

August 20, 2018

**APPROVED** By Olivia Yu at 11:56 am, Sep 04, 2018

NMOCD approves of the proposed additional vertical delineation for NTT-1A and proposed remediation for 1RP-5024.

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

Ryan Mann New Mexico State Land Office 2827 N. Dal Paso Suite 117 Hobbs, NM 88240

Re: Initial Investigation Summary and Proposed Remediation Workplan Plains' Moore Sweet Historical GPS: N 33.369369° W 103.66272° Unit Letters "A & H", Section 13, Township 11 South, Range 32 East Lea County, New Mexico

Dear Ms. Yu and Mr. Mann,

TRC Environmental Corporation (TRC) has prepared the following "Initial Investigation Summary and Proposed Remediation Workplan" on behalf of Plains Marketing, L.P. (Plains), for the Moore Sweet Historical Release Site. The Site is located approximately three (3) miles East of Caprock in Lea County, New Mexico, in Unit Letters "A & H", Section 13, Township 11 South, Range 32 East. The GPS coordinates for the Site are N 33.369369° and W 103.66272°. The affected property is located on land leased by Plains from the State of New Mexico. A "Site Location Map" is provided as Attachment #1.

On April 11, 2018, evidence of historical hydrocarbon impact was discovered during the decommissioning and reclamation of a former storage and pump station; the date and circumstance of the release are unknown. A copy of the Release Notification and Corrective Action (Form C-141) is provided as Attachment #5.

#### **NMOCD Site Classification**

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) indicated the average depth to groundwater in Section 13, Township 11 South, Range 32 East is sixty-three (63) feet below ground surface (bgs). The ChevronTexaco inferred depth of groundwater reference map utilized by The New Mexico Oil Conservation Division (NMOCD) indicates groundwater should

be encountered at approximately fifty (50) feet bgs. On January 17, 2018, NMOSE Well No. L-6588, formerly located on-site, was plugged by a licensed driller. During plugging activities the depth to groundwater was determined to be approximately fifty (50) ft. bgs. Based on the presence of impacted soil at depths up to fourteen (14) ft. bgs, twenty (20) points will be assigned to the Release Site ranking as a result of this criterion.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) suggests one (1) water well (NMOSE Well No. L 06273) was installed in 1968 approximately eight hundred fifty (850) ft. northwest of the Release Site; the current status of the water well is unknown. Based on the NMOCD Site Classification System, twenty (20) points will be assigned to the Release Site ranking as a result of this criterion.

There are no surface-water features located within a 1,000 ft. radius of the site. Based on the NMOCD Site Classification System, zero (0) points would be assigned to the site as a result of this criterion. The NMOCD guidelines indicate the Release Site has a ranking score of greater than nineteen (>19) points.

The Recommended Remediation Action Levels (RRAL) for a Release Site with a ranking score of greater than nineteen (>19) points are as follows:

- Benzene 10 mg/kg
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) 100 mg/kg

#### **Field Activities**

Beginning April 11, 2018, an initial soil investigation was conducted at the Site. During the initial soil investigation, one (1) test trench (TT-1) was advanced beneath the former above-ground storage tank (AST) location in an effort to determine the vertical extent of soil impact. During the advancement of the test trench, six (6) soil samples (TT-1 4ft., TT-1 6ft., TT-1 8ft., TT-1 10ft., TT-1 12ft. and TT-1 14ft.) were collected and submitted to the laboratory for TPH analysis in accordance with EPA Method SW 846-8015M Extended. Laboratory analytical results indicated TPH concentrations ranged from 103 mg/kg in soil sample TT-1 14ft. to 5,940.2 mg/kg in soil sample TT-1 4ft. Soil samples TT-1 4ft. and TT-1 14ft. were also analyzed for concentrations of BTEX in accordance with EPA Method SW 846-8021b. Laboratory analytical results indicated benzene concentrations were less than the applicable laboratory sample detection limit (SDL) in each of the analyzed soil samples. BTEX concentrations ranged from less than the laboratory SDL in soil sample TT-1 14ft to 0.548 mg/kg in soil sample TT-1 4ft.

In addition, five (5) test trenches (WTT-1, STT-1, NTT-1A, NTT-1B and ETT-1) were advanced in an effort to determine the horizontal extent of soil impact around the AST's former location.

Test trench WTT-1 was advanced on the west side of the former AST location. During the advancement of the test trench, four (4) soil samples (WTT-1 2ft., WTT-1 4ft., WTT-1 6ft. and WTT-1 8ft.) were collected and submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory SDL in soil sample WTT-1 2ft. to 293.7 mg/kg in soil sample WTT-1 8ft. Soil samples WTT-1 2ft. and WTT-1 8ft. were also analyzed for concentrations of BTEX. Laboratory analytical results indicated benzene concentrations were less than the applicable SDL in each of the analyzed soil samples. BTEX concentrations ranged from less than the

laboratory SDL in soil sample WTT-1 2ft to 0.246 mg/kg in soil sample WTT-1 8ft. Based on laboratory analytical results, additional vertical and horizontal delineation was required in the area characterized by test trench WTT-1.

Test trench STT-1 was advanced on the south side of the former AST location. During the advancement of the test trench, four (4) soil samples (STT-1 2ft., STT-1 4ft., STT-1 6ft. and STT-1 8ft.) were collected and submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations were less than the applicable SDL in each of the submitted soil samples. Soil samples STT-1 2ft. and STT-1 8ft. were also analyzed for concentrations of BTEX. Laboratory analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory SDL in each of the analyzed soil samples.

Test trench NTT-1A was advanced on the north side of the former AST location. During the advancement of the test trench, one (1) soil sample (NTT-1A 7ft) was collected and submitted to the laboratory for analysis of TPH and BTEX. Laboratory analytical results indicated soil sample NTT-1A 7ft. exhibited a TPH concentration of 235.5 mg/kg and a BTEX concentration of less than the laboratory SDL.

Test trench NTT-1B was advanced approximately ten (10) ft. north of test trench NTT-1A. During the advancement of the test trench, two (2) soil samples (NTT-1B 5ft and NTT-1B 6ft.) were collected and submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated soil samples NTT-1B 5ft. and NTT-1B 6ft. exhibited TPH concentrations of 33.1 mg/kg and less than the laboratory SDL, respectively. Soil sample NTT-1B 5ft. was also analyzed for concentrations of BTEX, which were determined to be less than the applicable laboratory SDL.

Test trench ETT-1 was advanced on the east side of the former AST location. During the advancement of the test trench, four (4) soil samples (ETT-1 2ft., ETT-1 4ft., ETT-1 6ft. and ETT-1 8ft.) were collected and submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory SDL in soil samples ETT-1 @ 6ft. and ETT-1 @ 8ft. to 203.05 mg/kg in soil sample ETT-1 @ 4ft. Soil samples STT-1 2ft. and STT-1 8ft. were also analyzed for concentrations of BTEX, which were determined to be less than the applicable laboratory SDL. Based on laboratory analytical results, additional horizontal delineation was required in the area characterized by test trench ETT-1.

In addition, two (2) test trenches (TT-2 and TT-3) were advanced in an effort to investigate surface staining in two (2) areas north of the former AST location. Test trench TT-2 was advanced to a depth of approximately two (2) ft. bgs. During the advancement of the test trench, two (2) soil samples (TT-2 @ Surface and TT-2 @ 2ft.) bgs were collected and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated soil sample TT-2 @ Surface exhibited a TPH concentration of 694 mg/kg and a BTEX concentration less than the applicable SDL. Soil sample TT-2 @ 2ft. exhibited a TPH concentration of 20.4 mg/kg and a BTEX concentration less than the applicable SDL.

Test trench TT-3 was initially advanced to a depth of approximately two (2) ft. bgs. During the advancement of the test trench, one (1) soil sample (TT-3 @ 2ft.) bgs was collected and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated soil sample TT-3 @ 2ft. exhibited a TPH concentrations of 336.6 mg/kg and a BTEX concentration of

0.00409 mg/kg. Based on laboratory analytical results, additional vertical delineation would be required in the area characterized by test trench TT-3.

On May 31, 2018, TRC revisited the Release Site. During the site visit, test trench WTT-1 was advanced an additional four (4) feet. During the advancement of the test trench, three (3) soil samples (WTT-1 8ft.\*, WTT-1 10ft. and WTT-1 @ 12ft.) were collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from 103 mg/kg in soil sample WTT-1 12ft. to 386 mg/kg in soil sample WTT-1 10ft.

Test trench WTT-1a was advanced west of the area characterized by test trench WTT-1. During the advancement of the test trench, three (3) soil samples (WTT-1a 2ft., WTT-1a 4ft. and WTT-1a 8ft.) were collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory SDL in soil sample WTTa-1 8ft. to 147.5 mg/kg in soil sample WTT-1a 2ft. Based on laboratory analytical results, additional horizontal delineation was required in the area characterized by test trench WTT-1a.

Test trench ETT-1a was advanced east of the area characterized by test trench ETT-1. During the advancement of the test trench, two (2) soil samples (ETT-1a 4ft. and WTT-1a 6ft.) were collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from 47.5 mg/kg in soil sample ETTa-1 6ft. to 348.9 mg/kg in soil sample ETT-1a 4ft. Based on laboratory analytical results, additional horizontal delineation was required in the area characterized by test trench ETT-1a.

Test trench TT-3 was advanced an additional two (2) feet. During the advancement of the test trench, one (1) soil sample (TT-3 4ft) was collected and submitted to the laboratory for analysis of TPH concentrations, which were determined to be 51.9 mg/kg.

On June 29, 2018, TRC revisited the Release Site. During the site visit, a hand auger was utilized to collect four (4) additional horizontal delineation soil samples (WHA-1b @ 1', WHA-1c @ 1', EHA-1b @ 2' and EHA-1c @ 2'). Soil sample WHA-1b @ 1' was collected on the west side of the fence in the area characterized by test trench WTT-1a. The collected soil was submitted to the laboratory for analysis of TPH concentrations, which were determined to be 287.2 mg/kg. An additional soil sample (WHA-1c @ 1') was collected approximately five (5) ft. west of sample point WHA-1b. The collected soil sample was submitted to the laboratory for analysis of TPH concentrations, which were determined to be less than the laboratory SDL.

Soil sample EHA-1b @ 2' was collected approximately five (5) ft. east of the area characterized by test trench ETT-1a. The collected soil was submitted to the laboratory for analysis of TPH concentrations, which were determined to be 39.76 mg/kg. An additional soil sample (EHA-1c @ 2') was collected approximately five (5) ft. east of sample point EHA-1b. The collected soil sample was submitted to the laboratory for analysis of TPH concentrations, which were determined to be less than the laboratory SDL. A "Site & Sample Location Map" is provided as Attachment #2. A table summarizing Concentrations of Benzene, BTEX and TPH in Soil is provided as Attachment #3. Laboratory analytical reports are provided as Attachment #4.

#### **Proposed Activities**

- Advance test trench NTT-1A 7ft. vertically until laboratory analytical results indicate concentrations of TPH are below the NMOCD RRAL.
- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD RRAL in the area characterized by test trench TT-2 to a depth of two (2) ft. bgs and until laboratory analytical results from confirmation soil samples collected from the sidewalls of the excavated area indicate TPH and concentrations are below the NMOCD RRAL.
- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD RRAL in the area characterized by test trench TT-3 to a depth of four (4) ft. bgs and laboratory analytical results from confirmation soil samples collected from the sidewalls of the excavated area indicate TPH and concentrations are below the NMOCD RRAL.
- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD RRAL in the area characterized by test trench TT-1 to a depth of approximately four (4) ft. bgs. Excavation sidewalls will be advanced horizontally to the areas characterized by horizontal delineation soil samples NTT-1b, EHA-1b, STT-1 and WHA-1c.
- Upon excavating impacted soil in the area characterized by test trench TT-1 and the former location of the AST, install a 20-mil polyurethane liner at approximately four (4) ft. bgs atop impacted soil exhibiting benzene, BTEX and/or TPH concentrations above the NMOCD RRAL. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ, by shedding moisture to the outside edges of the liner beyond the maximum horizontal extent of underlying impacted soil. The liner will be cushioned by an approximate six (6) inch layer of pad sand above and below the liner in an effort to maintain its integrity during backfilling activities.
- Upon receiving laboratory analytical from excavation confirmation soil samples, the excavated area will be backfilled with locally sourced, non-impacted material.
- Impacted soil excavated from the affected area will be temporarily stockpiled on-site, atop an impermeable liner, pending transportation to an NMOCD-permitted facility for disposal.

Upon completion of remediation activities, a "Remediation Summary and Soil Closure Request" will be prepared summarizing field activities and laboratory analytical results from confirmation soil samples. If you have any questions or need any additional information, please feel free to contact Amber Groves or myself by phone or email.

all.

Joel Lowry Project Manager TRC Environmental Corporation

Curt O Sanley

Curt Stanley Senior Project Manager TRC Environmental Corporation

#### Attachments:

Attachment #1: Figure 1 – Site Location Map Attachment #2: Figure 2 – Site & Sample Map Attachment #3: Table 1 – Concentrations of benzene, BTEX and TPH in Soil Attachment #4: Laboratory Analytical Reports Attachment #5: Release Notification and Corrective Action (Form C-141) cc: Camille Bryant Plains Marketing, L.P.





TABLE 1

#### CONCENTRATIONS OF BENZENE, BTEX AND TPH IN SOIL MOORE SWEET PLAINS MARKETING, L.P. LEA COUNTY, NM

					Me	thods: EPA SV	V 846-8021B, 5	030		Methods:			
SAMPLE	SAMPLE	SAMPLE	STATUS	BENZENE	TOLUENE	ETHYL-	m,p,	0-XYLENE	Total		EPA SW	846-8015M	
LOCATION	DATE	DEPTH		(mg/kg)	(mg/kg)	BENZENE (mg/kg)	XYLENE (mg/kg)	(mg/kg)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TOTAL TPH (mg/kg)
TT-1 4ft.	4/11/2018	4'	In-Situ	< 0.0962	< 0.0962	< 0.0962	0.548	< 0.0962	0.548	45.2	5,180	715	5,940.2
TT-1 6ft.	4/11/2018	6'	In-Situ	-	-	-	-	-	-	175	3,030	394	3,599
TT-1 8ft.	4/11/2018	8'	In-Situ	-	-	-	-	-	-	97.0	1,650	204	1,951
TT-1 10ft.	4/11/2018	10'	In-Situ	-	-	-	-	-	-	16.3	368	59.7	444
TT-1 12ft.	4/11/2018	12'	In-Situ	-	-	-	-	-	-	<3.94	151	31.4	182.4
TT-1 14ft.	4/11/2018	14'	In-Situ	< 0.0181	< 0.0181	< 0.0181	< 0.0362	< 0.0181	< 0.0181	<3.62	103	<24.9	103
WTT-1 2ft	4/11/2018	2'	In-Situ	< 0.0191	< 0.0191	< 0.0191	< 0.0382	< 0.0191	< 0.0191	<3.82	<24.8	<24.8	<24.8
WTT-1 4ft	4/11/2018	4'	In-Situ	-	-	-	-	-	-	<3.66	26.4	<24.8	26.4
WTT-1 6ft	4/11/2018	6'	In-Situ	-	-	-	-	-	-	25.8	83.6	34.7	144.1
WTT-1 8ft	4/11/2018	8'	In-Situ	< 0.0180	< 0.0180	< 0.0180	0.201	0.0450	0.246	19.9	213	60.8	293.7
WTT-1 8ft*	5/31/2018	8'	In-Situ	-	-	-	-	-	-	<7.99	163	15.1	178.1
WTT-1 10ft	5/31/2018	10'	In-Situ	-	-	-	-	-	-	<7.97	375	11.0	386
WTT-1 12ft	5/31/2018	12	In Situ	-	-	-	-	-	-	<7.99	103	<8.11	103
WTT-1a 2ft	5/31/2018	2'	In-Situ	-	-	-	-	-	-	<8.00	132	15.5	147.5
WTT-1a 4ft	5/31/2018	4'	In-Situ	-	-	-	-	-	-	8.82	67.4	<8.11	76.22
WTT-1a 8ft	5/31/2018	6'	In-Situ	-			-	-	-	<7.98	<8.10	<8.10	<7.98
WHA-1b @ 1'	6/29/2018	1'	In-Situ	-	-	-	-	-		10.5	265	11.7	287.2
WHA-1c @ 1'	6/29/2018	1'	In-Situ	-	-	-	-	-		<7.99	<8.11	<8.11	<7.99
STT-1 2ft	4/11/2018	2'	In-Situ	< 0.0195	< 0.0195	< 0.0195	< 0.0391	< 0.0195	< 0.0195	<3.91	<25.1	<25.1	<25.1
STT-1 4ft	4/11/2018	4'	In-Situ	-	-	-	-	-	-	<3.75	<25.2	<25.2	<25.2
STT-1 6ft	4/11/2018	6'	In-Situ	-	-	-	-	-	-	<3.60	<24.9	<24.9	<24.9
STT-1 8ft	4/11/2018	8'	In-Situ	< 0.0196	< 0.0196	< 0.0196	< 0.0392	< 0.0196	< 0.0196	<3.92	<25.2	<25.2	<25.2
NTT-1A 7ft.	4/11/2018	7'	In-Situ	< 0.0180	< 0.0180	< 0.0180	< 0.0360	< 0.0180	< 0.0180	11.1	197	27.4	235.5
	1/11/2010		1.01		0.0181	0.0484	0.0242		0.0151	2.42			
NTT-IB 5ft.	4/11/2018	5'	In-Situ	<0.0171	<0.0171	<0.0171	< 0.0342	<0.0171	<0.0171	<3.42	33.1	<25.0	33.1
NTT-1B 6ft.	4/11/2018	6'	In-Situ	-	-	-	-	-	-	<3.75	<25.1	<25.1	<25.1
	4/12/2010	21	I C'i	-0.000200	-0.000450	-0.0005(0	-0.00102	-0.000247	-0.000247	0.65	00.2	-0.12	00.05
ETT-1@2ft	4/13/2018	2'	In-Situ	<0.000388	< 0.000459	<0.000569	<0.00102	<0.000347	<0.00034/	9.65	80.2	<8.12	89.85
E11-1 @ 4π ETT 1 @ (Α	4/13/2018	4	In-Situ	-	-	-	-	-	-	9.55	1/0	17.5	203.05
ETT 1 @ 80	4/13/2018	0	In-Situ In Situ			-	- <0.00102	- <0.000246	-	<7.99	< 8.12	< 8.12	<7.99
E11-1@8ft	4/13/2018	8	In-Situ	<0.000387	<0.000458	<0.000568	<0.00102	<0.000346	<0.000346	<7.99	<8.11	<8.11	.99</td
ETT 1a 40	5/21/2018	4'	In Situ							<7.08	272	25.0	249.0
ETT 1a 60	5/21/2018		In-Situ	-	-	-	-	-	-	<7.98	323	23.9	J40.7
E11-1a on	5/51/2018	0	III-Situ	-	-	-	-	-	-	~1.91	47.5	~0.10	47.5
FHA-1b@2'	6/29/2018	2'	In-Situ	_	_	_	_	_	_	9.76	30.0	<8.12	39.76
FHΔ_1c @ 2'	6/29/2018	2'	In-Situ	-	-	-	-	-	-	<7.07	<8 10	<8.10	<7.07
LIIA-IC @ 2	0/27/2018	4	III-5itu	-	-	-	-	_		<1.51	~0.10	~0.10	\$1.91
TT-2 @ Surface	4/13/2018	Surface	In-Situ	<0.000384	<0.000455	<0.000564	<0.00101	<0.000344	<0.000344	<7.99	492	202	694
TT-2 @ 2ft	4/13/2018	2'	In-Situ	<0.000389	<0.000455	<0.000570	<0.00107	<0.000348	<0.000348	<7.99	20.4	<8.12	20.4
112 @ 20	15/2010	-	in onu	0.000387	-5.000-100	.5.000570	0.00102	0.000340	0.0005-10	~1.77	20.1	-0.12	20.1
TT-3 @ 2ft	4/13/2018	2'	In-Situ	<0.000388	< 0.000459	< 0.000569	0.00409	0.00409	0.00409	29.0	250	57.6	336.6
TT-3 4ft	5/31/2018	- 4'	In-Situ	-	-	-	-	-	-	<7.98	51.9	<8.10	51.9
	5.51.2010	,	Jitu								2	-0.10	2
NMOCD Recom	mended Rem	ediation Acti	on Level	10	-	-	-	-	50	-	-	-	100

\* Denotes sample name has been used previously.



