		ULIU D		
Reviewed By: SRC 09/14/17			2 4 0		
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?		<u>Courier</u>			
<u>Log In</u>					
4. Was an attempt made to cool the samples?		Yes 🗹	No 🗆		
5. Were all samples received at a temperature of	>0° C to 6.0°C	Yes 🗹	No 🗌		
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	<b>N</b> ₀ []	No VOA Vials 🗹	
11. Were any sample containers received broken?	)	Yes	No ⊻ [	# of preserved bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🛄	for pH: (<2 or >12 unless r	noted)
13. Are matrices correctly identified on Chain of Cu	ustody?	Yes 🗹	No 🗌		_
14. Is it clear what analyses were requested?		Yes ⊻		Checked by:	
(If no, notify customer for authorization.)		res 🖭			
Special Handling (if applicable)		_	[		
16. Was client notified of all discrepancies with this	s order?	Yes 🗀	No 📖	NA 🗹	
Person Notified:	Date				
By Whom:	Via:	jeMail 🗌 F	Phone 📋 Fax	L In Person	
Regarding: Client Instructions:		an a tha a bha an tha			
17. Additional remarks:					
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal	Intact Seal No S	eal Date	Signed By		

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MENTAL	RATORY		109	7			0 (	1) ()	9 10	(A)	んかり Alin Bubbles	X	X	x			the initial resert.
INC	BO	EQ	4M 87	6-410	X.				(A	01-	ime2) 0758						the a
ä	4	ntal.c	ue.	5-34	anba	-	8001	7000	515	V)	8260B (VO)			-			talen.
5	SI	onne	duero	x 50	is Re	(10	PO4,50	1000	1.EC	N'I	J. 1) 2000 A808			-	+ $+$ $+$ $+$ $+$ $+$ $+$		and a second
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	A	len.	т Ш	528	Ar		(SMIS	S 04	28	0 0	PAH's (831			Í T			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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	-		ławk	05-34				(1	181	4 bc	TPH (Method						100-47
			901 1	6.6		(0)	HM / OS	90 / ORO) 83108 H9T			X	X	X			¥s.	
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	🗆 Rush		9		8	ger	rd Boc	chael Co	Ves I	perature: 5.	Preservative Type	TUE					
DUNOVUO	Daniard Name	Project Name	M-7-1	Project #:	HI359	Project Mana	Berna	Sampler //	On loe:	Sample Temp	Container Type and #	4 resulter				Received by	Revenue My
stody kecord	ces ne.		malian School Rd. Str. 202	N/N STUD	C672	Beckischneyhd.com	Evel 4 (Full Validation)				Sample Request ID	11-7-11-7-10-10-10-11-11-1-1-1-1-1-1-1-1	1-1-2-9-05-05-05-05-1-1-5-1-1-5-	5 118556 05 09611 74 6 TP. S. 6		d by	d by Contraction in the subscription
ot-Cu	Ser		6121J	~ CO 100	484	enach.			Dihei		Matrix	V	47	~		Relinauisb	Reinright
nain-	OHS		Address	12091	+ SOS	Fax# B	Package: dard	tation	AP	(Type)	Time	103.0	1030	lins			084 190
0	Client		Mailing	VF A	Phone #	email or	QAIQC F	Accredit	U NEL	DEDD	Date	2/6	3/10	9/6		Data	W/17