Project Id:Contact:Joel LowryProject Location:Lea Co, NM

#### Certificate of Analysis Summary 582241

TRC Solutions, Inc, Midland, TX

**Project Name: Moore Sweet** 

Date Received in Lab:Thu Apr-12-18 06:20 pmReport Date:18-APR-18Project Manager:Kelsey Brooks

	Lab Id:	582241-0	001	582241-0	02	582241-0	03	582241-0	004	582241-0	05	582241-0	006
Analysis Paguastad	Field Id:	TT-1 4	ft.	TT-1 6 f	ì.	TT-1 8 f	t.	TT-1 10	ft.	TT-1 12	ft.	TT-1 14	ft.
Analysis Kequesiea	Depth:	4- ft		6- ft		8- ft		10- ft		12- ft	12- ft		
	Matrix:	SOIL	,	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-11-18	09:00	Apr-11-18 (	)9:05	Apr-11-18 0	9:10	Apr-11-18 (	09:15	Apr-11-18 (	09:20	Apr-11-18	09:20
BTEX by EPA 8021B	Extracted:	Apr-13-18	09:15							1		Apr-13-18	09:15
	Analyzed:	Apr-15-18	05:06									Apr-13-18	12:06
	Units/RL:	mg/kg	RL									mg/kg	RL
Benzene		< 0.0962	0.0962									< 0.0181	0.0181
Toluene		< 0.0962	0.0962									< 0.0181	0.0181
Ethylbenzene		< 0.0962	0.0962									< 0.0181	0.0181
m_p-Xylenes		0.548	0.192									< 0.0362	0.0362
o-Xylene		< 0.0962	0.0962									< 0.0181	0.0181
Xylenes, Total		0.548	0.0962									< 0.0181	0.0181
Total BTEX		0.548	0.0962									< 0.0181	0.0181
DRO-ORO By SW8015B	Extracted:	Apr-13-18	09:00	Apr-13-18 0	09:00	Apr-13-18 0	9:00	Apr-13-18 (	09:00	Apr-13-18 (	09:00	Apr-13-18	09:00
	Analyzed:	Apr-13-18	21:25	Apr-13-18 2	21:59	Apr-13-18 2	2:33	Apr-13-18 2	23:06	Apr-13-18 2	23:39	Apr-13-18	14:28
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		5180 E	126	3030	126	1650 E	25.0	368	25.2	151	24.9	103	24.9
Oil Range Hydrocarbons (ORO)		715	126	394	126	204	25.0	59.7	25.2	31.4	24.9	<24.9	24.9
TPH GRO by EPA 8015 Mod.	Extracted:	Apr-13-18	09:15	Apr-13-18 0	)9:15	Apr-13-18 0	9:15	Apr-13-18 (	09:15	Apr-13-18 (	)9:15	Apr-13-18	09:15
	Analyzed:	Apr-15-18 05:06		Apr-15-18 0	)5:33	Apr-15-18 0	6:00	Apr-15-18 (	06:28	Apr-15-18 (	)6:55	Apr-13-18	12:06
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		45.2	19.2	175	18.9	97.0	20.0	16.3	3.69	<3.94	3.94	<3.62	3.62

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

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

Huns Roah

Kelsey Brooks Project Manager



Project Id:Contact:Joel LowryProject Location:Lea Co, NM

#### Certificate of Analysis Summary 582241

TRC Solutions, Inc, Midland, TX

**Project Name: Moore Sweet** 

Date Received in Lab:Thu Apr-12-18 06:20 pmReport Date:18-APR-18Project Manager:Kelsey Brooks

	Lab Id:	582241-0	07	582241-0	08	582241-0	09	582241-0	010	582241-0	011	582241-0	12
An alusia Democrata I	Field Id:	WTT-1 2	ft.	WTT-1 4	ft.	WTT-1 6	ft.	WTT-1 8	3 ft.	STT-1 2	ft.	STT-1 4	ft.
Analysis Kequestea	Depth:	2- ft		4- ft		6- ft		8- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Apr-11-18 (	09:30	Apr-11-18 (	)9:35	Apr-11-18 (	)9:40	Apr-11-18	09:45	Apr-11-18	09:50	Apr-11-18 0	)9:55
BTEX by EPA 8021B	Extracted:	Apr-13-18 (	09:15					Apr-13-18	09:15	Apr-13-18	09:15		
	Analyzed:	Apr-15-18 (	07:22					Apr-15-18	08:44	Apr-15-18	11:27		
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
Benzene		< 0.0191	0.0191					< 0.0180	0.0180	<0.0195	0.0195		
Toluene		< 0.0191	0.0191					< 0.0180	0.0180	< 0.0195	0.0195		
Ethylbenzene		< 0.0191	0.0191					< 0.0180	0.0180	< 0.0195	0.0195		
m_p-Xylenes		< 0.0382	0.0382					0.201	0.0360	< 0.0391	0.0391		
o-Xylene		< 0.0191	0.0191					0.0450	0.0180	< 0.0195	0.0195		
Xylenes, Total		< 0.0191	0.0191					0.246	0.018	< 0.0195	0.0195		
Total BTEX		< 0.0191	0.0191					0.246	0.018	<0.0195	0.0195		
DRO-ORO By SW8015B	Extracted:	Apr-16-18	12:00	Apr-16-18 1	2:00	Apr-16-18 1	2:00	Apr-16-18	12:00	Apr-16-18	12:00	Apr-16-18 1	2:00
	Analyzed:	Apr-17-18	09:36	Apr-17-18 1	0:10	Apr-17-18 1	0:44	Apr-17-18	11:18	Apr-17-18	11:52	Apr-17-18 1	4:05
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<24.8	24.8	26.4	24.8	83.6	25.1	213	24.8	<25.1	25.1	<25.2	25.2
Oil Range Hydrocarbons (ORO)		<24.8	24.8	<24.8	24.8	34.7	25.1	60.8	24.8	<25.1	25.1	<25.2	25.2
TPH GRO by EPA 8015 Mod.	Extracted:	Apr-13-18 (	09:15	Apr-13-18 0	9:15	Apr-13-18 (	)9:15	Apr-13-18	09:15	Apr-13-18	09:15	Apr-13-18 0	9:15
	Analyzed:	Apr-15-18	07:22	Apr-15-18 0	07:50	Apr-15-18 (	08:17	Apr-15-18	08:44	Apr-15-18	11:27	Apr-15-18 1	1:54
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.82	3.82	<3.66	3.66	25.8	3.93	19.9	3.60	<3.91	3.91	<3.75	3.75

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

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Huns Roah

Kelsey Brooks Project Manager

Final 1.000



Project Id:Contact:Joel LowryProject Location:Lea Co, NM

#### Certificate of Analysis Summary 582241

TRC Solutions, Inc, Midland, TX

**Project Name: Moore Sweet** 

Date Received in Lab:Thu Apr-12-18 06:20 pmReport Date:18-APR-18Project Manager:Kelsey Brooks

	Lab Id:	582241-0	)13	582241-0	)14	582241-0	)15	582241-0	16	582241-0	)17	
Analysis Paguested	Field Id:	STT-1 6	ft.	STT-1 8	ft.	NTT-1B :	5 ft.	NTT-1B 6	ó ft.	NTT-1A	7 ft.	
Analysis Requested	Depth:	6- ft		8- ft		5- ft		6- ft		7- ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Apr-11-18	10:00	Apr-11-18	10:05	Apr-11-18	10:10	Apr-11-18	10:15	Apr-11-18	10:20	
BTEX by EPA 8021B	Extracted:			Apr-13-18 (	09:15	Apr-13-18	09:15			Apr-13-18	09:15	
	Analyzed:			Apr-15-18	12:47	Apr-15-18	13:14			Apr-15-18	02:23	
	Units/RL:			mg/kg	RL	mg/kg	RL			mg/kg	RL	
Benzene				< 0.0196	0.0196	< 0.0171	0.0171			< 0.0180	0.0180	
Toluene				< 0.0196	0.0196	< 0.0171	0.0171			< 0.0180	0.0180	
Ethylbenzene				< 0.0196	0.0196	< 0.0171	0.0171			< 0.0180	0.0180	
m_p-Xylenes				< 0.0392	0.0392	< 0.0342	0.0342			< 0.0360	0.0360	
o-Xylene				< 0.0196	0.0196	< 0.0171	0.0171			< 0.0180	0.0180	
Xylenes, Total				< 0.0196	0.0196	< 0.0171	0.0171			< 0.018	0.018	
Total BTEX				< 0.0196	0.0196	< 0.0171	0.0171			< 0.018	0.018	
DRO-ORO By SW8015B	Extracted:	Apr-16-18	12:00	Apr-16-18	12:00	Apr-16-18	12:00	Apr-16-18 1	2:00	Apr-16-18	12:00	
	Analyzed:	Apr-17-18	14:38	Apr-17-18	15:11	Apr-17-18	15:44	Apr-17-18 1	6:17	Apr-17-18	16:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Diesel Range Organics (DRO)		<24.9	24.9	<25.2	25.2	33.1	25.0	<25.1	25.1	197	24.9	
Oil Range Hydrocarbons (ORO)		<24.9	24.9	<25.2	25.2	<25.0	25.0	<25.1	25.1	27.4	24.9	
TPH GRO by EPA 8015 Mod.	Extracted:	Apr-13-18	09:15	Apr-13-18 (	09:15	Apr-13-18	09:15	Apr-13-18 (	)9:15	Apr-13-18	09:15	
	Analyzed:	Apr-15-18	12:20	Apr-15-18	12:47	Apr-15-18	13:14	Apr-15-18 1	3:41	Apr-15-18	02:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
TPH-GRO		<3.60	3.60	<3.92	3.92	<3.42	3.42	<3.75	3.75	11.1	3.60	

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

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Kelsey Brooks Project Manager

# Analytical Report 582241

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

**Moore Sweet** 

#### 18-APR-18

Collected By: Client



#### 6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



18-APR-18

Project Manager: Joel Lowry TRC Solutions, Inc 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **582241 Moore Sweet** Project Address: Lea Co, NM

#### Joel Lowry:

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) 582241. 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. 582241 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

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# Sample Cross Reference 582241

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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 4 ft.	S	04-11-18 09:00	4 ft	582241-001
TT-1 6 ft.	S	04-11-18 09:05	6 ft	582241-002
TT-1 8 ft.	S	04-11-18 09:10	8 ft	582241-003
TT-1 10 ft.	S	04-11-18 09:15	10 ft	582241-004
TT-1 12ft.	S	04-11-18 09:20	12 ft	582241-005
TT-1 14 ft.	S	04-11-18 09:20	14 ft	582241-006
WTT-1 2 ft.	S	04-11-18 09:30	2 ft	582241-007
WTT-1 4 ft.	S	04-11-18 09:35	4 ft	582241-008
WTT-1 6 ft.	S	04-11-18 09:40	6 ft	582241-009
WTT-1 8 ft.	S	04-11-18 09:45	8 ft	582241-010
STT-1 2 ft.	S	04-11-18 09:50	2 ft	582241-011
STT-1 4 ft.	S	04-11-18 09:55	4 ft	582241-012
STT-1 6 ft.	S	04-11-18 10:00	6 ft	582241-013
STT-1 8 ft.	S	04-11-18 10:05	8 ft	582241-014
NTT-1B 5 ft.	S	04-11-18 10:10	5 ft	582241-015
NTT-1B 6 ft.	S	04-11-18 10:15	6 ft	582241-016
NTT-1A 7 ft.	S	04-11-18 10:20	7 ft	582241-017



Client Name: TRC Solutions, Inc Project Name: Moore Sweet

Project ID: Work Order Number(s): 582241 Report Date: 18-APR-18 Date Received: 04/12/2018

#### Sample receipt non conformances and comments:

None

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

None

#### Analytical non conformances and comments:

Batch: LBA-3046668 DRO-ORO By SW8015B

Lab Sample ID 582241-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 582241-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by reanalysis.

Samples affected are: 582241-003.

Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 582241-001,582241-002,582241-003,582241-004.

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by reanalysis.

Samples affected are: 582241-006 SD,582241-002,582241-001,582241-004,582241-005.

Batch: LBA-3046672 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3046705 BTEX by EPA 8021B

Sample 582241-001 was diluted due to hydrocarbons beyond xylenes.

Batch: LBA-3047041 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by reanalysis.

Samples affected are: 582241-009,582241-010,582241-017.

Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 582241-010.



#### CASE NARRATIVE

Client Name: TRC Solutions, Inc Project Name: Moore Sweet

Project ID: Work Order Number(s): 582241 Report Date: 18-APR-18 Date Received: 04/12/2018



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 4 ft.	Matrix:	Soil	Date Received	1:04.12.18 18.20
Lab Sample Id	: 582241-001	Date Collected	: 04.11.18 09.00	Sample Depth	:4 ft
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	PGM			% Moisture:	
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight
Seq Number:	3046668				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	5180	126		mg/kg	04.13.18 21.25	Е	5
Oil Range Hydrocarbons (ORO)	PHCG2835	715	126		mg/kg	04.13.18 21.25		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	2287	%	65-144	04.13.18 21.25	**	
n-Triacontane		638-68-6	1109	%	46-152	04.13.18 21.25	**	

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0962	0.0962		mg/kg	04.15.18 05.06	U	5
Toluene	108-88-3	< 0.0962	0.0962		mg/kg	04.15.18 05.06	U	5
Ethylbenzene	100-41-4	< 0.0962	0.0962		mg/kg	04.15.18 05.06	U	5
m_p-Xylenes	179601-23-1	0.548	0.192		mg/kg	04.15.18 05.06		5
o-Xylene	95-47-6	< 0.0962	0.0962		mg/kg	04.15.18 05.06	U	5
Xylenes, Total	1330-20-7	0.548	0.0962		mg/kg	04.15.18 05.06		5
Total BTEX		0.548	0.0962		mg/kg	04.15.18 05.06		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	99	%	68-120	04.15.18 05.06		
a,a,a-Trifluorotoluene		98-08-8	96	%	71-121	04.15.18 05.06		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 4 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20
Lab Sample Id	: 582241-001	Date Collected	:04.11.18 09.00	Sample Depth: 4 ft	
Analytical Me Tech:	thod: TPH GRO by EPA 8015 Mod. MIT			Prep Method: % Moisture:	SW5030B
Analyst: Seq Number:	MIT 3046710	Date Prep:	04.13.18 09.15	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	45.2	19.2		mg/kg	04.15.18 05.06		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	2	460-00-4	89	%	76-123	04.15.18 05.06		
a,a,a-Trifluorotoluene	(	98-08-8	78	%	69-120	04.15.18 05.06		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 6 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20
Lab Sample Id	: 582241-002	Date Collected	: 04.11.18 09.05	Sample Depth: 6 ft	
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	PGM			% Moisture:	
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight
Seq Number:	3046668				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	3030	126		mg/kg	04.13.18 21.59		5
Oil Range Hydrocarbons (ORO)	PHCG2835	394	126		mg/kg	04.13.18 21.59		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	1280	%	65-144	04.13.18 21.59	**	
n-Triacontane		638-68-6	711	%	46-152	04.13.18 21.59	**	

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	175	18.9		mg/kg	04.15.18 05.33		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	4	460-00-4 98-08-8	118 93	% %	76-123 69-120	04.15.18 05.33 04.15.18 05.33		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 8 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-003	Date Collected: 04.11.18 09.10		Sample Depth: 8 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight	
Seq Number:	3046668					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	1650	25.0		mg/kg	04.13.18 22.33	Е	1
Oil Range Hydrocarbons (ORO)	PHCG2835	204	25.0		mg/kg	04.13.18 22.33		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	0	%	65-144	04.13.18 22.33	**	
n-Triacontane		638-68-6	414	%	46-152	04.13.18 22.33	**	

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	97.0	20.0		mg/kg	04.15.18 06.00		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	2	460-00-4 98-08-8	103 81	% %	76-123 69-120	04.15.18 06.00 04.15.18 06.00		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 10 ft.	Matrix:	Soil	Date Received:04.12.18 18.2		
Lab Sample Id	: 582241-004	Date Collected: 04.11.18 09.15		Sample Depth: 10 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight	
Seq Number:	3046668					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	368	25.2		mg/kg	04.13.18 23.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	59.7	25.2		mg/kg	04.13.18 23.06		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	248	%	65-144	04.13.18 23.06	**	
n-Triacontane		638-68-6	185	%	46-152	04.13.18 23.06	**	

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	16.3	3.69		mg/kg	04.15.18 06.28		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene		460-00-4 98-08-8	105 91	% %	76-123 69-120	04.15.18 06.28 04.15.18 06.28		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 12ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	Lab Sample Id: 582241-005 D		Date Collected: 04.11.18 09.20		Sample Depth: 12 ft	
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight	
Seq Number:	3046668					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	151	24.9		mg/kg	04.13.18 23.39		1
Oil Range Hydrocarbons (ORO)	PHCG2835	31.4	24.9		mg/kg	04.13.18 23.39		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	177	%	65-144	04.13.18 23.39	**	
n-Triacontane		638-68-6	145	%	46-152	04.13.18 23.39		

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94		mg/kg	04.15.18 06.55	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	2	460-00-4 98-08-8	119 90	% %	76-123 69-120	04.15.18 06.55 04.15.18 06.55		



# TRC Solutions, Inc, Midland, TX

Sample Id:	TT-1 14 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	ab Sample Id: 582241-006		: 04.11.18 09.20	Sample Depth: 14 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.13.18 09.00	Basis:	Wet Weight	
Seq Number:	3046668					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	103	24.9		mg/kg	04.13.18 14.28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<24.9	24.9		mg/kg	04.13.18 14.28	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	143	%	65-144	04.13.18 14.28		
n-Triacontane		638-68-6	120	%	46-152	04.13.18 14.28		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046672				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
Toluene	108-88-3	< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
Ethylbenzene	100-41-4	< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
m_p-Xylenes	179601-23-1	< 0.0362	0.0362		mg/kg	04.13.18 12.06	U	1
o-Xylene	95-47-6	< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
Xylenes, Total	1330-20-7	< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
Total BTEX		< 0.0181	0.0181		mg/kg	04.13.18 12.06	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	107	%	68-120	04.13.18 12.06		
a,a,a-Trifluorotoluene		98-08-8	97	%	71-121	04.13.18 12.06		



# TRC Solutions, Inc, Midland, TX

Sample Id:	<b>TT-1 14 ft.</b>	Matrix:	Soil	Date Received	l:04.12.18 18.20
Lab Sample Id	: 582241-006	Date Collected	: 04.11.18 09.20	Sample Depth	: 14 ft
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046675	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.62	3.62		mg/kg	04.13.18 12.06	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	123	%	76-123	04.13.18 12.06		
a,a,a-Trifluorotoluene		98-08-8	97	%	69-120	04.13.18 12.06		



# TRC Solutions, Inc, Midland, TX

Sample Id:	WTT-1 2 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-007	Date Collected: 04.11.18 09.30		Sample Depth: 2 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<24.8	24.8		mg/kg	04.17.18 09.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<24.8	24.8		mg/kg	04.17.18 09.36	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	112	%	65-144	04.17.18 09.36		
n-Triacontane		638-68-6	103	%	46-152	04.17.18 09.36		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
Toluene	108-88-3	< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
Ethylbenzene	100-41-4	< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
m_p-Xylenes	179601-23-1	< 0.0382	0.0382		mg/kg	04.15.18 07.22	U	1
o-Xylene	95-47-6	< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
Xylenes, Total	1330-20-7	< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
Total BTEX		< 0.0191	0.0191		mg/kg	04.15.18 07.22	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	100	%	68-120	04.15.18 07.22		
a,a,a-Trifluorotoluene		98-08-8	108	%	71-121	04.15.18 07.22		



# TRC Solutions, Inc, Midland, TX

Sample Id:	WTT-1 2 ft.	Matrix:	Soil	Date Received	1:04.12.18 18.20	
Lab Sample Id	b Sample Id: 582241-007 Date Collected: 04.11.18 0			Sample Depth: 2 ft		
Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B	
Tech:	MIT			% Moisture:		
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight	
Seq Number:	3046710					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.82	3.82		mg/kg	04.15.18 07.22	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	116	%	76-123	04.15.18 07.22		
a,a,a-Trifluorotoluene		98-08-8	90	%	69-120	04.15.18 07.22		



# TRC Solutions, Inc, Midland, TX

Sample Id:	WTT-1 4 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-008	Date Collected: 04.11.18 09.35		Sample Depth: 4 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	26.4	24.8		mg/kg	04.17.18 10.10		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<24.8	24.8		mg/kg	04.17.18 10.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	121	%	65-144	04.17.18 10.10		
n-Triacontane		638-68-6	109	%	46-152	04.17.18 10.10		

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.66	3.66		mg/kg	04.15.18 07.50	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene		460-00-4 98-08-8	114 92	% %	76-123 69-120	04.15.18 07.50 04.15.18 07.50		



# TRC Solutions, Inc, Midland, TX

Sample Id:	WTT-1 6 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-009	Date Collected: 04.11.18 09.40 S		Sample Depth: 6 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	83.6	25.1		mg/kg	04.17.18 10.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	34.7	25.1		mg/kg	04.17.18 10.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	147	%	65-144	04.17.18 10.44	**	
n-Triacontane		638-68-6	140	%	46-152	04.17.18 10.44		

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	25.8	3.93		mg/kg	04.15.18 08.17		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	4	460-00-4 98-08-8	113 88	% %	76-123 69-120	04.15.18 08.17 04.15.18 08.17		



# TRC Solutions, Inc, Midland, TX

Sample Id:	WTT-1 8 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-010	Date Collected: 04.11.18 09.45		Sample Depth: 8 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	213	24.8		mg/kg	04.17.18 11.18		1
Oil Range Hydrocarbons (ORO)	PHCG2835	60.8	24.8		mg/kg	04.17.18 11.18		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	207	%	65-144	04.17.18 11.18	**	
n-Triacontane		638-68-6	177	%	46-152	04.17.18 11.18	**	

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0180	0.0180		mg/kg	04.15.18 08.44	U	1
Toluene	108-88-3	< 0.0180	0.0180		mg/kg	04.15.18 08.44	U	1
Ethylbenzene	100-41-4	< 0.0180	0.0180		mg/kg	04.15.18 08.44	U	1
m_p-Xylenes	179601-23-1	0.201	0.0360		mg/kg	04.15.18 08.44		1
o-Xylene	95-47-6	0.0450	0.0180		mg/kg	04.15.18 08.44		1
Xylenes, Total	1330-20-7	0.246	0.018		mg/kg	04.15.18 08.44		1
Total BTEX		0.246	0.018		mg/kg	04.15.18 08.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	106	%	68-120	04.15.18 08.44		
a,a,a-Trifluorotoluene		98-08-8	107	%	71-121	04.15.18 08.44		



# TRC Solutions, Inc, Midland, TX

Sample Id:	<b>WTT-1 8 ft.</b>	Matrix:	Soil	Date Received Sample Depth	l:04.12.18 18.20
Lab Sample Id	: 582241-010	Date Collected	: 04.11.18 09.45		: 8 ft
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046710	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	19.9	3.60		mg/kg	04.15.18 08.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	105	%	76-123	04.15.18 08.44		
a,a,a-Trifluorotoluene		98-08-8	91	%	69-120	04.15.18 08.44		



# TRC Solutions, Inc, Midland, TX

Sample Id:	STT-1 2 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-011	Date Collected: 04.11.18 09.50		Sample Depth: 2 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1		mg/kg	04.17.18 11.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.1	25.1		mg/kg	04.17.18 11.52	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	119	%	65-144	04.17.18 11.52		
n-Triacontane		638-68-6	105	%	46-152	04.17.18 11.52		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
Toluene	108-88-3	< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
Ethylbenzene	100-41-4	< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
m_p-Xylenes	179601-23-1	< 0.0391	0.0391		mg/kg	04.15.18 11.27	U	1
o-Xylene	95-47-6	< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
Xylenes, Total	1330-20-7	< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
Total BTEX		< 0.0195	0.0195		mg/kg	04.15.18 11.27	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	99	%	68-120	04.15.18 11.27		
a,a,a-Trifluorotoluene		98-08-8	105	%	71-121	04.15.18 11.27		



# TRC Solutions, Inc, Midland, TX

Sample Id:	<b>STT-1 2 ft.</b>	Matrix:	Soil	Date Received Sample Depth	l:04.12.18 18.20
Lab Sample Id	: 582241-011	Date Collected	1: 04.11.18 09.50		: 2 ft
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046710	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91		mg/kg	04.15.18 11.27	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	98	%	76-123	04.15.18 11.27		
a,a,a-Trifluorotoluene		98-08-8	90	%	69-120	04.15.18 11.27		



# TRC Solutions, Inc, Midland, TX

Sample Id:	STT-1 4 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-012	Date Collected: 04.11.18 09.55		Sample Depth: 4 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.2	25.2		mg/kg	04.17.18 14.05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.2	25.2		mg/kg	04.17.18 14.05	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	115	%	65-144	04.17.18 14.05		
n-Triacontane		638-68-6	105	%	46-152	04.17.18 14.05		

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.75	3.75		mg/kg	04.15.18 11.54	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	2	460-00-4 98-08-8	106 96	% %	76-123 69-120	04.15.18 11.54 04.15.18 11.54		



# TRC Solutions, Inc, Midland, TX

Sample Id:	STT-1 6 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id: 582241-013		Date Collected	: 04.11.18 10.00	Sample Depth: 6 ft		
Analytical Method: DRO-ORO By SW8015B Prep Method						
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9		mg/kg	04.17.18 14.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<24.9	24.9		mg/kg	04.17.18 14.38	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	114	%	65-144	04.17.18 14.38		
n-Triacontane		638-68-6	97	%	46-152	04.17.18 14.38		

Analytical Me	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.60	3.60		mg/kg	04.15.18 12.20	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene		460-00-4 98-08-8	93 89	% %	76-123 69-120	04.15.18 12.20 04.15.18 12.20		



# TRC Solutions, Inc, Midland, TX

Sample Id:	STT-1 8 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-014	Date Collected: 04.11.18 10.05		Sample Depth: 8 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.2	25.2		mg/kg	04.17.18 15.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.2	25.2		mg/kg	04.17.18 15.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	105	%	65-144	04.17.18 15.11		
n-Triacontane		638-68-6	92	%	46-152	04.17.18 15.11		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT	% Moisture:			
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
Toluene	108-88-3	< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
Ethylbenzene	100-41-4	< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
m_p-Xylenes	179601-23-1	< 0.0392	0.0392		mg/kg	04.15.18 12.47	U	1
o-Xylene	95-47-6	< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
Xylenes, Total	1330-20-7	< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
Total BTEX		< 0.0196	0.0196		mg/kg	04.15.18 12.47	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	102	%	68-120	04.15.18 12.47		
a,a,a-Trifluorotoluene		98-08-8	106	%	71-121	04.15.18 12.47		


## TRC Solutions, Inc, Midland, TX

Sample Id:	STT-1 8 ft.	Matrix:	Soil	Date Received	1:04.12.18 18.20	
Lab Sample Id: 582241-014		Date Collected	1:04.11.18 10.05	Sample Depth: 8 ft		
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046710	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.92	3.92		mg/kg	04.15.18 12.47	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	97	%	76-123	04.15.18 12.47		
a,a,a-Trifluorotoluene		98-08-8	89	%	69-120	04.15.18 12.47		



## TRC Solutions, Inc, Midland, TX

Sample Id:	NTT-1B 5 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-015	Date Collected	:04.11.18 10.10	Sample Depth: 5 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	33.1	25.0		mg/kg	04.17.18 15.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0		mg/kg	04.17.18 15.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	118	%	65-144	04.17.18 15.44		
n-Triacontane		638-68-6	100	%	46-152	04.17.18 15.44		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B	
Tech:	MIT			% Moisture:		
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight	
Seq Number:	3046705					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
Toluene	108-88-3	< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
Ethylbenzene	100-41-4	< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
m_p-Xylenes	179601-23-1	< 0.0342	0.0342		mg/kg	04.15.18 13.14	U	1
o-Xylene	95-47-6	< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
Xylenes, Total	1330-20-7	< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
Total BTEX		< 0.0171	0.0171		mg/kg	04.15.18 13.14	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	101	%	68-120	04.15.18 13.14		
a,a,a-Trifluorotoluene		98-08-8	104	%	71-121	04.15.18 13.14		



## TRC Solutions, Inc, Midland, TX

Sample Id:	<b>NTT-1B 5 ft.</b>	Matrix:	Soil	Date Received:04.12.18 18.20		
Lab Sample Id	l: 582241-015	Date Collected	l: 04.11.18 10.10	Sample Depth: 5 ft		
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046710	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.42	3.42		mg/kg	04.15.18 13.14	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	98	%	76-123	04.15.18 13.14		
a,a,a-Trifluorotoluene		98-08-8	87	%	69-120	04.15.18 13.14		



## TRC Solutions, Inc, Midland, TX

Sample Id:	NTT-1B 6 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20	
Lab Sample Id	: 582241-016	Date Collected	: 04.11.18 10.15	Sample Depth: 6 ft		
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P	
Tech:	PGM			% Moisture:		
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight	
Seq Number:	3047041					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1		mg/kg	04.17.18 16.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.1	25.1		mg/kg	04.17.18 16.17	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	108	%	65-144	04.17.18 16.17		
n-Triacontane		638-68-6	92	%	46-152	04.17.18 16.17		

Analytical Met	thod: TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046710				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.75	3.75		mg/kg	04.15.18 13.41	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene a,a,a-Trifluorotoluene	4	460-00-4 98-08-8	92 88	% %	76-123 69-120	04.15.18 13.41 04.15.18 13.41		



## TRC Solutions, Inc, Midland, TX

Sample Id:	NTT-1A 7 ft.	Matrix:	Soil	Date Received	:04.12.18 18.20
Lab Sample Id	: 582241-017	Date Collected	: 04.11.18 10.20	Sample Depth:	:7 ft
Analytical Me	thod: DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	PGM			% Moisture:	
Analyst:	PGM	Date Prep:	04.16.18 12.00	Basis:	Wet Weight
Seq Number:	3047041				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	197	24.9		mg/kg	04.17.18 16.52		1
Oil Range Hydrocarbons (ORO)	PHCG2835	27.4	24.9		mg/kg	04.17.18 16.52		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
Tricosane		638-67-5	182	%	65-144	04.17.18 16.52	**	
n-Triacontane		638-68-6	135	%	46-152	04.17.18 16.52		

Analytical Me	thod: BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	04.13.18 09.15	Basis:	Wet Weight
Seq Number:	3046705				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0180	0.0180		mg/kg	04.15.18 02.23	U	1
Toluene	108-88-3	< 0.0180	0.0180		mg/kg	04.15.18 02.23	U	1
Ethylbenzene	100-41-4	< 0.0180	0.0180		mg/kg	04.15.18 02.23	U	1
m_p-Xylenes	179601-23-1	< 0.0360	0.0360		mg/kg	04.15.18 02.23	U	1
o-Xylene	95-47-6	< 0.0180	0.0180		mg/kg	04.15.18 02.23	U	1
Xylenes, Total	1330-20-7	< 0.018	0.018		mg/kg	04.15.18 02.23	U	1
Total BTEX		< 0.018	0.018		mg/kg	04.15.18 02.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	115	%	68-120	04.15.18 02.23		
a,a,a-Trifluorotoluene		98-08-8	109	%	71-121	04.15.18 02.23		



## TRC Solutions, Inc, Midland, TX

Sample Id:	<b>NTT-1A 7 ft.</b>	Matrix:	Soil	Date Received Sample Depth	:04.12.18 18.20
Lab Sample Id	l: 582241-017	Date Collected	: 04.11.18 10.20		:7 ft
Analytical Me Tech: Analyst: Seq Number:	thod: TPH GRO by EPA 8015 Mod. MIT MIT 3046710	Date Prep:	04.13.18 09.15	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	11.1	3.60		mg/kg	04.15.18 02.23		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	100	%	76-123	04.15.18 02.23		
a,a,a-Trifluorotoluene		98-08-8	86	%	69-120	04.15.18 02.23		



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Laboration	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



#### **TRC Solutions, Inc**

Moore Sweet

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Analytical Method:	DRO-ORO	By SW8	015B						F	rep Method	: SW	8015P	
Seq Number:	3046668			]	Matrix:	Solid				Date Prep	: 04.1	3.18	
MB Sample Id:	7642543-1-I	BLK		LCS San	ple Id:	7642543-1	I-BKS		LCS	D Sample I	d: 764	2543-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (I	DRO)	<25.0	100	88.2	88	78.6	79	63-139	12	20	mg/kg	04.13.18 17:30	
Surrogate		MB %Rec	MB Flag	L0 %]	CS Rec	LCS Flag	LCSD %Rec	D LCSD	I	limits	Units	Analysis Date	
Tricosane		132		1	10		104		6	5-144	%	04.13.18 17:30	
n-Triacontane		118		8	6		85		4	6-152	%	04.13.18 17:30	

DRO-ORO	By SW8	015B						Р	rep Method	l: SW	8015P	
3047041				Matrix:	Solid				Date Prep	o: 04.1	6.18	
7642690-1-H	BLK		LCS Sar	nple Id:	7642690-	1-BKS		LCS	D Sample I	ld: 764	2690-1-BSD	
	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
DRO)	<25.0	100	72.3	72	74.5	75	63-139	3	20	mg/kg	04.17.18 03:49	
	MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Ree	) LCSI c Flag	) L	imits	Units	Analysis Date	
	101		9	€7		99		6	5-144	%	04.17.18 03:49	
	94		5	83		82		4	6-152	%	04.17.18 03:49	
	DRO-ORO 3047041 7642690-1-F	DRO-ORO By SW8 3047041 7642690-1-BLK MB Result DRO) <25.0 MB %Rec 101 94	DRO-ORO By SW8015B 3047041 7642690-1-BLK MB Spike Result Amount DRO) <25.0 100 MB MB %Rec Flag 101 94	MB   Spike   LCS   Sar     047041   7642690-1-BLK   LCS Sar     MB   Spike   LCS     Result   Amount   Result     DRO)   <25.0	MRO-ORO By SW8015B Matrix:   3047041 Matrix:   7642690-1-BLK LCS Sample Id:   MB Spike LCS LCS   DRO) <25.0	MRO-ORO By SW8015B Matrix: Solid   3047041 Matrix: Solid   7642690-1-BLK LCS Sample Id: 7642690-   MB Spike LCS LCS LCSD Result Result %Rec Result   DRO) <25.0	MRO-ORO By SW8015B Matrix: Solid   3047041 Matrix: Solid   7642690-1-BLK LCS Sample Id: 7642690-1-BKS   MB Spike LCS LCS LCSD LCSD   ORO) <25.0	MRO-ORO By SW8015B Matrix: Solid   3047041 Matrix: Solid   7642690-1-BLK LCS Sample Id: 7642690-1-BKS   MB Spike LCS LCS LCS LCSD LCSD LCSD Limits   0RO) <25.0	DRO-ORO By SW8015B P   3047041 Matrix: Solid   7642690-1-BLK LCS Sample Id: 7642690-1-BKS LCS   MB Spike LCS LCS LCSD LCSD LCSD LISD MR %RPD   DRO) <25.0	MB Spike LCS LCS LCSD LCSD LCSD LCSD LCSD Matrix Solid Date Prep Method   7642690-1-BLK LCS Sample Id: 7642690-1-BKS LCSD LCSD LCSD LCSD Matrix %Rep RepU LCSD LCSD LCSD LCSD Matrix %Rep RepU Limits %Rep RepU Repu Repu Matrix %Rep Repu Rep Repu Rep	DRO-ORO By SW8015B Prep Method: SW   3047041 Matrix: Solid Date Prep: 04.1   7642690-1-BLK LCS Sample Id: 7642690-1-BKS LCSD Sample Id: 7642690-1-BKS   MB Spike LCS LCS LCSD LCSD LCSD Result %Rec CSD LCSD LImits %RPD RPD Limit Units   DRO) <25.0	Prep Method: SW8015B3047041Matrix: SolidDate Prep: $04.16.18$ 7642690-1-BLKLCS Sample Id: $7642690-1$ -BKSLCSD Sample Id: $7642690-1$ -BSDMB ResultSpike AmountLCS NeeuLCSD NeeuLCSD NeeuLCSD NeeuLOSD NeeuMalysis NeeuAnalysis DateDRO<25.0

Analytical Method:	DRO-ORO	By SW8	015B						Р	rep Method	l: SW	8015P	
Seq Number:	3046668				Matrix:	Soil				Date Prep	o: 04.1	3.18	
Parent Sample Id:	582241-006			MS San	nple Id:	582241-0	06 S		MS	D Sample I	d: 582	241-006 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (I	ORO)	103	100	160	57	195	92	63-139	20	20	mg/kg	04.13.18 15:09	Х
Surrogate				N %]	1S Rec	MS Flag	MSD %Rec	MSD Flag	) L	imits	Units	Analysis Date	
Tricosane				1	38		173	**	6	5-144	%	04.13.18 15:09	
n-Triacontane				1	14		140		40	5-152	%	04.13.18 15:09	

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result

MS = Matrix Spike B = Spike AddedD = MSD/LCSD % Rec



#### **TRC Solutions, Inc**

Moore Sweet

Analytical Method: DRO	ORO By SW8015B
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Analytical Method:	DRO-ORO	By SW8	015B						Р	rep Method	: SW	8015P	
Seq Number:	3047041			1	Matrix:	Soil				Date Prep	: 04.1	6.18	
Parent Sample Id:	582357-001			MS Sam	ple Id:	582357-00	01 S		MS	D Sample I	d: 582	357-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (I	DRO)	<24.9	99.7	78.6	79	77.1	77	63-139	2	20	mg/kg	04.17.18 05:33	
Surrogate				M %I	IS Rec	MS Flag	MSD %Rec	MSD Flag	I	imits	Units	Analysis Date	
Tricosane				11	13		113		6	5-144	%	04.17.18 05:33	
n-Triacontane				9	3		89		4	6-152	%	04.17.18 05:33	

Analytical Method:	BTEX by EPA 802	1B							Prep Meth	od: SW	5030B	
Seq Number:	3046672			Matrix:	Solid				Date Pr	ep: 04.1	3.18	
MB Sample Id:	7642631-1-BLK		LCS Sar	nple Id:	7642631-	1-BKS		LC	SD Sampl	e Id: 764	2631-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	) RPD Lin	it Units	Analysis Date	Flag
Benzene	< 0.0200	2.00	1.67	84	1.70	85	55-120	2	20	mg/kg	04.13.18 15:31	
Toluene	< 0.0200	2.00	1.59	80	1.63	82	77-120	2	20	mg/kg	04.13.18 15:31	
Ethylbenzene	< 0.0200	2.00	1.61	81	1.65	83	77-120	2	20	mg/kg	04.13.18 15:31	
m_p-Xylenes	< 0.0400	4.00	3.20	80	3.30	83	78-120	3	20	mg/kg	04.13.18 15:31	
o-Xylene	< 0.0200	2.00	1.60	80	1.65	83	78-120	3	20	mg/kg	04.13.18 15:31	
Surrogate	MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Re	) LCS c Flag	D g	Limits	Units	Analysis Date	
4-Bromofluorobenzene	91		Ģ	90		91			68-120	%	04.13.18 15:31	
a,a,a-Trifluorotoluene	88		5	80		86			71-121	%	04.13.18 15:31	

BTEX by EPA 802	IB						]	Prep Meth	od: SW:	5030B	
3046705		Ν	Aatrix:	Solid				Date Pr	ep: 04.1	3.18	
7642667-1-BLK		LCS Sam	ple Id:	7642667-	1-BKS		LC	SD Sample	e Id: 7642	2667-1-BSD	
MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	ORPD Lim	it Units	Analysis Date	Flag
< 0.0200	2.00	1.91	96	1.67	84	55-120	13	20	mg/kg	04.14.18 14:06	
< 0.0200	2.00	1.93	97	1.93	97	77-120	0	20	mg/kg	04.14.18 14:06	
< 0.0200	2.00	1.91	96	1.91	96	77-120	0	20	mg/kg	04.14.18 14:06	
< 0.0400	4.00	3.85	96	3.85	96	78-120	0	20	mg/kg	04.14.18 14:06	
< 0.0200	2.00	1.91	96	1.91	96	78-120	0	20	mg/kg	04.14.18 14:06	
MB %Rec	MB Flag	LC %R	CS lec	LCS Flag	LCSD %Rec	LCS Flag	D 1 g	Limits	Units	Analysis Date	
93		8	8		88		(	58-120	%	04.14.18 14:06	
96		8	8		86		-	71-121	%	04.14.18 14:06	
	BTEX by EPA 802: 3046705 7642667-1-BLK	BTEX by EPA 8021B   3046705   7642667-1-BLK   MB Spike   <0.0200	BTEX by EPA 8021B     3046705   M     7642667-1-BLK   LCS Sam     MB   Spike   LCS     Result   Amount   Result     <0.0200	BTEX by EPA 8021B   3046705 Matrix:   7642667-1-BLK LCS Sample Id:   MB Spike LCS LCS   <	BTEX by EPA 8021B   3046705 Matrix: Solid   7642667-1-BLK LCS Sample Id: 7642667-   MB Spike LCS LCS LCSD Result   <0.0200	BTEX by EPA 8021B   3046705 Matrix: Solid   7642667-1-BLK LCS Sample Id: 7642667-1-BKS   MB Spike LCS LCS LCSD Result %Rec   <0.0200	BTEX by EPA 8021B   3046705 Matrix: Solid   7642667-1-BLK LCS Sample Id: 7642667-1-BKS   MB Spike LCS LCS LCSD LCSD LISD   <0.0200	BTEX by EPA 8021B Matrix: Solid   3046705 Matrix: Solid   7642667-1-BLK LCS Sample Id: 7642667-1-BKS LCS   MB Spike Result LCS LCS LCSD <thlcsd< th=""> LCSD LCSD</thlcsd<>	BTEX by EPA 8021B Prep Meth   3046705 Matrix: Solid Date Pr   7642667-1-BLK LCS Sample Id: 7642667-1-BKS LCSD Sample   MB Spike LCS LCS LCS LCSD Matrix: Solid LCSD Sample    MB Spike LCS LCS LCSD Matrix: Solid LCSD Sample    40.0200 2.00 1.91 96 1.67 84 55-120 13 20   <0.0200	BTEX by EPA 8021B Prep Method: SW3   3046705 Matrix: Solid Date Prep: 04.1   7642667-1-BLK LCS Sample Id: 7642667-1-BKS LCSD Sample Id: 7642   MB Spike LCS LCS LCSD LCSD Matrix: Solid LCSD Sample Id: 7642   MB Spike LCS LCS LCSD LCSD LCSD Matrix: %RPD RPD Limit Units   <0.0200	BTEX by EPA 8021B Prep Method: SW5030B   3046705 Matrix: Solid Date Prep: 04.13.18   7642667-1-BLK LCS Sample Id: 7642667-1-BKS LCSD Sample Id: 7642667-1-BSD   MB Spike LCS LCS LCS LCSD LCSD LCSD LCSD Analysis   <0.0200

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result

MS = Matrix Spike B = Spike AddedD = MSD/LCSD % Rec



#### **TRC Solutions, Inc**

Moore Sweet

Analytical Method:	BTEX by EPA	8021B
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Analytical Method:	BTEX by EPA 802	1B						]	Prep Metho	d: SW	5030B	
Seq Number:	3046672		Ν	Matrix:	Soil				Date Pre	ep: 04.1	3.18	
Parent Sample Id:	582241-006		MS Sam	ple Id:	582241-00	)6 S		Μ	SD Sample	Id: 582	241-006 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPI	) RPD Limi	t Units	Analysis Date	Flag
Benzene	< 0.0193	1.93	1.58	82	1.44	73	54-120	9	25	mg/kg	04.13.18 12:34	
Toluene	< 0.0193	1.93	1.60	83	1.57	80	57-120	2	25	mg/kg	04.13.18 12:34	
Ethylbenzene	< 0.0193	1.93	1.66	86	1.64	84	58-131	1	25	mg/kg	04.13.18 12:34	
m_p-Xylenes	< 0.0385	3.85	3.36	87	3.28	83	62-124	2	25	mg/kg	04.13.18 12:34	
o-Xylene	< 0.0193	1.93	1.68	87	1.62	83	62-124	4	25	mg/kg	04.13.18 12:34	
Surrogate			M %I	IS Rec	MS Flag	MSD %Rec	MSI Flag	) ] g	Limits	Units	Analysis Date	
4-Bromofluorobenzene			10	)1		103		(	58-120	%	04.13.18 12:34	
a,a,a-Trifluorotoluene			9	1		86			71-121	%	04.13.18 12:34	

Analytical Method:	BTEX by EPA 802	1B						]	Prep Meth	od: SW:	5030B	
Seq Number:	3046705			Matrix:	Soil				Date Pr	ep: 04.1	3.18	
Parent Sample Id:	582241-017		MS San	nple Id:	582241-0	17 S		M	SD Sampl	e Id: 5822	241-017 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPE	) RPD Lin	nit Units	Analysis Date	Flag
Benzene	< 0.0198	1.98	2.10	106	2.19	114	54-120	4	25	mg/kg	04.15.18 02:50	
Toluene	< 0.0198	1.98	2.15	109	2.15	112	57-120	0	25	mg/kg	04.15.18 02:50	
Ethylbenzene	< 0.0198	1.98	2.26	114	2.22	116	58-131	2	25	mg/kg	04.15.18 02:50	
m_p-Xylenes	< 0.0396	3.96	4.51	114	4.42	115	62-124	2	25	mg/kg	04.15.18 02:50	
o-Xylene	< 0.0198	1.98	2.25	114	2.34	122	62-124	4	25	mg/kg	04.15.18 02:50	
Surrogate			N %	1S Rec	MS Flag	MSD %Rec	MSI Flag	) ] ;	Limits	Units	Analysis Date	
4-Bromofluorobenzene			1	12		104		(	58-120	%	04.15.18 02:50	
a,a,a-Trifluorotoluene			9	95		96		7	71-121	%	04.15.18 02:50	

Analytical Method:	TPH GRO	by EPA	8015 Mod.						P	rep Method	l: SW	5030B	
Seq Number:	3046675				Matrix:	Solid				Date Prep	<b>b:</b> 04.1	13.18	
MB Sample Id:	7642632-1-1	BLK		LCS Sar	nple Id:	7642632-	1-BKS		LCS	D Sample I	ld: 764	2632-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO		<4.00	20.0	16.6	83	17.7	89	35-129	6	20	mg/kg	04.13.18 16:52	
Surrogate		MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Re	) LCSE c Flag	) [	imits	Units	Analysis Date	
4-Bromofluorobenzene		92		ç	<del>9</del> 1		97		7	6-123	%	04.13.18 16:52	
a,a,a-Trifluorotoluene		110		ç	<del>9</del> 9		94		6	9-120	%	04.13.18 16:52	

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result

MS = Matrix Spike B = Spike AddedD = MSD/LCSD % Rec



#### **TRC Solutions, Inc**

Moore Sweet

Analytical Method:	TPH GRO	by EPA	8015 Mod.						P	rep Method	l: SW	5030B	
Seq Number:	3046710				Matrix:	Solid				Date Prep	o: 04.	13.18	
MB Sample Id:	7642673-1-	BLK		LCS Sar	nple Id:	7642673-	1-BKS		LCS	D Sample l	d: 764	2673-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO		<4.00	20.0	17.9	90	18.8	94	35-129	5	20	mg/kg	04.15.18 00:06	
Surrogate		MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Ree	) LCSE c Flag		limits	Units	Analysis Date	
4-Bromofluorobenzene		88		9	91		93		7	6-123	%	04.15.18 00:06	
a,a,a-Trifluorotoluene		119		9	93		71		6	9-120	%	04.15.18 00:06	

Analytical Method:	TPH GRO	by EPA	8015 Mod.						Р	rep Method	I: SW	5030B	
Seq Number:	3046675				Matrix:	Soil				Date Prep	o: 04.1	3.18	
Parent Sample Id:	582241-006			MS Sar	nple Id:	582241-00	06 S		MS	D Sample I	ld: 582	241-006 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO		<3.89	19.5	14.7	75	15.3	78	35-129	4	20	mg/kg	04.13.18 13:28	
Surrogate				N %	/IS Rec	MS Flag	MSD %Rec	MSD Flag	L	imits	Units	Analysis Date	
4-Bromofluorobenzene				1	15		122		7	5-123	%	04.13.18 13:28	
a,a,a-Trifluorotoluene				:	82		81		6	9-120	%	04.13.18 13:28	

TPH GRO	by EPA	8015 Mod.						Р	rep Method	l: SW	5030B	
3046710				Matrix:	Soil				Date Prep	<b>b:</b> 04.1	13.18	
582241-017			MS Sar	nple Id:	582241-0	17 S		MS	D Sample l	ld: 582	241-017 SD	
	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
	11.1	19.0	31.6	108	29.4	92	35-129	7	20	mg/kg	04.15.18 03:44	
			N %	AS Rec	MS Flag	MSD %Rec	MSD c Flag		limits	Units	Analysis Date	
			1	02		98		7	6-123	%	04.15.18 03:44	
				74		69		6	9-120	%	04.15.18 03:44	
	<b>TPH GRO</b> 3046710 582241-017	<b>TPH GRO by EPA</b> 3046710 582241-017 <b>Parent</b> <b>Result</b> 11.1	<b>TPH GRO by EPA 8015 Mod.</b> 3046710 582241-017 <b>Parent Spike Result Amount</b> 11.1 19.0	TPH GRO by EPA 8015 Mod.     3046710     582241-017   MS Sar     Parent   Spike   MS     Result   Amount   Result     11.1   19.0   31.6     %   1   1	TPH GRO by EPA 8015 Mod.   3046710 Matrix:   582241-017 MS Sample Id:   Parent Result Amount MS Result %Rec   11.1 19.0 31.6 108   MS %Rec 102 74	TPH GRO by EPA 8015 Mod.   3046710 Matrix: Soil   582241-017 MS Sample Id: 582241-0   Parent Result Amount MS MS MSD Result   11.1 19.0 31.6 108 29.4   MS MS MS   102 74 74	TPH GRO by EPA 8015 Mod.   3046710 Matrix: Soil   582241-017 MS Sample Id: 582241-017 S   Parent Result Amount MS MS MS Result %Rec MSD %Rec   11.1 19.0 31.6 108 29.4 92   MS MS %Rec MS MS %Rec MSD %Rec   102 98 74 69	Matrix: Soil   3046710 Matrix: Soil   582241-017 MS Sample Id: 582241-017 S   Parent Spike Result MS MS MSD MSD Limits   11.1 19.0 31.6 108 29.4 92 35-129   MS MS MS MSD MSD MSD   102 98 102 98 102 98   74 69 69 69 69	TPH GRO by EPA 8015 Mod. P   3046710 Matrix: Soil   582241-017 MS Sample Id: 582241-017 S MS   Parent Result Amount MS MS MSD MSD Limits %RPD   11.1 19.0 31.6 108 29.4 92 35-129 7   MS MS MS MSD MSD MSD MSD Limits %RPD   11.1 19.0 31.6 108 29.4 92 35-129 7   MS MS MSD MSD MSD MSD Limits %RPD   102 98 7 7 74 69 6	Prep Method   3046710 Matrix: Soil Date Prep   582241-017 MS Sample Id: 582241-017 S MSD Sample Id:   Parent Result Amount MS MS MSD MSD Limits %RPD RPD Limit   11.1 19.0 31.6 108 29.4 92 35-129 7 20   MS MS MS MSD MSD MSD Limits MSD Limits   11.1 19.0 31.6 108 29.4 92 35-129 7 20   MS MS MS MSD MSD MSD Limits   102 98 76-123 69 69-120	Prep Methol: SW   3046710 Matrix: Soil Date Prep: 04.1   582241-017 MS Sample Id: 582241-017 S MSD Sample Id: 582   Parent Result Amount MS MS MSD MSD Limits %RPD RPD Limit Units   11.1 19.0 31.6 108 29.4 92 35-129 7 20 mg/kg   MS MS MS MS MSD MSD MSD Limits Units   11.1 19.0 31.6 108 29.4 92 35-129 7 20 mg/kg   102 98 76-123 % % 74 69 69-120 %	Prep Method: SW5030B   3046710 Matrix: Soil Date Prep: 04.13.18   582241-017 MS Sample Id: 582241-017 SD SMSD Sample Id: 582241-017 SD   Parent Result Spike Amount MS NGR MS NGR MSD NGR Limits NRPD RPD Limit Units Analysis Date   11.1 19.0 31.6 108 29.4 92 35-129 7 20 mg/kg 04.15.18 03:44   11.1 19.0 31.6 108 29.4 92 35-129 7 20 mg/kg 04.15.18 03:44   MS MS MS MSD MSD MSD MSD Limits Vnits Analysis Date   102 98 76-123 % 04.15.18 03:44

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result

MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

XENCO Setting the Standard since 1990 Stafford, Texas (281-240-4200)

# CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334) Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300)		Midland, <sup>7</sup>	exas (432	704-526	1)						LIOU	X, Ariz	ona (460-3	0060-99				
12/2-8 C				\$1	ww.xen	co com									enco Job #		58220	14
							r		a the	1000		111	Analytical I	nformatio			Matrix	Codes
Culent / Reporting Information			Pro	ject Info	mation							-						
TRC Environmental Corporation		Project Nam Moore Swe	a/Number: tet												_	_	W = Wa	er
Company Address: 2057 Commerce Drive		Project Loca Lea County,	tion: MM														S = Soil GW =Gr	Sed/Solid ound Water
Midland, TX 79703 Email: Phone No.		Involue Ter																inking Water
ilowry@trcsolutions.com 432.466.4460 2000fer@trcsolutions.com		PAALP C/O C	amille Bryan														N=NS N=NS	rface water
Project Contact:																		age aan/Sea Water
ocer Lowry Samplers's Name: Zach Conder		Invoice:									Ext	00						Ð
		Collection				Ň	mber of	presen	red bottl	Se	Mar	0518					WW= W: A = Air	ste Water
No. Freid ID / Point of Collection	Sample Depth	Date	Time	Moterio	# Of	soH/Zn Cl	Cetate	HO#	POSHE	3NC HO3	08 Hd.	8 XET	ysn					
1 TT-14ft	.4	4/11/2018	6:00	S	1	N H	H	'N 'H	N	N	1 ×	8 ×	Ы			_	Field Comme	nts
2 TT-16ft	9	4/11/2018	9.05	S	-	-				$\square$	×	-				-	- (	
3 TT-18ft	õ	4/11/2018	0.10	S	-	+	-			Ŧ	< >	-					-sr	
4 TT-1 10 ft	, ie	4/11/2018	9, 10 0, 12	S	-	+	-	-		-	< >	_					n:	
5 TT-1 12 ft	12	4/11/2018	00.0	v	-	┝		+		-	: >	_				_	2	
6 TT-1 14 ft	14	4/11/2018	9.20	v	-	-		+			< >	/>	>				10,	
7 WTT-1 2 ft	; ;	4/11/2018	9.20	s,		+	-	+	1		< >	< >	<				3	
8 WTT-1 4 ft	4	4/11/2018	9:30	0 0		+	1				< >	<	+			_	c .	
9 WTT-16ft	r û	4/11/2018	9.30	S		╀		-			< >	+		+		_	0	
10 WTT-1 8 ft	• ē	4/11/2018	9:40	0		-	-	╈	╈		< >	>				+	2	
11 STT-1 2 ft	• ē	4/11/2018	9:45	0.00		+		╀			< >	<   >				_	01	
12 STT-14ft	4 4	4/11/2018	6:6	0 0		_	-	+	_		< >	×	-			+	11	
13 STT-16ft	+ i	4/11/2018	66:8	0	.   .	+	1	+			< >		+			_	12	
14 STT-18ft	6 6	4/11/2018	10:00	, v		+		+			< >	;	+			_	13	
15 NTT-1B 5 ft	io ii	4/11/2018	10:05	о <i>и</i>	-   -	+		+	_		× ,	× ;	_			_	14	
16 NTT-1B6ft	•	01001117	10:10	, ,	- ,	+		+			<	×	+			_	15	
10 NTT-1A 7 ft	i م	4/11/2018	10:15	u a				_	_		× ;		+				11	
Turnaround Time ( Business days)			10:20	- 2	a Deliver	ahle info	mation -	-			×	×	-		-	_	11	
Same Day TAT													$\left  \right $	Notes:				E TO A DO
							ןכ	Level IV	(Full Dat	a Pkg /ra	w data)		IIOWN	(@trcsol	tions.com		zconder@trcsolutio	S.COM
			Leve	III Std 0	C+ For	ns		TRRP Le	Vel IV				CJBr	<u>vant@pa</u>	alp.com		algroves@paalp.col	
2 Day EMERGENCY X Contract TAT			Leve	3 (CLP	Forms)			UST / RC	411				kblac	kburn@ti	csolutions.com			
3 Day EMERGENCY			TRR	Check	(Ist											4		
TAT Starts Day received by Lab, if received by 5:00	mq			1	17								FED-F	X / UPS-	racking #			
Relinguished by Sampler	MUST BED	OCUMENTED	BELOW EAC	AME OF	MPL BS C	HANGE	OSSESSI	ON, INCL	UDING CC	URIER D	LIVERY	-	-		- Autom			
	Attended The	25	Roceived	X	V	00	BX C	elinquisl	hed By:			Date 7	ime:	Rec	eived By:			
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Notice: Notice: Signature of this document and relinquishment of samples constitut losses or expenses incurred by the Client if such loses are due to circumstances bey	is a valid purch ond the contra	hase order from of of Xenco A r	i client comparation	iy to Xenc	o, its affili	ates and s	Ibcontract	ors. It ask	igns stand	ard terms		ions of se	irvice. Xenco	vill be liable	only for the cost o	of samples and s	hall not assume any resp	insibility for any
be enforced unless previously negotiated under a fully executed client contract.							· malaid r		Ditty win c	S Induken	1 IIIE COSI	of sampi	ss. Any sampi	es received	by Xenco but not a	analyzed will bê7	invoiced at \$5 per sample	These terms will

Page 39 of 40

Final 1.000



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

Client: TRC Solutions, Inc	Acceptable Temperatu	re Range: 0 - 6 degC
Date/ Time Received: 04/12/2018 06:20:39 PM	Air and Metal samples	Acceptable Range: Ambient
Work Order #: 582241	Temperature Measurin	g device used: IR-3
Sample Re	ceipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6*Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	No	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brenda Ward Brenda Ward Checklist reviewed by: Hely Taylor Holly Taylor

Date: 04/12/2018

Date: 04/16/2018

# Analytical Report 582464

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

NM Moore Sweet

303081

26-APR-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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LCS / LCSD Recoveries	21
MS / MSD Recoveries	24
Chain of Custody	26
Sample Receipt Conformance Report	27



26-APR-18

SUP ACCREDUE

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **582464 NM Moore Sweet** Project Address: Lea Co, NM

#### Joel Lowry:

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) 582464. 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. 582464 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



#### Sample Id

ETT-1 @ 2ft
ETT-1 @ 4ft
ETT-1 @ 6ft
ETT-1 @ 8ft
TT-2 @ Surface
TT-2 @ 2ft
TT-3 @ 2ft

# Sample Cross Reference 582464



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

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	04-13-18 08:20	2 ft	582464-001
S	04-13-18 08:30	4 ft	582464-002
S	04-13-18 08:40	6 ft	582464-003
S	04-13-18 08:50	8 ft	582464-004
S	04-13-18 09:10	ft	582464-005
S	04-13-18 09:20	2 ft	582464-006
S	04-13-18 09:30	2 ft	582464-007



#### CASE NARRATIVE

#### Client Name: TRC Solutions, Inc Project Name: NM Moore Sweet

Project ID:303081Work Order Number(s):582464

Report Date:26-APR-18Date Received:04/13/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3047055 BTEX by EPA 8021 Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3047058 BTEX by EPA 8021

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3047180 BTEX by EPA 8021 Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Xylenes, Total

Total BTEX

# Certificate of Analytical Results 582464



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

NM Moore Sweet

Sample Id:	ETT-1 @ 2ft		Matrix:	Soil		Sample	e Depth: 2 ft		
Lab Sample Id: 582464-001		Date Collecte	ed: 04.13.18 0	Date Received: 04.13.18 15.53					
Analytical Met	thod: TPH by SW8015 Mod					Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Sea Number:	3046890		Date Prep: 04	4.16.18 16.00					
1			Prep seq: 76	542747					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	ange Hydrocarbons (GRO)	PHC610	9.65	15.0	7.99	mg/kg	04.17.18 09:23	J	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	80.2	15.0	8.12	mg/kg	04.17.18 09:23		1
Oil Range H	Iydrocarbons (ORO)	PHCG2835	<8.12	15.0	8.12	mg/kg	04.17.18 09:23	U	1
Total TPH		PHC635	89.85		7.99	mg/kg	04.17.18 09:23		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooct	tane		105		70 - 1	35 %	5		
o-Terpheny	1		111		70 - 1	35 %	)		
Analytical Met	thod: BTEX by EPA 8021					Prep M	lethod: 5030B		
Analyst.	ALI		% Moist:			Tech	ALI		
Sea Number	3047055		Date Prep: 04	1 17 18 08 00		reen.	1125		
Seq Rumber.	5047055		Drop sog: 76	542819					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene		71-43-2	< 0.000388	0.00202	0.000388	mg/kg	04.17.18 15:42	U	1
Toluene		108-88-3	< 0.000459	0.00202	0.000459	mg/kg	04.17.18 15:42	U	1
Ethylbenzen	ne	100-41-4	< 0.000569	0.00202	0.000569	mg/kg	04.17.18 15:42	U	1
m_p-Xylene	es	179601-23-1	< 0.00102	0.00403	0.00102	mg/kg	04.17.18 15:42	U	1
o-Xylene		95-47-6	< 0.000347	0.00202	0.000347	mg/kg	04.17.18 15:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		

0.000347

0.000347

mg/kg

mg/kg

04.17.18 15:42

04.17.18 15:42

U

U

< 0.000347

< 0.000347

1330-20-7





TRC Solutions, Inc, Midland, TX

Sample Id: ETT-1 @ 4ft	Matrix:	Soil		Sample	e Depth: 4 ft				
Lab Sample Id: 582464-002		Date Collected: 04.13.18 08.30			Date Received: 04.13.18 15.53				
Analytical Method: TPH by SW8015 Mod					Prep M	lethod: 1005			
Analyst: ARM		% Moist:			Tech:	ARM			
Seq Number: 3046890		Date Prep: 04	.16.18 16.00						
		Prep seq: 76	542747						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Gasoline Range Hydrocarbons (GRO)	PHC610	9.55	15.0	7.99	mg/kg	04.17.18 09:49	J	1	
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	176	15.0	8.11	mg/kg	04.17.18 09:49		1	
Oil Range Hydrocarbons (ORO)	PHCG2835	17.5	15.0	8.11	mg/kg	04.17.18 09:49		1	
Total TPH	PHC635	203.05		7.99	mg/kg	04.17.18 09:49			
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag	
1-Chlorooctane		96		70 - 1	35 %	'n			
o-Terphenyl		98		70 - 1	35 %	, )			
Sample Id: ETT-1 @ 6ft		Matrix:	Soil		Sample	e Depth: 6 ft			
Lab Sample Id: 582464-003		Date Collecte	ed: 04.13.18 0	8.40	Date R	eceived: 04.13.	18 15.5	53	
Analytical Method: TPH by SW8015 Mod					Prep M	lethod: 1005			
Analyst: ARM		% Moist:			Tech:	ARM			
Seq Number: 3046890		Date Prep: 04	.16.18 16.00						
		Prep seq: 76	542747						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	04.17.18 10:15	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<8.12	15.0	8.12	mg/kg	04.17.18 10:15	U	1	
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.12	15.0	8.12	mg/kg	04.17.18 10:15	U	1	
Total TPH	PHC635	<7.99		7.99	mg/kg	04.17.18 10:15	U		
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag	

Surrogate	76 Recovery	Linits	Units	Analysis Date
1-Chlorooctane	97	70 - 135	%	
o-Terphenyl	98	70 - 135	%	





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

NM Moore Sweet

Sample Id: ETT-1 @ 8ft				Sample	Depth: 8 ft		
	Date Collected	d: 04.13.18 0	Date Received: 04.13.18 15.53				
				Prep M	lethod: 1005		
	% Moist:			Tech:	ARM		
	Date Prep: 04	.18.18 07.00					
	Prep seq: 76	42935					
CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
PHC610	<7.99	15.0	7.99	mg/kg	04.18.18 09:39	U	1
C10C28DRO	<8.11	15.0	8.11	mg/kg	04.18.18 09:39	U	1
PHCG2835	<8.11	15.0	8.11	mg/kg	04.18.18 09:39	U	1
					04 10 10 00 20		
	CAS Number PHC610 C10C28DRO PHCG2835	Matrix: Date Collected % Moist: Date Prep: 04. Prep seq: 764 CAS Number Result PHC610 <7.99 C10C28DRO <8.11 PHC622835 <8.11	Matrix: Soil   Date Collected: 04.13.18 0   % Moist: 0   Date Prep: 04.18.18 07.00   Prep seq: 7642935   CAS Number Result MQL   PHC610 <7.99	Matrix: Soil   Date Collected: 04.13.18 08.50   % Moist:    Date Prep: 04.18.18 07.00   Prep seq: 7642935   CAS Number Result MQL SDL   PHC610 <7.99	Matrix: Soil Sample   Date Collected: 04.13.18 08.50 Date R   Date Collected: 04.13.18 08.50 Date R   Prep M % Moist: Tech:   Date Prep: 04.18.18 07.00 Prep seq:   CAS Result MQL SDL Units   PHC610 <7.99	Matrix: Soil Sample Depth: 8 ft   Date Collected: 04.13.18 08.50 Date Received: 04.13.18   Date Collected: 04.13.18 08.50 Date Received: 04.13.18   Prep Method: 1005   % Moist: Tech: ARM   Date Prep: 04.18.18 07.00   Prep seq: 7642935   CAS Number Result MQL SDL Units Analysis Date   PHC610 <7.99	Matrix: Soil Sample Depth: 8 ft   Date Collected: 04.13.18 08.50 Date Received: 04.13.18 15.5   Prep Method: 1005   % Moist: Tech: ARM   Date Prep: 04.18.18 07.00   Prep seq: 7642935   CAS Number MQL SDL Units Analysis Date Flag   PHC610 <7.99

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	92	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analyst: AL
-------------

Seq Number: 3047058

Date Prep: 04.18.18 11.15 Prep seq: 7642865

% Moist:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	< 0.000387	0.00201	0.000387	mg/kg	04.18.18 19:58	U	1
Toluene	108-88-3	< 0.000458	0.00201	0.000458	mg/kg	04.18.18 19:58	U	1
Ethylbenzene	100-41-4	< 0.000568	0.00201	0.000568	mg/kg	04.18.18 19:58	U	1
m_p-Xylenes	179601-23-1	< 0.00102	0.00402	0.00102	mg/kg	04.18.18 19:58	U	1
o-Xylene	95-47-6	< 0.000346	0.00201	0.000346	mg/kg	04.18.18 19:58	U	1
Xylenes, Total	1330-20-7	< 0.000346		0.000346	mg/kg	04.18.18 19:58	U	
Total BTEX		< 0.000346		0.000346	mg/kg	04.18.18 19:58	U	
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag
1,4-Difluorobenzene		94		70 - 1	130 %	ó		
4-Bromofluorobenzene		88		70 - 1	130 %	ó		

Prep Method: 5030B

ALJ

Tech:



o-Xylene

Xylenes, Total

Total BTEX

#### **Certificate of Analytical Results** 582464



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

NM Moore Sweet

Sample Id: TT-2 @ Surface		Matrix:	Soil		Sample	Depth:		
Lab Sample Id: 582464-005		Date Collecte	ed: 04.13.18 09	9.10	Date R	eceived: 04.13.1	18 15.5	53
Analytical Method: TPH by SW8015 Mod					Prep M	ethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 3047233		Date Prep: 04	.18.18 07.00					
		Prep seq: 76	542935					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	04.19.18 03:55	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	492	15.0	8.11	mg/kg	04.19.18 03:55		1
Oil Range Hydrocarbons (ORO)	PHCG2835	202	15.0	8.11	mg/kg	04.19.18 03:55		1
Total TPH	PHC635	694		7.99	mg/kg	04.19.18 03:55		
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag
1-Chlorooctane		89		70 - 1	35 %	1		
o-Terphenyl		83		70 - 1	35 %			
Analytical Method: BTFX by EPA 8021					Pren M	ethod: 5030B		
Analysical Method. BTEX by ETA 6021		% Moist			Tesh			
Analyst: ALJ		% IVIOISt.			Tech:	ALJ		
Seq Number: 3047058		Date Prep: 04	.18.18 11.15					
		Prep seq: 76	542865					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	< 0.000384	0.00200	0.000384	mg/kg	04.18.18 20:17	U	1
Toluene	108-88-3	< 0.000455	0.00200	0.000455	mg/kg	04.18.18 20:17	U	1
Ethylbenzene	100-41-4	< 0.000564	0.00200	0.000564	mg/kg	04.18.18 20:17	U	1
m_p-Xylenes	179601-23-1	< 0.00101	0.00399	0.00101	mg/kg	04.18.18 20:17	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	80	70 - 130	%		
4-Bromofluorobenzene	72	70 - 130	%		

0.00200

< 0.000344

< 0.000344

< 0.000344

95-47-6

1330-20-7

mg/kg

mg/kg

mg/kg

04.18.18 20:17

04.18.18 20:17

04.18.18 20:17

1

U

U

U

0.000344

0.000344

0.000344





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

Sample Id:	TT-2 @ 2ft		Matrix:	Soil		Sample	Depth: 2 ft			
Lab Sample Id	l: 582464-006		Date Collecte	ed: 04.13.18 09	Date Received: 04.13.18 15.53					
Analytical Me	thod: TPH by SW8015 Mod	l				Prep M	lethod: 1005			
Analyst:	ARM		% Moist:			Tech:	ARM			
Sea Number	20.47022		Data Prop. 0	1 18 18 07 00						
Seq Nulliber.	5047255		Date Tiep. 0-							
			Prep seq: 70	642935						
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	04.18.18 10:57	U	1	
Diesel Ran	ge Organics (DRO)	C10C28DRO	20.4	15.0	8.12	mg/kg	04.18.18 10:57		1	
Oil Range I	Hydrocarbons (ORO)	PHCG2835	<8.12	15.0	8.12	mg/kg	04.18.18 10:57	U	1	
Total TPH		PHC635	20.4		7.99	mg/kg	04.18.18 10:57			
Surrogate			% Recovery		Limits	Uni	its Analysis	Date	Flag	
1-Chlorooc	tane		96		70 - 1	35 %				
o-Terpheny	1		101		70 - 1	35 %	)			
A 1 / 134										
Analytical Me	thod: BIEX by EPA 8021					Prep M	lethod: 5030B			
Analyst:	ALJ		% Moist:			Tech:	ALJ			
Seq Number:	3047058		Date Prep: 04	4.18.18 11.15						
			Prep seq: 70	642865						
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Benzene		71-43-2	< 0.000389	0.00202	0.000389	mg/kg	04.18.18 20:37	U	1	
Toluene		108-88-3	< 0.000460	0.00202	0.000460	mg/kg	04.18.18 20:37	U	1	
Ethylbenzer	ne	100-41-4	< 0.000570	0.00202	0.000570	mg/kg	04.18.18 20:37	U	1	
m_p-Xylen	es	179601-23-1	< 0.00102	0.00404	0.00102	mg/kg	04.18.18 20:37	U	1	
o-Xylene		95-47-6	< 0.000348	0.00202	0.000348	mg/kg	04.18.18 20:37	U	1	
Xylenes, To	otal	1330-20-7	< 0.000348		0.000348	mg/kg	04.18.18 20:37	U		
Total BTEX	K		< 0.000348		0.000348	mg/kg	04.18.18 20:37	U		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	88	70 - 130	%		



4-Bromofluorobenzene

# Certificate of Analytical Results 582464



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

NM Moore Sweet

Sample Id: TT-3 @ 2ft		Matrix:	Soil		Sample	Depth: 2 ft			
Lab Sample Id: 582464-007		Date Collecte	ed: 04.13.18 0	9.30	.30 Date Received: 04.13.1				
Analytical Method: TPH by SW8015 Me	bd				Prep M	lethod: 1005			
Analyst: ARM		% Moist:			Tech:	ARM			
Seq Number: 3047233		Date Prep: 04	4.18.18 07.00						
		Prep seq: 76	542935						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Gasoline Range Hydrocarbons (GRO)	PHC610	29.0	15.0	7.99	mg/kg	04.18.18 11:17		1	
Diesel Range Organics (DRO)	C10C28DRO	250	15.0	8.12	mg/kg	04.18.18 11:17		1	
Oil Range Hydrocarbons (ORO)	PHCG2835	57.6	15.0	8.12	mg/kg	04.18.18 11:17		1	
Total TPH	PHC635	336.6		7.99	mg/kg	04.18.18 11:17			
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag	
1-Chlorooctane		98		70 - 1	35 %				
o-Terphenyl		101		70 - 1	35 %				
Analytical Method: BTEX by EPA 8021					Prep M	ethod: 5030B			
Analyst: ALI		% Moist:			Tech:	ALJ			
Sea Number: 3047180		Date Pren: 04	4.18.18 17.00						
Seq Pulliser. 504/100		Dran sage 76	542949						
Paramatar	CAS	Posult	MOI	SDI	Unite	Analysis	Flag	Dil Factor	
	Number	Kesuit	MQL	SDL	Onits	Date	riag		
Benzene	71-43-2	< 0.000388	0.00202	0.000388	mg/kg	04.19.18 09:51	U	1	
Toluene	108-88-3	< 0.000459	0.00202	0.000459	mg/kg	04.19.18 09:51	U	1	
Ethylbenzene	100-41-4	< 0.000569	0.00202	0.000569	mg/kg	04.19.18 09:51	U	1	
m_p-Xylenes	179601-23-1	0.00409	0.00403	0.00102	mg/kg	04.19.18 09:51		1	
o-Xylene	95-47-6	< 0.000347	0.00202	0.000347	mg/kg	04.19.18 09:51	U	1	
Xylenes, Total	1330-20-7	0.00409		0.000347	mg/kg	04.19.18 09:51			
Total BTEX		0.00409		0.000347	mg/kg	04.19.18 09:51			
Surrogate		% Recovery		Limits	Uni	its Analysis	Date	Flag	
1 4 Differench and a		04		70 1	20 0/				

84

70 - 130

%





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

<i>a</i>			0.00	150	0.00		1 4 4 0 00 00		
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
			Prep seq: 70	542747					
Seq Number:	3046890		Date Prep: 04	4.16.18 16.00					
Analyst:	ARM		% Moist:			Tech:	ARM		
Analytical Met	hod: TPH by SW8015 Mod					Prep Metho	od: 1005		
Lab Sample Id	: 7642747-1-BLK		Date Collecte	ed:		Date Recei	ived:		
Sample Id:	7642747-1-BLK		Matrix:	Solid		Sample De	pth:		

8.13 mg/kg	04.16.18 23:30	U	1
8.13 mg/kg	04.16.18 23:30	U	1
8 mg/kg	04.16.18 23:30	U	
	8.13 mg/kg 8 mg/kg	8.13   mg/kg   04.16.18   23:30     8   mg/kg   04.16.18   23:30	8.13 mg/kg 04.16.18 23:30 U 8 mg/kg 04.16.18 23:30 U

Surrogate	% Recovery	Limits Un	its Analysis Date	Flag
1-Chlorooctane	104	70 - 135 %	)	
o-Terphenyl	105	70 - 135 %	)	
Sample Id: 7642819-1-BLK	Matrix: Solid	Sample	e Depth:	
Lab Sample Id: 7642819-1-BLK	Date Collected:	Date R	eceived:	
Analytical Method: BTEX by EPA 8021		Prep M	lethod: 5030B	
Analyst: ALJ	% Moist:	Tech:	ALJ	
Seq Number: 3047055	Date Prep: 04.17.18 08	.00		
	Prep seq: 7642819			

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	< 0.000383	0.00199	0.000383	mg/kg	04.17.18 09:20	U	1
Toluene	108-88-3	< 0.000453	0.00199	0.000453	mg/kg	04.17.18 09:20	U	1
Ethylbenzene	100-41-4	< 0.000561	0.00199	0.000561	mg/kg	04.17.18 09:20	U	1
m_p-Xylenes	179601-23-1	< 0.00101	0.00398	0.00101	mg/kg	04.17.18 09:20	U	1
o-Xylene	95-47-6	< 0.000342	0.00199	0.000342	mg/kg	04.17.18 09:20	U	1
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag
1,4-Difluorobenzene		95		70 -	130 %			
4-Bromofluorobenzene		83		70 -	130 %			





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

Sample Id:	7642865-1-BLK		Matrix:	Solid		Sample De	epth:		
Lab Sample Id:	7642865-1-BLK		Date Collecte	ed:		Date Rece	ived:		
Analytical Met	hod: BTEX by EPA 8021					Prep Meth	od: 5030B		
Analyst:	ALJ		% Moist:			Tech:	ALJ		
Seq Number:	3047058		Date Prep: 04	4.18.18 08.00					
			Prep seq: 76	542865					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor

Benzene		71-43-2	< 0.000386	0.00200	0.000386	mg/kg	04.18.18 09:03	U	1
Toluene		108-88-3	< 0.000457	0.00200	0.000457	mg/kg	04.18.18 09:03	U	1
Ethylbenze	ene	100-41-4	< 0.000566	0.00200	0.000566	mg/kg	04.18.18 09:03	U	1
m_p-Xyler	nes	179601-23-1	< 0.00102	0.00401	0.00102	mg/kg	04.18.18 09:03	U	1
o-Xylene		95-47-6	< 0.000345	0.00200	0.000345	mg/kg	04.18.18 09:03	U	1
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1,4-Difluo	robenzene		91		70 - 1	30 %	Ó		
4-Bromofl	uorobenzene		90		70 - 1	.30 %	Ď		
Sample Id:	7642935-1-BLK		Matrix:	Solid		Sample	e Depth:		
Lab Sample I	d: 7642935-1-BLK		Date Collecte	ed:		Date R	eceived:		
Analytical Mo	ethod: TPH by SW8015 Mo	od				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3047233		Date Prep: 04	4.18.18 07.00					
			Prep seq: 76	542935					
Paramete	er	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	04.18.18 08:38	U	1
Diesel Ran	nge Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	04.18.18 08:38	U	1
Oil Range	Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	04.18.18 08:38	U	1
Total TPH		PHC635	<8		8	mg/kg	04.18.18 08:38	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	111	70 - 135	%		





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

Sample Id:	7642949-1-BLK	Ma	trix:	Solid	Sample Depth:		
Lab Sample Id:	7642949-1-BLK	Dat	te Collected:		Date Received:		
Analytical Met	hod: BTEX by EPA 8021				Prep Method:	5030B	
Analyst:	ALJ	% N	Moist:		Tech:	ALJ	
Seq Number:	3047180	Dat	te Prep: 04.1	8.18 17.00			
		Pre	ep seq: 7642	2949			
	CA	s			Anal	vsis	Dil Factor

Parameter	Number	Result	MQL	SDL	Units	Date	Flag	Dirractor
Benzene	71-43-2	< 0.000382	0.00198	0.000382	mg/kg	04.19.18 00:46	U	1
Toluene	108-88-3	< 0.000452	0.00198	0.000452	mg/kg	04.19.18 00:46	U	1
Ethylbenzene	100-41-4	< 0.000560	0.00198	0.000560	mg/kg	04.19.18 00:46	U	1
m_p-Xylenes	179601-23-1	< 0.00101	0.00397	0.00101	mg/kg	04.19.18 00:46	U	1
o-Xylene	95-47-6	< 0.000342	0.00198	0.000342	mg/kg	04.19.18 00:46	U	1
Surrogate		% Recovery		Limits	Un	its Analysis	Date	Flag

1,4-Difluorobenzene	90	70 - 130 %
Bromofluorobenzene	83	70 - 130 %



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



# Project Name: NM Moore Sweet

Vork Orders : 582464	' <del>'</del>		Project II	<b>):</b> 303081					
Lab Batch #: 3047055	Sample: 7642819-1-BKS / 1	BKS Batch: 1 Matrix: Solid							
Units: mg/kg	Date Analyzed: 04/17/18 07:44	SUI	RROGATE RE	COVERY	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0276	0.0300	92	70-130				
4-Bromofluorobenzene		0.0278	0.0300	93	70-130				
Lab Batch #: 3047055	Sample: 7642819-1-BSD / }	BSD Batch	n: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 04/17/18 08:03	SUI	RROGATE RE	<b>COVERY</b>	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0304	0.0300	101	70-130				
4-Bromofluorobenzene		0.0315	0.0300	105	70-130				
Lah Batch #: 3047055	Sample: 582469-001 S / M:	S Batch	n: 1 Matrix:	Soil	<u>                                     </u>				
Units: mg/kg	Date Analyzed: 04/17/18 08:22	SUI	RROGATE RE	ECOVERY S	STUDY				
BTE	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene		0.0306	0.0300	102	70-130				
4-Bromofluorobenzene		0.0310	0.0300	103	70-130				
Lab Batch #: 3047055	Sample: 7642819-1-BLK / ]	BLK Batch	n: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 04/17/18 09:20	SUI	RROGATE RE	<b>ECOVERY</b> S	STUDY				
BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1 4-Difluorobenzene	Anaryus	0.0286	0.0300	95	70-130				
4-Bromofluorobenzene		0.0248	0.0300	83	70-130				
Lab Batch #: 3047055	Sample: 582469-001 SD / N	MSD Batch	n: 1 Matrix:	: Soil	<u>                                      </u>				
Units: mg/kg	Date Analyzed: 04/17/18 12:49	SUI	RROGATE RE	<b>ECOVERY</b>	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0299	0.0300	100	70-130				
4-Bromofluorobenzene		0.0319	0.0300	106	70-130				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



# Project Name: NM Moore Sweet

Vork Orders : 582464	`,		Project II	<b>J:</b> 303081		
Lab Batch #: 3047058	Sample: 7642865-1-BKS / J	BKS Batch	n: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/18/18 07:08	SU!	RROGATE RF	<b>ECOVERY</b> ?	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0305	0.0300	102	70-130	
4-Bromofluorobenzene		0.0316	0.0300	105	70-130	
Lab Batch #: 3047058	Sample: 7642865-1-BSD / !	BSD Batcl	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/18/18 07:27	SU	RROGATE RF	ECOVERY ?	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0272	0.0300	91	70-130	1
4-Bromofluorobenzene		0.0313	0.0300	104	70-130	
Lah Batch #: 3047058	Sample: 582705-006 S / M;	S Batcl	h: 1 Matrix	:Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 04/18/18 07:46	SU!	RROGATE RI	ECOVERY ?	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0288	0.0300	96	70-130	
4-Bromofluorobenzene		0.0324	0.0300	108	70-130	·
Lab Batch #: 3047058	Sample: 582705-006 SD / N	MSD Batcl	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/18/18 08:05	SU!	RROGATE RF	ECOVERY ?	STUDY	
BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Difluorobenzene	Anaryus	0.0303	0.0300	101	70-130	i
4-Bromofluorobenzene		0.0349	0.0300	116	70-130	
Lab Batch #: 3047058	Sample: 7642865-1-BLK /	BLK Batc!	h: 1 Matrix	: Solid	<u>                                      </u>	
Units: mg/kg	Date Analyzed: 04/18/18 09:03	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0272	0.0300	91	70-130	
4-Bromofluorobenzene	i	0.0271	0.0300	90	70-130	·

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



# Project Name: NM Moore Sweet

Nork Orders : 582464	r <b>,</b>		Project II	<b>J:</b> 303081					
Lab Batch #: 3047180	Sample: 7642949-1-BKS / J	/ BKS Batch: 1 Matrix: Solid							
Units: mg/kg	Date Analyzed: 04/18/18 22:51	SUF	<b>ROGATE RF</b>	<b>COVERY</b> ?	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0297	0.0300	99	70-130				
4-Bromofluorobenzene		0.0261	0.0300	87	70-130				
Lab Batch #: 3047180	Sample: 7642949-1-BSD / !	BSD Batch	n: 1 Matrix	:Solid	· · ·				
Units: mg/kg	Date Analyzed: 04/18/18 23:10	SUI	RROGATE RF	<b>COVERY</b>	STUDY				
BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1 4-Difluorobenzene	Allalytts	0.0294	0.0300	98	70-130				
4-Bromofluorobenzene		0.0283	0.0300	94	70-130				
L ab Ratch # 3047180	Samule: 582461-001 S / M <sup>c</sup>	s Batch	- <sup>1</sup> Matrix	•Soil	<u>                                     </u>				
Units: mg/kg	Date Analyzed: 04/18/18 23:29	SUI	RROGATE RF	ECOVERY (	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0295	0.0300	98	70-130				
4-Bromofluorobenzene		0.0287	0.0300	96	70-130				
Lab Batch #: 3047180	Sample: 582461-001 SD / N	ASD Batch	1: 1 Matrix:	:Soil					
<b>Units:</b> mg/kg	Date Analyzed: 04/18/18 23:49	SUF	ROGATE RF	<b>ECOVERY</b>	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1.4-Difluorobenzene		0.0301	0.0300	100	70-130				
4-Bromofluorobenzene		0.0287	0.0300	96	70-130				
Lab Batch #: 3047180	Sample: 7642949-1-BLK / '	BLK Batch	n: 1 Matrix	:Solid	<u> </u>				
Units: mg/kg	Date Analyzed: 04/19/18 00:46	SUI	RROGATE RF	<b>ECOVERY</b>	STUDY				
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0271	0.0300	90	70-130				
4-Bromofluorobenzene	;	0.0249	0.0300	83	70-130				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



# Project Name: NM Moore Sweet

Vork Orders : 582464	,		Project II	<b>D:</b> 303081					
Lab Batch #: 3046890	Sample: 7642747-1-BLK /	BLK Batch: 1 Matrix: Solid							
Units: mg/kg	Date Analyzed: 04/16/18 23:30	SU.	RROGATE RE	ECOVERY	STUDY				
TPH	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	-	104	100	104	70-135				
o-Terphenyl		52.3	50.0	105	70-135				
Lab Batch #: 3046890	Sample: 7642747-1-BKS /	BKS Batcl	h: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 04/16/18 23:57	SU	RROGATE RH	ECOVERY	STUDY				
TPH	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	111	100	111	70-135				
o-Terphenyl		55.9	50.0	112	70-135				
Lab Batch #: 3046890	<b>Sample:</b> 7642747-1-BSD / 1	BSD Batcl	h: <sup>1</sup> Matrix:	Solid	I				
<b>Units:</b> mg/kg	Date Analyzed: 04/17/18 00:24	SU.	RROGATE RE	ECOVERY	STUDY				
TPH	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Analytes	122	100	122	70.125				
o-Terphenyl		60.1	50.0	123	70-135				
Lab Batch #: 3046890	Sample: 582461-001 S / M	S Bata	h. 1 Matrix	Soil	10 100				
Lab Batch #: 5040850	Date Analyzed: 04/17/18 01.18	S Batch	RROGATE RE	ECOVERY	STUDY				
TPH I	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		111	99.7	111	70-135				
o-Terphenyl		54.1	49.9	108	70-135				
Lab Batch #: 3046890	Sample: 582461-001 SD / M	MSD Batcl	h: <sup>1</sup> Matrix:	Soil					
Units: mg/kg	Date Analyzed: 04/17/18 01:44	SU.	RROGATE RE	ECOVERY	STUDY				
TPH	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	<i>.</i>	113	99.8	113	70-135				
o-Terphenyl		54.7	49.9	110	70-135				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



# Project Name: NM Moore Sweet

Vork Orders : 582464	,		Project II	<b>):</b> 303081				
Lab Batch #: 3047233	Sample: 7642935-1-BLK / ]	/ BLK Batch: 1 Matrix: Solid						
Units: mg/kg	Date Analyzed: 04/18/18 08:38	SU	RROGATE RE	ECOVERY	STUDY			
ТРНІ	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		103	100	103	70-135			
o-Terphenyl		55.7	50.0	111	70-135			
Lab Batch #: 3047233	Sample: 7642935-1-BKS / ]	BKS Bate	h: <sup>1</sup> Matrix:	Solid				
Units: mg/kg	Date Analyzed: 04/18/18 08:58	SU	RROGATE RE	ECOVERY	STUDY			
ТРНІ	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		109	100	109	70-135			
o-Terphenyl		53.4	50.0	107	70-135			
Lab Batch #: 3047233	Sample: 7642935-1-BSD / 1	BSD Batcl	h: <sup>1</sup> Matrix:	Solid	1			
Units: mg/kg	<b>Date Analyzed:</b> 04/18/18 09:19	SU	RROGATE RE	ECOVERY	STUDY			
ТРН І	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			נטן				
1-Chlorooctane		111	100	111	70-135			
o-Terpnenyl		52.7	50.0	105	70-135			
Lab Batch #: 3047233	Sample: 582464-004 S / MS	B Batel	h: 1 Matrix:	Soil				
Units: mg/kg	Date Analyzed: 04/18/18 09:58	50	RROGATE RE	COVERY	STUDY			
TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
1 Chloropotono	Analytes	00.0	00.0	[10]	70.125			
o-Terphenyl		99.0 43.6	99.9 50.0	99 87	70-135			
	g 1 5924(4.004 SD / )	43.0	50.0	67 6-11	70-133			
Lab Batch #: 3047233	Sample: 382464-004 SD / M	ASD Bate	h: 1 Matrix: RROGATE RE	COVERY	STUDY			
Units: mg/kg	Date Analyzed: 04/18/18 10:18							
TPH I	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		117	99.7	117	70-135			
o-Terphenyl		41.1	49.9	82	70-135			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



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



#### Project Name: NM Moore Sweet

Work Order #: 582464							Proj	ject ID:	303081			
Analyst: ALJ	Da	ate Prepar	ed: 04/17/20	18			Date A	nalyzed:	04/17/2018			
Lab Batch ID: 3047055 Sample: 7642819-1-	BKS	Batc	<b>h #:</b> 1		Matrix: Solid							
Units: mg/kg		BLAN	K /BLANK	SPIKE / 1	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY		
BTEX by EPA 8021 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	< 0.000388	0.101	0.117	116	0.100	0.105	105	11	70-130	35		
Toluene	< 0.000459	0.101	0.112	111	0.100	0.0984	98	13	70-130	35		
Ethylbenzene	< 0.000569	0.101	0.113	112	0.100	0.0960	96	16	70-130	35		
m_p-Xylenes	< 0.00102	0.202	0.232	115	0.200	0.198	99	16	70-130	35		
o-Xylene	< 0.000347	0.101	0.114	113	0.100	0.0988	99	14	70-130	35		
Analyst: ALJ	Da	ate Prepar	ed: 04/18/20	18			Date A	nalyzed:	04/18/2018			
Lab Batch ID: 3047058 Sample: 7642865-1-	BKS	Batc	<b>h #:</b> 1		Matrix: Solid							
Units: mg/kg		BLAN	K /BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY		
BTEX by EPA 8021 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	<0.000388	0.101	0.128	127	0.100	0.127	127	1	70-130	35		
Toluene	< 0.000459	0.101	0.122	121	0.100	0.122	122	0	70-130	35		
Ethylbenzene <0.000569 0.101 0				121	0.100	0.122	122	0	70-130	35		
m_p-Xylenes	< 0.00102	0.202	0.251	124	0.200	0.251	126	0	70-130	35		
o-Xylene	< 0.000347	0.101	0.122	121	0.100	0.123	123	1	70-130	35		

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



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



#### Project Name: NM Moore Sweet

Work Order #: 582464							Proj	ect ID:	303081				
Analyst: ALJ	Da	ate Prepar	red: 04/18/201	18			Date A	nalyzed: (	04/18/2018				
Lab Batch ID: 3047180 Sample: 7642949-1-	BKS	KS Batch #: 1 Matrix: Solid											
Units: mg/kg		BLAN	K/BLANK	SPIKE / ]	BLANK S	3LANK SPIKE DUPLICATE RECOVERY STUDY							
BTEX by EPA 8021 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	<0.000386	0.100	0.115	115	0.101	0.121	120	5	70-130	35			
Toluene	< 0.000457	0.100	0.108	108	0.101	0.116	115	7	70-130	35			
Ethylbenzene	< 0.000567	0.100	0.108	108	0.101	0.116	115	7	70-130	35			
m_p-Xylenes	< 0.00102	0.201	0.222	110	0.202	0.239	118	7	70-130	35			
o-Xylene	< 0.000346	0.100	0.111	111	0.101	0.119	118	7	70-130	35			
Analyst: ARM	D	ate Prepar	ed: 04/16/201	18			Date A	nalyzed: (	04/16/2018				
Lab Batch ID: 3046890 Sample: 7642747-1-	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid				
Units: mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY			
TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1020	102	1000	1080	108	6	70-135	20			
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1000	1100	110	6	70-135	20			

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



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



#### Project Name: NM Moore Sweet

Work Order	#: 582464							Proj	ject ID: 🤅	303081			
Analyst:	ARM	D	<b>Date Prepared:</b> 04/18/2018				<b>Date Analyzed:</b> 04/18/2018						
Lab Batch ID:	<b>:</b> 3047233 <b>Sample:</b> 7642935-1-	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid			
Units:	mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analy	rtes		[B]	[C]	[D]	[E]	Result [F]	[G]					
Gasoline R	Range Hydrocarbons (GRO)	<8.00	1000	979	98	1000	942	94	4	70-135	20		
Diesel Ran	nge Organics (DRO)	<8.13	1000	1020	102	1000	1030	103	1	70-135	20		

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


## Form 3 - MS / MSD Recoveries

#### **Project Name: NM Moore Sweet**



Work Order # :	582464						Project II	<b>):</b> 30308	1			
Lab Batch ID:	3047055	QC- Sample ID:	582469	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	04/17/2018	Date Prepared:	04/17/2	018	An	alyst: A	ALJ					
<b>Reporting Units:</b>	mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[ <b>B</b> ]		[D]	[E]		[G]				
Benzene		<0.000384	0.0998	0.0902	90	0.100	0.104	104	14	70-130	35	
Toluene		< 0.000455	0.0998	0.0836	84	0.100	0.0957	96	13	70-130	35	
Ethylbenzene		<0.000564	0.0998	0.0795	80	0.100	0.0924	92	15	70-130	35	
m_p-Xylenes		<0.00101	0.200	0.163	82	0.201	0.189	94	15	70-130	35	
o-Xylene		<0.000344	0.0998	0.0799	80	0.100	0.0931	93	15	70-130	35	
Lab Batch ID:	3047058	QC- Sample ID:	582705	-006 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	04/18/2018	Date Prepared:	04/18/2	018	An	alyst: A	ALJ					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	BTEX by EPA 8021 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		<0.000383	0.0994	0.0853	86	0.0998	0.0921	92	8	70-130	35	
Toluene		<0.000453	0.0994	0.0812	82	0.0998	0.0870	87	7	70-130	35	
Ethylbenzene		<0.000561	0.0994	0.0798	80	0.0998	0.0863	86	8	70-130	35	
m_p-Xylenes		< 0.00101	0.199	0.166	83	0.200	0.176	88	6	70-130	35	
o-Xylene		<0.000342	0.0994	0.0816	82	0.0998	0.0878	88	7	70-130	35	
L							i		1	1	1	1

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: NM Moore Sweet**



<b>Work Order # :</b> 582464						Project II	<b>):</b> 30308	1			
Lab Batch ID: 3047180 Q	C- Sample ID:	582461	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
<b>Date Analyzed:</b> 04/18/2018	Date Prepared:	04/18/2	018	Ar	nalyst: A	ALJ					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	'RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021 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	<0.000387	0.101	0.0787	78	0.100	0.0951	95	19	70-130	35	
Toluene	<0.000458	0.101	0.0750	74	0.100	0.0896	90	18	70-130	35	
Ethylbenzene	<0.000568	0.101	0.0765	76	0.100	0.0886	89	15	70-130	35	
m_p-Xylenes	< 0.00102	0.201	0.159	79	0.200	0.181	91	13	70-130	35	
o-Xylene	< 0.000346	0.101	0.0823	81	0.100	0.0912	91	10	70-130	35	
Lab Batch ID: 3046890 Q	C- Sample ID:	582461	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
<b>Date Analyzed:</b> 04/17/2018	Date Prepared:	04/16/2	018	Ar	nalyst: A	ARM					
Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	1020	102	998	1020	102	0	70-135	20	
Diesel Range Organics (DRO)	<8.10	997	1050	105	998	1050	105	0	70-135	20	
Lab Batch ID: 3047233 Q	C- Sample ID:	582464	-004 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil	1	1	1	I
<b>Date Analyzed:</b> 04/18/2018	Date Prepared:	04/18/2	018	Ar	halyst: A	ARM					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	'RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	826	83	997	870	87	5	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	857	86	997	875	88	2	70-135	20	

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

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

Setting the Standard Sector 1990       Setting the Standard Sector 1990       Stafford, Tesses (241-492-0300)       Clent / Reporting Information       Company Network       Company Network       Setting the Company       Setting the Company </th <th>San Anti Midland, Pojest Ke Midland, Pojest Ke Pojest Las Ca, Au Invoket Brite Bit 41/3/2018 Bit 41/3/2018 Bit 41/3/2018 Bit 41/3/2018</th> <th>CHAIN OF CUSTODY       Page 1 0/1       Page 1 0/1       Image (210-509-3334)       exas (422-704-5251)       Image 1       Image 1       Project Information       Number       Number<th>View deal         NONE         NONE         Propriet         Propropriet         <td< th=""><th>900)  Remos Job F  all Information  Note::::::::::::::::::::::::::::::::::::</th><th>58246</th></td<></th></th>	San Anti Midland, Pojest Ke Midland, Pojest Ke Pojest Las Ca, Au Invoket Brite Bit 41/3/2018 Bit 41/3/2018 Bit 41/3/2018 Bit 41/3/2018	CHAIN OF CUSTODY       Page 1 0/1       Page 1 0/1       Image (210-509-3334)       exas (422-704-5251)       Image 1       Image 1       Project Information       Number       Number <th>View deal         NONE         NONE         Propriet         Propropriet         <td< th=""><th>900)  Remos Job F  all Information  Note::::::::::::::::::::::::::::::::::::</th><th>58246</th></td<></th>	View deal         NONE         NONE         Propriet         Propropriet <td< th=""><th>900)  Remos Job F  all Information  Note::::::::::::::::::::::::::::::::::::</th><th>58246</th></td<>	900)  Remos Job F  all Information  Note::::::::::::::::::::::::::::::::::::	58246
No. Field ID / Point of Collection	Sample Depth Date	Collection         Number of preserved bother           Time         Violation         Violation           Violation         Violation         Violation	TPH 8015 Chloride E 3TEX 8021		
1 ETT-102/f 2 ETT-102/f	2ft 4/13/2018 4ft 4/13/2018		× ×		
3 ETT-1@6// 4 ETT-1@8//	6H 4/13/2018	840	× >		
5 IT-2@suface S	Surface 4/13/2018	9:10	x		
6 II-2020	211 4/13/2018	820 S 1	× × ×		
7 <u>11-3028</u> 8	211 4/13/2018	930	* *		
9					
Turnaround Time ( Business days)		Data Deliverable information		Notes:	-
Same Day TAT		Level II Std OC	%g /raw data)	@ircsolutions.com	
Next Day EMERGENCY		Level II Std QC+ Forms T12RP Level IV	SCOVI	olds@tresolutions.com	algroves @ paalo.com
2 Day EMERGENCY X Contrast TAT	-	Level 3 (CLP Forma) UST / RG -411	zcons	ter@rcsolutions	sibryant@paalo.com
3 Dwy EMERGENCY		TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00	0 pm		FED-E	X / UPS: Tracking #	
Rainguished hu Sampler	SAMPLE	ISTODY MUST BE DOCUMENTED GELOW EACH TIME SAMFLES CHANGE POSSESSION, INCLUDING COURIE	ER DELIVERY		
Holinquistige by Sampler	SI Perminent	TTT Received By: 1 State of the second seco	Date Time:	Received By:	
Relinguished by:  Dat	ate Time:	Relinquished By:	Date Time:	Received By:	
Relinquished by: Dat	ate Time:	Received By: Custody Seal #	Preserved where applicable	4	On lee Co

Temp: CF:(0-6: -0.2°C) CF:(0-6: -0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) Corrected Temp:



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



Client: TRC Solutions, Inc Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 04/13/2018 03:53:00 PM Temperature Measuring device used : R8 Work Order #: 582464 Comments Sample Receipt Checklist 4.4 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seals intact on shipping container/ cooler? N/A #5 Custody Seals intact on sample bottles? N/A #6\*Custody Seals Signed and dated? N/A #7 \*Chain of Custody present? Yes #8 Any missing/extra samples? No #9 Chain of Custody signed when relinquished/ received? Yes #10 Chain of Custody agrees with sample labels/matrix? Yes #11 Container label(s) legible and intact? Yes #12 Samples in proper container/ bottle? Yes TPH received in bulk container #13 Samples properly preserved? Yes #14 Sample container(s) intact? Yes #15 Sufficient sample amount for indicated test(s)? Yes #16 All samples received within hold time? Yes #17 Subcontract of sample(s)? No #18 Water VOC samples have zero headspace? N/A

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

Analyst:

PH Device/Lot#:

Date: 04/16/2018

Checklist completed by: Katie Lowe Checklist reviewed by: Marsh Kelsey Brooks

Date: 04/17/2018

# Analytical Report 587933

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

Sweet Moore

303081

05-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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SURR_QC_V62	9
LCS / LCSD Recoveries	10
MS / MSD Recoveries	11
Chain of Custody	12



05-JUN-18

SUP ACCREDING

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **587933 Sweet Moore** Project Address: Lea County, NM

#### Joel Lowry:

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) 587933. 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. 587933 will be filed for 45 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,

Knisk

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 587933



## TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-3 4ft	S	05-31-18 13:00	4 ft	587933-001
TT-3 6ft	S	05-31-18 13:15	6 ft	Not Analyzed
TT-3 8ft	S	05-31-18 13:30	8 ft	Not Analyzed
TT-3 10ft	S	05-31-18 13:45	10 ft	Not Analyzed
TT-3 11ft	S	05-31-18 14:00	11 ft	Not Analyzed



#### Client Name: TRC Solutions, Inc Project Name: Sweet Moore

 Project ID:
 303081

 Work Order Number(s):
 587933

Report Date: 05-JUN-18 Date Received: 06/01/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



# Certificate of Analytical Results 587933



### TRC Solutions, Inc, Midland, TX

#### Sweet Moore

Sample Id:	TT-3 4ft		Matrix:	Soil		Sample	e Depth: 4 ft		
Lab Sample Id	: 587933-001		Date Collecte	ed: 05.31.18	13.00	Date R	eceived: 06.01.	18 15.	10
Analytical Met	thod: TPH by SW8015 Mo	od				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052160		Date Prep: 06	5.02.18 15.00	)				
			Prep seq: 70	555909					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	06.03.18 18:57	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	51.9	15.0	8.10	mg/kg	06.03.18 18:57		1
Oil Range H	Hydrocarbons (ORO)	PHCG2835	<8.10	15.0	8.10	mg/kg	06.03.18 18:57	U	1
<b>Total TPH</b>		PHC635	51.9		7.98	mg/kg	06.03.18 18:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	89	70 - 135	%		
o-Terphenyl	92	70 - 135	%		



# Certificate of Analytical Results 587933



### TRC Solutions, Inc, Midland, TX

#### Sweet Moore

Parameter		CAS	Result	MOL	SDL	Units	Analysis	Flag	Dil Factor
			Prep seq:	7655909					
Seq Number:	3052160		Date Prep:	06.02.18 15.00					
Analyst:	ARM		% Moist:			Tech:	ARM		
Analytical Met	hod: TPH by SW8015 Mod					Prep Met	hod: 1005		
Lab Sample Id:	7655909-1-BLK		Date Colle	ected:		Date Rec	eived:		
Sample Id:	7655909-1-BLK		Matrix:	Solid		Sample D	Depth:		

r ai ametei	Number	Result	MQL	SDL	Units	Date	riag	
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.03.18 10:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1
Total TPH	PHC635	<8		8	mg/kg	06.03.18 10:19	U	

% Recovery	Limits	Units	Analysis Date	Flag
99	70 - 135	%		
105	70 - 135	%		
	6 Recovery 99 105	6 Recovery         Limits           99         70 - 135           105         70 - 135	6 Recovery         Limits         Units           99         70 - 135         %           105         70 - 135         %	6 Recovery         Limits         Units         Analysis Date           99         70 - 135         %           105         70 - 135         %



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ 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: Sweet Moore

Vork Orders : 587933	,		Project II	<b>):</b> 303081		
Lab Batch #: 3052160	Sample: 7655909-1-BLK / 1	BLK Batch	h: <u>1</u> Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/03/18 10:19	SU	<b>RROGATE</b> RF	<b>COVERY</b>	STUDY	
TPH t	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		99.0	100	99	70-135	
o-Terphenyl		52.7	50.0	105	70-135	
Lab Batch #: 3052160	Sample: 7655909-1-BKS / J	BKS Batcl	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/03/18 10:40	SU	RROGATE RF	COVERY S	STUDY	
TPH	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		122	100	122	70-135	1
o-Terphenyl		57.0	50.0	114	70-135	
Lab Batch #: 3052160	Sample: 7655909-1-BSD / !	BSD Batcl	h: 1 Matrix	:Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 06/03/18 11:01	SU	RROGATE RF	ECOVERY :	STUDY	
TPH I	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		1
1-Chlorooctane		119	100	119	70-135	
o-Terphenyl		58.8	50.0	118	70-135	
Lab Batch #: 3052160	Sample: 587900-001 S / MS	S Batcł	h: 1 Matrix:	:Soil		
Units: mg/kg	Date Analyzed: 06/03/18 12:48	SU	RROGATE RF	<b>COVERY</b>	STUDY	
TPH t	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		ļ!	լոյ		ļ
1-Chlorooctane		113	99.8	113	70-135	<u> </u>
o-Terphenyl		50.8	49.9	102	70-135	<u>.</u>
Lab Batch #: 3052160	Sample: 587900-001 SD / M	ASD Batch	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/03/18 13:07	501	RROGATE KE	COVERY :	STUDY	
TPH t	oy SW8015 Mod Analvtes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		114	99.8	114	70-135	
o-Terphenyl		52.3	49.9	105	70-135	1
	ļ	1 1	1		1	1

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## **BS / BSD Recoveries**



#### **Project Name:** Sweet Moore

Work Order	#: 587933							Pro	ject ID:	303081		
Analyst:	ARM	D	ate Prepar	red: 06/02/201	8			Date A	nalyzed: (	06/03/2018		
Lab Batch ID:	<b>Sample:</b> 7655909-1-	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOV	ERY STUE	PΥ	
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Posult [F]	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analy	tes		[D]	[C]	נשן	լեյ	Kesutt [F]	[0]				
Gasoline R	Range Hydrocarbons (GRO)	<8.00	1000	918	92	1000	931	93	1	70-135	20	
Diesel Ran	nge Organics (DRO)	<8.13	1000	964	96	1000	987	99	2	70-135	20	

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



## Form 3 - MS / MSD Recoveries

#### **Project Name: Sweet Moore**



Work Order # :	587933						Project II	: 303081	l			
Lab Batch ID:	3052160 Q	C- Sample ID:	587900	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	06/03/2018	Date Prepared:	06/02/2	018	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	FE REC	OVERY	STUDY		
]	TPH by SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range	Hydrocarbons (GRO)	<7.99	998	895	90	998	924	93	3	70-135	20	
Diesel Range Or	ganics (DRO)	14.4	998	992	98	998	1010	100	2	70-135	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.

telinquis	Relinquis	Relinquis	Run dee							LAB # (lab use only)	ORDE	(lab use							Xet The Em
shed by:	shed by	Punuoldo	per sample for TPH if		TT	T	1	Т	T	FIEL	R#	only)	Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	<b>1CO Labor</b> fronmental Lab of Tex
Date	<sup>v</sup> Date	C/11/8	TPH is > 100 mg/Kg		-3 11ft	-3 10ft	F-3 8ft	T-3 6ft	T-3 4ft	D CODE			Sylwia Reynolds	432-466-4450	Midland, TX 79703	2057 Commerce	TRC Solutions, Inc	Joel Lowry	atories
		12		-	11ft	10ft	8ft	6ft	4ft	Beginning Depth									
îme	Ime	ime			1					Ending Depth	1								
Received by ELC	Reented by:	Received by	4		5/31/2018	5/31/2018	5/31/2018	5/31/2018	5/31/2018	Date Sampled									
υT	thread	TUI			14:00	13:45	13:30	13:15	13:00	Time Sampled			e-mail:	Fax No:					
		T	1	-			-	-		Field Filtered			1	15					
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atun	Han	Sea / Sea	Cor		1	111	10.1	1		SAR / ESP / CEC	Ì	5		Stan	1.10				PN.
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ONR	live	ner(s	nme ars li	-					-	Semivolatiles	+	H	lyze		IS PI	11			SIS
ece	Rep	s) ntain	nts:	-		-	-	-		BTEX 8021B/5030 or BTEX 8	260	Н	For		pelin	Lea	100	SWe	32-5 (
pt:/	, <sup>2</sup>	er(s)	5.5	-						RCI	-1	Ч		] TF	e, Li	Cou	3030	et	63-1
~	1	-								N.O.R.M.		-		RP	Polo	nty.	)81	Moc	1800
0	7						-	-	-	Chlorides E 300.1		-			Ca	MM		ore	
2	1	~~-	< -							TCLP Benzene					mille				
	Ē.				×	×	×	×	×	Special Instructions				NPL	Bry				
o.C	ZZZ	ZZZ	zz							RUSH TAT (Pre-Schedule) 24	, 48, 7	2 hrs		DES	ant				
â				$ T_1 $	×	×	×	×	×	Standard TAT					E C		1		

1

# Analytical Report 587934

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

**Sweet Moore** 

303081

05-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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05-JUN-18

SUP ACCREDING

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **587934 Sweet Moore** Project Address: Lea County, NM

#### Joel Lowry:

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) 587934. 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. 587934 will be filed for 45 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,

Knisk

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 587934



## TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
ETT-1a 4ft	S	05-31-18 14:15	4	587934-001
ETT-1a 6ft	S	05-31-18 14:30	6	587934-002
ETT-1a 8ft	S	05-31-18 14:45	8	Not Analyzed
ETT-1a 10ft	S	05-31-18 15:00	10	Not Analyzed
ETT-1a 12ft	S	05-31-18 15:15	12	Not Analyzed
ETT-1a 14ft	S	05-31-18 15:30	14	Not Analyzed



#### Client Name: TRC Solutions, Inc Project Name: Sweet Moore

Project ID:303081Work Order Number(s):587934

Report Date: 05-JUN-18 Date Received: 06/01/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



# Certificate of Analytical Results 587934



### TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id:	ETT-1a 4ft		Matrix:	Soil		Sample	e Depth: 4		
Lab Sample Id	1: 587934-001		Date Collecte	ed: 05.31.18	14.15	Date R	eceived: 06.01.	18 15.1	0
Analytical Me	thod: TPH by SW8015 Mo	d				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052160		Date Prep: 06	5.02.18 15.00	1				
1			Prep seq: 76	555909					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	ange Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	06.03.18 19:17	U	1
Diesel Ran	ge Organics (DRO)	C10C28DRO	323	15.0	8.10	mg/kg	06.03.18 19:17		1
Oil Range Total TPH	Hydrocarbons (ORO)	PHCG2835 PHC635	25.9 348.9	15.0	8.10 7.98	mg/kg mg/kg	06.03.18 19:17 06.03.18 19:17		1
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		90		70 - 1	35 %	, )		
o-Terpheny	/]		94		70 - 1	.35 %	)		
Sample Id:	ETT-1a 6ft		Matrix:	Soil		Sample	e Depth: 6		
Lab Sample Id	1: 587934-002		Date Collecte	ed: 05.31.18	14.30	Date R	eceived: 06.01.	18 15.1	0
Analytical Me	thod: TPH by SW8015 Mo	d				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052253		Date Prep: 06	5.04.18 16.00	1				
			Prep seq: 76	555985					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	ange Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	06.05.18 01:33	U	1
Diesel Ran	ge Organics (DRO)	C10C28DRO	47.5	14.9	8.10	mg/kg	06.05.18 01:33		1
Oil Range l	Hydrocarbons (ORO)	PHCG2835	<8.10	14.9	8.10	mg/kg	06.05.18 01:33	U	1
Total TPH		PHC635	47.5		7.97	mg/kg	06.05.18 01:33		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		96		70 - 1	35 %	5		

97

70 - 135

%



# Certificate of Analytical Results 587934



### TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id:	7655909-1-BLK		Matrix:	Solid		Sample	e Depth:		
Lab Sample Id	: 7655909-1-BLK		Date Collecte	ed:		Date R	eceived:		
Analytical Met	thod: TPH by SW8015 Mo	d				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052160		Date Prep: 06	5.02.18 15.00					
			Prep seq: 76	555909					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	unge Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.03.18 10:19	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1
Oil Range H	Iydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1
Total TPH		PHC635	<8		8	mg/kg	06.03.18 10:19	U	

Surrogate			% Recovery		Limits	Units	Analysis Date	Flag
1-Chlorooc	tane		99		70 - 135	%		
o-Terpheny	1		105		70 - 135	%		
Sample Id:	7655985-1-BLK		Matrix:	Solid	Sa	ample Depth	:	
Lab Sample Id	: 7655985-1-BLK		Date Collecte	ed:	D	ate Received	1:	
Analytical Me	thod: TPH by SW8015 Mod				Pı	ep Method:	1005	
Analyst:	ARM		% Moist:		Te	ech:	ARM	
Seq Number:	3052253		Date Prep: 06	5.04.18 16.00				
			Prep seq: 76	555985				
		CAR				A	alvaia	Dil Fastar

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.04.18 18:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Total TPH	PHC635	<8		8	mg/kg	06.04.18 18:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	94	70 - 135	%		



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ 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: Sweet Moore

		Project IF	<b>):</b> 303081		
Sample: 7655909-1-BLK / J	BLK Batch	ı: <u>1</u> Matrix:	Solid		
Date Analyzed: 06/03/18 10:19	SUI	<b>RROGATE RF</b>	COVERY S	STUDY	
y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	99.0	100	99	70-135	
	52.7	50.0	105	70-135	
Sample: 7655909-1-BKS / J	BKS Batch	a: 1 Matrix:	Solid	<u></u>	
<b>Date Analyzed:</b> 06/03/18 10:40	SUI	RROGATE RF	COVERY S	STUDY	
y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	122	100	122	70-135	1
	57.0	50.0	114	70-135	
	RSD Batcl	•• 1 Matrix	• Solid	<u> </u>	
Date Analyzed: 06/03/18 11:01	SU!	RROGATE RF	ECOVERY (	STUDY	
y SW8015 Mod	Amount Found	True Amount	Recovery	Control Limits	Flags
Analytes	[A]	נשן	%ок [D]	%0K	I
	119	100	119	70-135	ı
	58.8	50.0	118	70-135	
Sample: 587900-001 S / MS	s Batch	1: 1 Matrix:	Soil		
Date Analyzed: 06/03/18 12:48	SUI	RROGATE RF	COVERY	STUDY	
y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes	í	ļ	[D]		i
	113	99.8	113	70-135	
	50.8	49.9	102	70-135	
Sample: 587900-001 SD / N	ASD Batch	1: 1 Matrix:	Soil		
Date Analyzed: 06/03/18 13:07	SUI	RROGATE RF	COVERY S	STUDY	
y SW8015 Mod Analvtes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	114	99.8	114	70-135	
	52.3	49.9	105	70-135	
	Sample: 7655909-1-BLK / F Date Analyzed: 06/03/18 10:19 by SW8015 Mod Analytes Sample: 7655909-1-BKS / F Date Analyzed: 06/03/18 10:40 by SW8015 Mod Analytes Sample: 7655909-1-BSD / F Date Analyzed: 06/03/18 11:01 by SW8015 Mod Analytes Sample: 587900-001 S / MS Date Analyzed: 06/03/18 12:48 by SW8015 Mod Analytes Sample: 587900-001 SD / N Date Analyzed: 06/03/18 13:07 by SW8015 Mod Analytes	Sample:7655909-1-BLK / BLKBatchDate Analyzed:06/03/1810:19SUIy SW8015 ModAmount Found [A]Amount Found [A]Analytes99.052.7Sample:7655909-1-BKS / BKSBatchDate Analyzed:06/03/1810:40SUIy SW8015 ModAmount Found [A]Amount Found [A]Analytes12257.0Sample:7655909-1-BSD / BSDBatchDate Analyzed:06/03/1811:01y SW8015 ModAmount Found [A]Sund Amount Found [A]Date Analyzed:06/03/1811:01y SW8015 ModAmount Found [A]Sund Amount Found [A]Analytes119Date Analyzed:06/03/1812:48Sample:587900-001 S / MSBatch Sund Found [A]Analytes113Date Analyzed:06/03/1812:48Sumple:587900-001 SD / MSDBatch Found [A]Analytes113Sample:587900-001 SD / MSDBatch Found [A]Sample:587900-001 SD / MSDBatch 	Project II Sample:         Project II Matrix:           Date Analyzed:         06/03/18 10:19         SURROGATE         RE           y SW8015 Mod         Amount [A]         True Amount [A]         True Amount [B]           Analytes         99.0         100           52.7         50.0           Sample:         7655909-1-BKS / BKS         Batch:         1         Matrix:           Date Analyzed:         06/03/18 10:40         SURROGATE         RE           y SW8015 Mod         Amount [A]         True Amount [B]         Matrix:           Date Analyzed:         06/03/18 10:40         SURROGATE         RE           y SW8015 Mod         Amount [A]         True [B]         Amount [B]         True Amount [B]           Sample:         7655909-1-BSD / BSD         Batch:         1         Matrix: Date Analyzed:         06/03/18 11:01         True Amount [A]         True [B]           y SW8015 Mod         Amount [A]         True [B]         True Amount [A]         I         Matrix: Date Analyzed:         06/03/18 12:48         SURROGATE         RE           y SW8015 Mod         Amount [A]         III         Matrix: Manount [A]         III         Matrix: Manount [B]         III           Analytes         1         Matrix: Date	Project ID: 303081           Sample:         7655909-1-BLK / BLK         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18 10:19         SURROGATE         RECOVERY S           y SW8015 Mod         Amount Found [A]         True Analytes         Recovery %R           Analytes         99.0         100         99           52.7         50.0         105           Sample:         7655909-1-BKS / BKS         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18 10:40         SURROGATE         Recovery %R           y SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R           Analytes         122         100         122           57.0         50.0         114           Sample:         7655909-1-BSD / BSD         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18 11:01         SURROGATE         Recovery %R         101           y SW8015 Mod         Amount Found [A]         True Amount Mount Found [A]         Matrix: Soil         118           Sample:         587900-001 S / MS         Batch:         1         Matrix: Soil           Date Analyzed:         06/03/18 12:48 <td< td=""><td>Project ID: 303081           Sample:         7655909-1-BLK /BLK         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18         10:19         SURROGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         True [B]         Recovery [D]         Control Limits           Analytes         100         99         70-135           Sample:         7655909-1-BKS / BKS         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18         0:40         SURROGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         True [B]         Recovery %R         Control Limits           ys W8015 Mod         Amount [A]         SurroGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         Surrogatic         Recovery %R         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic</td></td<>	Project ID: 303081           Sample:         7655909-1-BLK /BLK         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18         10:19         SURROGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         True [B]         Recovery [D]         Control Limits           Analytes         100         99         70-135           Sample:         7655909-1-BKS / BKS         Batch:         1         Matrix: Solid           Date Analyzed:         06/03/18         0:40         SURROGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         True [B]         Recovery %R         Control Limits           ys W8015 Mod         Amount [A]         SurroGATE         RECOVERY STUDY           ys W8015 Mod         Amount [A]         Surrogatic         Recovery %R         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic         Recovery StuDY         Control Limits           ys W8015 Mod         Amount [A]         Surrogatic

\* 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: Sweet Moore

Matrix: Sc GATE REC Frue mount [B] 100 50.0 Matrix: Sc GATE REC	blid COVERY S Recovery %R [D] 90 94	Control Limits %R	Flags						
GATE REC Frue nount [B] 100 50.0 Matrix: So GATE REC	Recovery         %R           [D]         90           94         94	Control Limits %R	Flags						
Frue     mount     [B]     100     50.0     Matrix: So     ATE REC	Recovery %R [D]           90           94	Control Limits %R	Flags						
100 50.0 Matrix: So FATE REC	90 94								
50.0 Matrix: Sc ATE REC	94	70-135							
Matrix:Sc ATE REC		70-135							
ATE REC	olid								
	OVERY S	TUDY							
frue nount [B]	Recovery %R [D]	Control Limits %R	Flags						
100	117	70-135							
50.0	110	70-135							
Matrix: Sc	i	<u> </u>							
ATE REC	OVERY S	TUDY							
frue nount	Recovery	Control Limits	Flags						
[8]	-70 K [D]	70 <b>n</b>							
100	119	70-135							
50.0	111	70-135							
IS Batch: 1 Matrix: Soil									
ATE REC	OVERY S	TUDY							
Гrue nount [B]	Recovery %R	Control Limits %R	Flags						
	[D]								
99.9	106	70-135							
50.0	95	70-135							
Matrix: Sc	oil								
ATE REC	OVERY S	TUDY							
<b>Frue</b>	Recovery %R	Control Limits %R	Flags						
[B]	נען								
[ <b>B</b> ]	115	70-135							
	SATE REC       Frue mount [B]       100       50.0       Matrix: Sc       GATE REC       True mount [B]       99.9       50.0       Matrix: Sc       GATE REC       True mount [B]       Sc       GATE REC       True mount [B]	SATE RECOVERY S       True mount     Recovery %R       [B]     %R       [D]     100       100     119       50.0     111       Matrix: Soil       SATE RECOVERY S       True mount     %R       [D]     %R       [D]     99.9       106     50.0       50.0     95       Matrix: Soil       GATE RECOVERY S       True mount     %R       [D]     95       Matrix: Soil       GATE RECOVERY S       True mount     Recovery %R       [B]     %R       [D]     %R       [D]     [D]	SATE RECOVERY STUDYTrue mount [B]Recovery %R [D]Control Limits %R [D]10011970-13550.011170-135Matrix: SoilSATE RECOVERY STUDYTrue mount [B]Recovery %R [D]99.910670-13550.09570-135Matrix: SoilSATE RECOVERY STUDYTrue mount [B]Control %R [D]Control Limits %R [D]True mount [B]Recovery %R [D]Control Limits %R						

\* 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:** Sweet Moore

Work Orde	r #: 587934							Pro	ject ID: 🤅	303081					
Analyst:	ARM	D	ate Prepa	red: 06/02/201	18	<b>Date Analyzed:</b> 06/03/2018									
Lab Batch ID	<b>Sample:</b> 765590	9-1-BKS	Batc	<b>h #:</b> 1		Matrix: Solid									
Units:	mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY									γ				
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag			
Anal	ytes		[B]	[C]	[D]	[E]	Result [F]	[G]							
Gasoline	Range Hydrocarbons (GRO)	<8.00	1000	918	92	1000	931	93	1	70-135	20				
Diesel Ra	ange Organics (DRO)	<8.13	1000	964	96	1000	987	99	2	70-135	20				
Analyst:	ARM	D	ate Prepa	red: 06/04/201	18			Date A	nalyzed: (	06/04/2018					
Lab Batch ID	<b>Sample:</b> 765598	5-1-BKS	BKS Batch #: 1 Matrix: Solid												
Units:	mg/kg		BLAN	K /BLANK S	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	)Y				
Anal	TPH by SW8015 Mod vtes	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			
Gasoline	Range Hydrocarbons (GRO)	<8.00	1000	866	87	1000	913	91	5	70-135	20				
Diesel Ra	ange Organics (DRO)	<8.13	1000	911	91	1000	955	96	5	70-135	20				

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



## Form 3 - MS / MSD Recoveries

#### **Project Name: Sweet Moore**



Work Order # :	587934	<b>Project ID: </b> 303081										
Lab Batch ID:	3052160	QC- Sample ID:	587900-00	01 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed:	06/03/2018	Date Prepared:	06/02/201	8	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		MA	TRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
,	TPH by SW8015 Mod	Parent Sample	Spike	piked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range	Hydrocarbons (GRO)	<7.99	998	895	90	998	924	93	3	70-135	20	
Diesel Range Or	rganics (DRO)	14.4	998	992	98	998	1010	100	2	70-135	20	
Lab Batch ID:	3052253	QC- Sample ID:	587962-00	01 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	06/04/2018	Date Prepared:	06/04/201	8	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		MA	TRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
,	Parent Sample Bosult	Spike	piked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag	
	Analytes	[A]	Added [B]	[U]	%R [D]	E]	Kesult [F]	%к [G]	70	~6K	%KPD	
Gasoline Range	Hydrocarbons (GRO)	<7.99	999	842	84	999	916	92	8	70-135	20	
Diesel Range O	rganics (DRO)	<8.12	999	878	88	999	960	96	9	70-135	20	

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

Relinquis	Kelinquis		Relinquis	Run dee	Special							LAB # (lab use only)	ORDEF	(lab use							Xer The Envi
hed by:	ned by:	MUMORIAN MAR	hed by M na - I - I	per sample for TPH if TI	instructions:	ETT	EII-	ETT	ETT	ETT	ETT.	FIELD	2#	only)	Sampler Signature: S	Telephone No:	City/State/Zip: 1	Company Address: 2	Company Name	Project Manager:	ICO Labora
		101	2	PH is > 100 mg/K		1a 14ft	1a 12ft	1a 10ft	-1a 8ft	-1a 6ft	-1a 4ft	CODE			Sylwia Reynolds	432-466-4450	Midland, TX 79703	2057 Commerce	TRC Solutions, Inc	Joel Lowry	atories
Date	Date	1113	Date N	ĝ																	
Time	lime	12ch	Time			14ft	12ft	10ft	8ft	6ft	4ft	Beginning Depth	-								
Re	R	-	Re		1		10	-	-	(7)	-	Ending Depth	-								
eceived by EL	edewed by:	MIXX	No baylage			5/31/2018	5/31/2018	5/31/2018	5/31/2018	5/31/2018	5/31/2018	Date Sampled									
OT:		MUC	A.			15:30	15:15	15:00	14:45	14:30	14:15	Time Sampled			e-mail	Fax No					
		X	1	5								Field Filtered			1	1.5					
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ate	aller	11	ate							1		DW=Drinking Water SL=Sludge	Z		13	71	1			<i>.</i>	TO
_	-	35	>			SS	SS	SS	SS	SS	SS	GW = Groundwater S=Soil/Solid	atrix		1	lepo				P	DYA
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Ter	Sar	Cus	Lab	VO	Lat							Cations (Ca, Mg, Na, K)				я	6	30	t#:	ne:	A
nper	by S	stody	iels c	mple Cs F	orat			_		-	(=)	Anions (CI. SO4, Alkalinity)		TOT							ND.
ature	Han	sea	n co	Con	VIO	_	_	-		_	_	SAR / ESP / CEC	1.01	2.5		Stand	-				PH
Up	d De	IS OF	Intail	taine of He	Con	-		-	-	-	-	Metals: As Ag Ba Cd Cr Pb F	ig se	+	Ana	flard	lains				ALY:
on R	liver	000	her(s	rs Ir	Imer	-		-	-	-		Semivolatiles	-	+	yze		Pip		1		43 SIS
ecei	Rep.	ler(s		lace	its:							BTEX 8021B/5030 or BTEX	8260		9		eline	ea O	ω	we	2-56
pt.	PH Y	(chia)	co/ol	20								RCI	-	-		TR	FP	oun	030	et N	QUE
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100	- L Z	22		62	<ul> <li>11</li> </ul>			1.79	1.00	1.0 + 1	1.77	KUSH IA (Pre-Schedule)	24 48	77 hrs	and the second	m	12	1.1	1		

Page 13 of 14

Final 1.000



# **XENCO Laboratories**



ATORIES Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc	Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambien								
Date/ Time Received: 06/01/2018 03:10:00 PM									
Work Order #: 587934	Temperature Measuring device used : R8								
Sample Reco	eipt Checklist	Comments							
#1 *Temperature of cooler(s)?	11.8								
#2 *Shipping container in good condition?	Yes								
#3 *Samples received on ice?	Yes								
#4 *Custody Seals intact on shipping container/ cooler?	N/A								
#5 Custody Seals intact on sample bottles?	N/A								
#6*Custody Seals Signed and dated?	N/A								
#7 *Chain of Custody present?	Yes								
#8 Any missing/extra samples?	No								
#9 Chain of Custody signed when relinquished/ received?	Yes								
#10 Chain of Custody agrees with sample labels/matrix?	Yes								
#11 Container label(s) legible and intact?	Yes								
#12 Samples in proper container/ bottle?	Yes								
#13 Samples properly preserved?	Yes								
#14 Sample container(s) intact?	Yes								
#15 Sufficient sample amount for indicated test(s)?	Yes								
#16 All samples received within hold time?	Yes								
#17 Subcontract of sample(s)?	No								

#18 Water VOC samples have zero headspace?

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

Analyst:

PH Device/Lot#:

Date: 06/01/2018

N/A

 Checklist completed by:
 Mathematical Mathematical

Date: 06/04/2018

# Analytical Report 587937

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

Sweet Moore

303081

07-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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LCS / LCSD Recoveries	14
MS / MSD Recoveries	15
Chain of Custody	16
Sample Receipt Conformance Report	17



07-JUN-18

SUP NCREDIE

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **587937 Sweet Moore** Project Address: Lea County, NM

#### Joel Lowry:

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) 587937. 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. 587937 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 587937



## TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WTT-1a 2ft	S	05-31-18 15:45	2 ft	587937-001
WTT-1a 4ft	S	05-31-18 16:00	4 ft	587937-002
WTT-1a 8ft	S	05-31-18 16:30	8 ft	587937-004
WTT-1a 6ft	S	05-31-18 16:15	6 ft	Not Analyzed
WTT-1a 10ft	S	05-31-18 16:45	10 ft	Not Analyzed
WTT-1a 12ft	S	05-31-18 17:00	12 ft	Not Analyzed



## CASE NARRATIVE

#### Client Name: TRC Solutions, Inc Project Name: Sweet Moore

 Project ID:
 303081

 Work Order Number(s):
 587937

Report Date: 07-JUN-18 Date Received: 06/01/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



o-Terphenyl

# Certificate of Analytical Results 587937



### TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id:	WTT-1a 2ft		Matrix:	Soil		Sample	e Depth: 2 ft							
Lab Sample Id	: 587937-001		Date Collecte	ed: 05.31.18	15.45	Date Received: 06.01.18 15.10								
Analytical Me	thod: TPH by SW8015 Mod	d				Prep M	lethod: 1005							
Analyst:	ARM		% Moist:			Tech:	ARM							
Seq Number:	3052160		Date Prep: 06	5.02.18 15.00	1									
1			Prep seq: 76	555909										
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor					
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.03.18 19:38	U	1					
Diesel Ran	ge Organics (DRO)	C10C28DRO	132	15.0	8.13	mg/kg	06.03.18 19:38		1					
Oil Range	Hydrocarbons (ORO)	PHCG2835	15.5	15.0	8.13	mg/kg	06.03.18 19:38		1					
Total TPH		PHC635	147.5		8	mg/kg	06.03.18 19:38							
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag					
1-Chlorooc	tane		85		70 - 1	35 %	6							
o-Terpheny	1		89		70 - 1	135 %								
Sample Id:	WTT-1a 4ft		Matrix:	Soil		Sample	e Depth: 4 ft							
Lab Sample Id	: 587937-002		Date Collecte	ed: 05.31.18	16.00	Date Received: 06.01.18 15.10								
Analytical Me	thod: TPH by SW8015 Mod	d				Prep M	Iethod: 1005							
Analyst:	ARM		% Moist:			Tech:	ARM							
Seq Number:	3052253		Date Prep: 06	5.04.18 16.00	1									
			Prep seq: 76											
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor					
Gasoline R	ange Hydrocarbons (GRO)	PHC610	8.82	15.0	7.99	mg/kg	06.05.18 01:53	J	1					
Diesel Ran	ge Organics (DRO)	C10C28DRO	67.4	15.0	8.11	mg/kg	06.05.18 01:53		1					
Oil Range H	Hydrocarbons (ORO)	PHCG2835	<8.11	15.0	8.11	mg/kg	06.05.18 01:53	U	1					
Total TPH		PHC635	76.22		7.99	mg/kg	06.05.18 01:53							
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag					
1-Chlorooc	tane		91		70 - 1	35 %	ó							

93

70 - 135

%




### TRC Solutions, Inc, Midland, TX

### Sweet Moore

Parameter		CAS Number	Result	MQL	SDL	AUnits	nalysis Date	Flag	Dil Factor
			Prep seq: 76	56149					
Seq Number:	3052528		Date Prep: 06	.06.18 16.00					
Analyst:	ARM		% Moist:			Tech:	ARM		
Analytical Met	hod: TPH by SW8015 Mod					Prep Method	d: 1005		
Lab Sample Id:	587937-004		Date Collecte	d: 05.31.18 16	.30	Date Receiv	ed: 06.01.1	8 15.1	0
Sample Id:	WTT-1a 8ft		Matrix:	Soil		Sample Dep	th: 8 ft		

Total TPH	PHC635	<7.98		7.98	mg/kg	06.07.18 02:48	U	
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.10	15.0	8.10	mg/kg	06.07.18 02:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.10	15.0	8.10	mg/kg	06.07.18 02:48	U	1
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	06.07.18 02:48	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	86	70 - 135	%		
o-Terphenyl	89	70 - 135	%		



Oil Range Hydrocarbons (ORO)

Total TPH

### **Certificate of Analytical Results** 587937



U

U

1

06.03.18 10:19

06.03.18 10:19

### TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id: <b>7655909-1-BLK</b>		Matrix:	Solid		Sample	e Depth:			
Lab Sample Id: 7655909-1-BLK		Date Collected:			Date Received:				
Analytical Method: TPH by SW8015 Mod	ł				Prep M	lethod: 1005			
Analyst: ARM		% Moist:			Tech:	ARM			
Seq Number: 3052160		Date Prep: 06	5.02.18 15.00						
		Prep seq: 76	555909						
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor	
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.03.18 10:19	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1	

<8.13

<8

15.0

PHCG2835

PHC635

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	105	70 - 135	%		
Sample Id: <b>7655985-1-BLK</b>	Matrix: Solid	Sa	ample Dept	th:	
Lab Sample Id: 7655985-1-BLK	Date Collected:	D	ate Receive	ed:	
Analytical Method: TPH by SW8015 Mod		Pi	rep Method	l: 1005	
Analyst: ARM	% Moist:	T	ech:	ARM	
Seq Number: 3052253	Date Prep: 06.04.18 16.00				
	Prep seq: 7655985				

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.04.18 18:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Total TPH	PHC635	<8		8	mg/kg	06.04.18 18:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	94	70 - 135	%		

mg/kg

mg/kg

8.13

8





### TRC Solutions, Inc, Midland, TX

### Sweet Moore

Parameter		CAS	Result	MOL	SDL	Units	Analysis	Flag	Dil Factor
			Prep seq:	7656149					
Seq Number:	3052528		Date Prep:	06.06.18 16.00					
Analyst:	ARM		% Moist:			Tech:	ARM		
Analytical Meth	nod: TPH by SW8015 Mod					Prep Me	ethod: 1005		
Lab Sample Id:	7656149-1-BLK		Date Collec	cted:		Date Re	ceived:		
Sample Id:	7656149-1-BLK		Matrix:	Solid		Sample	Depth:		

1 arameter	Number	Ktsuit	mgL	SDL	Onits	Date	Flag	
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.06.18 17:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.06.18 17:55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.06.18 17:55	U	1
Total TPH	PHC635	<8		8	mg/kg	06.06.18 17:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	108	70 - 135	%		



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



# Project Name: Sweet Moore

Vork Orders : 587937	,		Project IF	<b>J:</b> 303081		
Lab Batch #: 3052160	Sample: 7655909-1-BLK / !	BLK Batcł	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/03/18 10:19	SU	<b>RROGATE</b> RF	<b>COVERY</b> S	STUDY	
TPH I	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		99.0	100	99	70-135	
o-Terphenyl		52.7	50.0	105	70-135	·
Lab Batch #: 3052160	Sample: 7655909-1-BKS / !	BKS Batcl	h: 1 Matrix:	:Solid		
Units: mg/kg	Date Analyzed: 06/03/18 10:40	SU!	RROGATE RF	COVERY S	STUDY	
TPH I	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Anaryus	12.2	100	122	70-135	
o-Terphenyl		57.0	50.0	114	70-135	
J ah Patah #. 3052160	Somple: 7655909-1-BSD /	Batel	- 1 Matrix	- Solid	<u>                                      </u>	
Lau Dawn m	Data Analyzed • 06/03/18 11:01	SU SU	RROGATE RI	ECOVERY !	STUDY	
	Date Analyzeu. 00/03/10 11.01	Amount	Tmo		Control	·
	by SW8015 Mod	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chlorooctane		119	100	119	70-135	Í
o-Terphenyl		58.8	50.0	118	70-135	i
Lab Batch #: 3052160	Sample: 587900-001 S / M.	S Batcl	h: 1 Matrix:	:Soil		
Units: mg/kg	Date Analyzed: 06/03/18 12:48	SU	<b>RROGATE RF</b>	ECOVERY S	STUDY	
TPH b	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					I
1-Chlorooctane	!	113 50.0	99.8	113	70-135	<del> </del>
o-Terphenyi		50.8	49.9	102	70-155	<u> </u>
Lab Batch #: 3052160	Sample: 587900-001 JV	ASD Batch	1: 1 Matrix:	, Soil	OPUDV	
Units: mg/kg	Date Analyzed: 06/03/18 13:07		KKUGALE NE			
TPH b	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		114	99.8	114	70-135	1
o-Terphenyl		52.3	49.9	105	70-135	í

\* 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



# Project Name: Sweet Moore

Vork Orders : 587937,	,		Project II	<b>):</b> 303081					
Lab Batch #: 3052253	Sample: 7655985-1-BLK / 1	BLK Batcl	h: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 06/04/18 18:02	SU.	RROGATE RF	<b>COVERY</b>	STUDY				
TPH b	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		89.9	100	90	70-135				
o-Terphenyl		47.1	50.0	94	70-135				
Lab Batch #: 3052253	Sample: 7655985-1-BKS / J	BKS Batcl	h: 1 Matrix:	Solid	<u>.</u>				
Units: mg/kg	<b>Date Analyzed:</b> 06/04/18 18:22	SURROGATE RECOVERY STUDY							
TPH b	y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		117	100	117	70-135				
o-Terphenyl		55.0	50.0	110	70-135				
Lah Batch #: 3052253	Sample: 7655985-1-BSD / 1	BSD Batcl	h: 1 Matrix:	Solid	<u>                                      </u>				
Units: mg/kg	Date Analvzed: 06/04/18 18:43	SU	RROGATE RE	ECOVERY S	STUDY				
TPH t	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		119	100	119	70-135				
o-Terphenyl		55.6	50.0	111	70-135				
Lab Batch #: 3052253	Sample: 587962-001 S / MS	Batcl	h: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 06/04/18 19:24	SU	RROGATE RE	COVERY	STUDY				
TPH b	y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		106	99.9	106	70-135				
o-Terphenyl		47.5	50.0	95	70-135				
Lab Batch #: 3052253	Sample: 587962-001 SD / M	ASD Batcl	h: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 06/04/18 19:44	SU	RROGATE RE	COVERY S	STUDY				
TPH b	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		115	99.9	115	70-135				
o-Terphenyl		51.0	50.0	102	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



# Project Name: Sweet Moore

Vork Orders : 587937,	, Samuela, 7656140-1 BLK /	DIK Dotal	Project II	<b>):</b> 303081					
Lab Balen #: 5052520	<b>Sample:</b> 7050147-1-55267.	SU:	RROGATE RE	ECOVERY :	STUDY				
TPH b	bate Malyzed. 00,00,10 17,00	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[17]					
1-Chlorooctane		102	100	102	70-135				
o-Terpnenyi		54.2	50.0	108	70-135				
Lab Batch #: 3052528	Sample: 7656149-1-BKS / 1	BKS Batch	h: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 06/06/18 18:16	SURROGATE RECOVERY STUDY							
TPH	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		122	100	122	70-135				
o-Terphenyl		57.9	50.0	116	70-135				
Lah Batch #: 3052528	Sample: 7656149-1-BSD / 1	BSD Batch	h: 1 Matrix:	Solid	<u> </u>				
Units: mg/kg	Date Analyzed: 06/06/18 18:36	SU	RROGATE RE	ECOVERY S	STUDY				
ТРН К	oy SW8015 Mod Analvtes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		127	100	127	70-135				
o-Terphenyl		64.7	50.0	129	70-135				
Lab Batch #: 3052528	Sample: 588290-001 S / MS	S Batcl	h: 1 Matrix:	Soil	<u>.</u> .				
Units: mg/kg	Date Analyzed: 06/06/18 19:18	SU	RROGATE RE	<b>COVERY</b>	STUDY				
TPH b	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		104	100	104	70-135				
o-Terphenyl		47.2	50.0	94	70-135				
Lab Batch #: 3052528	Sample: 588290-001 SD / M	MSD Batcl	h: 1 Matrix:	Soil	<u>                                      </u>				
Units: mg/kg	Date Analyzed: 06/06/18 19:38	SU	RROGATE RE	COVERY	STUDY				
ТРН К	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		105	99.9	105	70-135				
o-Terphenyl		46.3	50.0	93	70-135				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **BS / BSD Recoveries**



### Project Name: Sweet Moore

Work Order #: 587937							Proj	ject ID:	303081		
Analyst: ARM	D	ate Prepar	ed: 06/02/201	8			Date A	nalyzed: (	06/03/2018		
Lab Batch ID: 3052160 Sample: 7655909-1	-BKS	Batcl	<b>h #:</b> 1					Matrix:	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	918	92	1000	931	93	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	964	96	1000	987	99	2	70-135	20	
Analyst: ARM	D	Date Prepared:         06/04/2018         Date Analyzed:         06/04/2018								۰ · · ·	
Lab Batch ID: 3052253 Sample: 7655985-1-	-BKS	Batcl	<b>h #:</b> 1					Matrix:	Solid		
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	866	87	1000	913	91	5	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	911	91	1000	955	96	5	70-135	20	
Analyst: ARM	D	ate Prepar	ed: 06/06/201	8	+	1	Date A	nalyzed: (	)6/06/2018	ł	
Lab Batch ID: 3052528 Sample: 7656149-1-	-BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	934	93	1000	1090	109	15	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	994	99	1000	1120	112	12	70-135	20	

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



### Form 3 - MS / MSD Recoveries

### **Project Name: Sweet Moore**



<b>Work Order # :</b> 587937						Project II	<b>D:</b> 303081	l			
Lab Batch ID: 3052160	QC- Sample ID:	587900	-001 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 06/03/2018	Date Prepared:	06/02/2	018	Ar	alyst: A	ARM					
<b>Reporting Units:</b> mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH by SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
Gasoline Range Hydrocarbons (GRO)	<7.99	998	895	90	998	924	93	3	70-135	20	
Diesel Range Organics (DRO)	14.4	998	992	98	998	1010	100	2	70-135	20	
Lab Batch ID: 3052253	QC- Sample ID:	587962	-001 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
<b>Date Analyzed:</b> 06/04/2018	Date Prepared:	06/04/2	018	Ar	alyst: A	ARM					
<b>Reporting Units:</b> mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample Bosult [F]	Spiked Dup. % P	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	[B]	[0]	/0K [D]	[E]	Kesunt [F]	[G]	/0	/01	70KI D	
Gasoline Range Hydrocarbons (GRO)	<7.99	999	842	84	999	916	92	8	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	878	88	999	960	96	9	70-135	20	
Lab Batch ID: 3052528	QC- Sample ID:	588290	-001 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
<b>Date Analyzed:</b> 06/06/2018	Date Prepared:	06/06/2	018	Ar	alyst: A	ARM					
<b>Reporting Units:</b> mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH by SW8015 Mod	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample Besult [F]	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	[B]		-70K [D]	E]	Kesuit [F]	-70 K [G]	70	70K	70KrD	
Gasoline Range Hydrocarbons (GRO)	8.70	1000	880	87	999	876	87	0	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	943	94	999	933	93	1	70-135	20	

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

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

Relinquis	Keinquis	Relinquis	Run dee	Special						LAB # (lab use only)	ORDE		(lab use							The En
hed by:	ined by: /	Reynolds	per sample for TPH if T	Instructions:	WTT-	WTT	WTT	WTT	WTT	FIELD			only)	Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	nco Labor; vironmental Lab of Texa
			PH is > 100	-1a 12ft	-1a 10ft	-1a 8ft	-1a 6ft	-1a 4ft	-1a 2ft	CODE				Sylwia Reyn	432-466-44	Midland, TX	2057 Comm	TRC Solutio	Joel Lowry	atorie
Date	v Date	6/11/8	mg/Kg								-		1	olds	00	79703	erce	ns, Inc	1	S
I	T.	5		12ft	10ft	8ft	6ft	4ft	2ft	Beginning Depth	1									
ne	ne	(C) me					Ĩ.		1	Ending Depth										
Received by ELO	Réceived by:	Received by:	2	5/31/2018	5/31/2018	5/31/2018	5/31/2018	5/31/2018	5/31/2018	Date Sampled										
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ne S	zzz	zzz	z		1		1		F	RUSH TAT (Pre-Schedule) 24	48, 7	2 hrs	Н		DE	yan				
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Final 1.001



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



Client: TRC Solutions, Inc Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 06/01/2018 03:10:00 PM Temperature Measuring device used : R8 Work Order #: 587937 Comments Sample Receipt Checklist 11.8 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seals intact on shipping container/ cooler? N/A #5 Custody Seals intact on sample bottles? N/A #6\*Custody Seals Signed and dated? N/A #7 \*Chain of Custody present? Yes #8 Any missing/extra samples? No #9 Chain of Custody signed when relinquished/ received? Yes #10 Chain of Custody agrees with sample labels/matrix? Yes #11 Container label(s) legible and intact? Yes #12 Samples in proper container/ bottle? Yes #13 Samples properly preserved? Yes #14 Sample container(s) intact? Yes #15 Sufficient sample amount for indicated test(s)? Yes #16 All samples received within hold time? Yes #17 Subcontract of sample(s)? No #18 Water VOC samples have zero headspace? N/A

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

Analyst:

PH Device/Lot#:

Date: 06/01/2018

Checklist completed by: Katie Lowe Checklist reviewed by: Marsh Kelsey Brooks

Date: 06/04/2018

# **Analytical Report 587939**

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

Sweet Moore

303081

05-JUN-18

Collected By: Client





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

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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05-JUN-18

SUP ACCREDING

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **587939 Sweet Moore** Project Address: Lea County, NM

#### Joel Lowry:

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) 587939. 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. 587939 will be filed for 45 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,

Knisk

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 587939



## TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WTT-1 8ft	S	05-31-18 17:15	8 ft	587939-001
WTT-1 10ft	S	05-31-18 17:30	10 ft	587939-002
WTT-1 12ft	S	05-31-18 17:45	12 ft	587939-003



### CASE NARRATIVE

#### Client Name: TRC Solutions, Inc Project Name: Sweet Moore

 Project ID:
 303081

 Work Order Number(s):
 587939

Report Date: 05-JUN-18 Date Received: 06/01/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None





## TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id:	WTT-1 8ft		Matrix:	Soil		Sample	e Depth: 8 ft		
Lab Sample Id	: 587939-001		Date Collecte	ed: 05.31.18	17.15	Date R	eceived: 06.01.	18 15.1	0
Analytical Me	thod: TPH by SW8015 Mo	d				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052160		Date Prep: 06	5.02.18 15.00	)				
			Prep seq: 76	555909					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	06.03.18 19:58	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	163	15.0	8.11	mg/kg	06.03.18 19:58		1
Oil Range	Hydrocarbons (ORO)	PHCG2835	15.1	15.0	8.11	mg/kg	06.03.18 19:58		1
Total TPH		PHC635	178.1		7.99	mg/kg	06.03.18 19:58		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooct	tane		90		70 - 1	35 %	ó		
o-Terpheny	1		95		70 - 1	35 %	Ď		
Sample Id:	WTT-1 10ft		Matrix:	Soil		Sample	e Depth: 10 ft		
Lab Sample Id	: 587939-002		Date Collecte	ed: 05.31.18	17.30	Date R	eceived: 06.01.	18 15.1	0
Analytical Me	thod: TPH by SW8015 Mo	d				Prep M	Iethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052253		Date Prep: 06	5.04.18 16.00	)				
			Prep seq: 76	555985					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	06.05.18 02:34	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	375	14.9	8.10	mg/kg	06.05.18 02:34		1
Oil Range	Hydrocarbons (ORO)	PHCG2835	11.0	14.9	8.10	mg/kg	06.05.18 02:34	J	1
10tal TPH		PHC635	386		1.97	mg/kg	06.05.18 02:34		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooct	tane		95		70 - 1	35 %	ó		
o-Terpheny	1		100		70 - 1	35 %	ó		





### TRC Solutions, Inc, Midland, TX

### Sweet Moore

Sample Id:	WTT-1 12ft		Matrix:	Soil		Sample	Depth: 12 ft		
Lab Sample Id	: 587939-003		Date Collecte	ed: 05.31.18	17.45	Date R	eceived: 06.01.	18 15.1	0
Analytical Met	thod: TPH by SW8015 Mo	d				Prep M	ethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3052253		Date Prep: 06	5.04.18 16.00	)				
			Prep seq: 76	55985					
Parameter		CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	unge Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	06.05.18 02:55	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	103	15.0	8.11	mg/kg	06.05.18 02:55		1
Oil Range H	Iydrocarbons (ORO)	PHCG2835	<8.11	15.0	8.11	mg/kg	06.05.18 02:55	U	1
Total TPH		PHC635	103		7.99	mg/kg	06.05.18 02:55		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	89	70 - 135	%		
o-Terphenyl	91	70 - 135	%		



Oil Range Hydrocarbons (ORO)

Total TPH

# Certificate of Analytical Results 587939



U

U

06.03.18 10:19

06.03.18 10:19

1

### TRC Solutions, Inc, Midland, TX

Sweet Moore

Sample Id: <b>7655909-1-BLK</b>		Matrix:	Solid		Sample	e Depth:		
Lab Sample Id: 7655909-1-BLK		Date Collecte	ed:		Date R	eceived:		
Analytical Method: TPH by SW8015 Mod	1				Prep M	lethod: 1005		
Analyst: ARM		% Moist:			Tech:	ARM		
Seq Number: 3052160		Date Prep: 06	5.02.18 15.00					
		Prep seq: 76	555909					
Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.03.18 10:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.03.18 10:19	U	1

<8.13

<8

15.0

8.13

8

mg/kg

mg/kg

PHCG2835

PHC635

Surrogate			% Recovery		Limits	Units	Analysis Date	Flag
1-Chlorooct	ane		99		70 - 135	%		
o-Terphenyl			105		70 - 135	%		
Sample Id:	7655985-1-BLK		Matrix:	Solid	Sa	mple Depth	:	
Lab Sample Id:	7655985-1-BLK		Date Collected	l:	Da	ate Received	:	
Analytical Met	hod: TPH by SW8015 Mod				Pr	ep Method:	1005	
Analyst:	ARM		% Moist:		Te	ech:	ARM	
Seq Number:	3052253		Date Prep: 06.	04.18 16.00				
			Prep seq: 765	55985				
		CAS				4	Junia	Dil Fastar

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	06.04.18 18:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	06.04.18 18:02	U	1
Total TPH	PHC635	<8		8	mg/kg	06.04.18 18:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	94	70 - 135	%		



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



# Project Name: Sweet Moore

Vork Orders : 587939,	,		Project II	<b>):</b> 303081		
Lab Batch #: 3052160	Sample: 7655909-1-BLK / J	BLK Batch	ı: <u>1</u> Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/03/18 10:19	SUI	RROGATE RF	COVERY	STUDY	
TPH b	y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	-	99.0	100	99	70-135	
o-Terphenyl		52.7	50.0	105	70-135	
Lab Batch #: 3052160	Sample: 7655909-1-BKS / I	BKS Batcl	n: 1 Matrix:	Solid	·	
Units: mg/kg	Date Analyzed: 06/03/18 10:40	SUI	RROGATE RF	COVERY	STUDY	
TPH b	y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		122	100	122	70-135	1
o-Terphenyl		57.0	50.0	114	70-135	
Lah Batch #: 3052160	Sample: 7655909-1-BSD / J	BSD Batcl	h: 1 Matrix:	Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 06/03/18 11:01	SU!	RROGATE RF	COVERY (	STUDY	
TPH b	y SW8015 Mod	Amount Found	True Amount	Recovery	Control Limits	Flags
	Analytes	[A]	լոյ	[D]	701	i
1-Chlorooctane		119	100	119	70-135	·
o-Terphenyl		58.8	50.0	118	70-135	·
Lab Batch #: 3052160	Sample: 587900-001 S / MS	S Batch	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/03/18 12:48	SUI	RROGATE RE	COVERY	STUDY	
TPH b	y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		i
1-Chlorooctane		113	99.8	113	70-135	
o-Terphenyl		50.8	49.9	102	70-135	
Lab Batch #: 3052160	Sample: 587900-001 SD / N	ASD Batch	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/03/18 13:07	SU	RROGATE RE	COVERY S	STUDY	
TPH b	y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		114	99.8	114	70-135	
o-Terphenyl		52.3	49.9	105	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



# Project Name: Sweet Moore

Vork Orders : 587939	,		Project II	<b>D:</b> 303081		
Lab Batch #: 3052253	Sample: 7655985-1-BLK / 1	BLK Bate	h: <sup>1</sup> Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/04/18 18:02	SU	RROGATE RI	ECOVERY	STUDY	
ТРНІ	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		89.9	100	90	70-135	
o-Terphenyl		47.1	50.0	94	70-135	
Lab Batch #: 3052253	Sample: 7655985-1-BKS / 1	BKS Bate	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/04/18 18:22	SU	RROGATE RI	ECOVERY	STUDY	
ТРН І	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		117	100	117	70-135	
o-Terphenyl		55.0	50.0	110	70-135	
Lah Batch #: 3052253	Sample: 7655985-1-BSD / ]	BSD Bate	h: 1 Matrix:	Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 06/04/18 18:43	SU	RROGATE RI	ECOVERY S	STUDY	
ТРН І	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chloroostana	Anarytes	110	100	110	70.125	
o-Terphenyl		55.6	50.0	119	70-135	
Lah Datah # 2052252	Samelar 597062 001 S / MS	D	h. 1 Matrix	Soil	70 155	
Lao Balch #: 5052255	<b>Sample:</b> 36/902-001 S / M. <b>Date Analyzed:</b> 06/04/18 10:24		RROGATE RE	COVERY	STUDY	
TPH I	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		106	99.9	106	70-135	
o-Terphenyl		47.5	50.0	95	70-135	
Lab Batch #: 3052253	Sample: 587962-001 SD / M	ASD Bate	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/04/18 19:44	SU	RROGATE RI	ECOVERY S	STUDY	
ТРНІ	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		115	99.9	115	70-135	
o-Terphenyl		51.0	50.0	102	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **BS / BSD Recoveries**



### **Project Name:** Sweet Moore

Work Orde	r #: 587939					<b>Project ID:</b> 303081							
Analyst:	ARM	D	ate Prepa	red: 06/02/201	18	Date Analyzed: 06/03/2018							
Lab Batch ID	<b>Sample:</b> 765590	9-1-BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid			
Units:	mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	γ		
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Anal	ytes		[B]	[C]	[D]	[E]	Result [F]	[G]					
Gasoline	Range Hydrocarbons (GRO)	<8.00	1000	918	92	1000	931	93	1	70-135	20		
Diesel Ra	ange Organics (DRO)	<8.13	1000	964	96	1000	987	99	2	70-135	20		
Analyst:	ARM	D	ate Prepa	red: 06/04/201	18			Date A	nalyzed: (	06/04/2018			
Lab Batch ID	<b>Sample:</b> 765598	5-1-BKS	-BKS Batch #: 1 Matrix: Solid										
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY		
Anal	TPH by SW8015 Mod vtes	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	
Gasoline	Range Hydrocarbons (GRO)	<8.00	1000	866	87	1000	913	91	5	70-135	20		
Diesel Ra	ange Organics (DRO)	<8.13	1000	911	91	1000	955	96	5	70-135	20		

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



### Form 3 - MS / MSD Recoveries

### **Project Name: Sweet Moore**



Work Order # :	587939						Project II	<b>D:</b> 30308	1			
Lab Batch ID:	3052160	QC- Sample ID:	587900-0	01 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed:	06/03/2018	Date Prepared:	06/02/201	8	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		MA	TRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	TPH by SW8015 Mod	Parent Sample	Spike	piked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range	Hydrocarbons (GRO)	<7.99	998	895	90	998	924	93	3	70-135	20	
Diesel Range Or	rganics (DRO)	14.4	998	992	98	998	1010	100	2	70-135	20	
Lab Batch ID:	3052253	QC- Sample ID:	587962-0	01 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	06/04/2018	Date Prepared:	06/04/201	8	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		МА	TRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
ŗ	TPH by SW8015 Mod	Parent Sample Bowlt	Spike	piked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[U]	%R [D]	Added [E]	Kesult [F]	%R [G]	- <sup>%</sup> 0	%K	%RPD	
Gasoline Range	Hydrocarbons (GRO)	<7.99	999	842	84	999	916	92	8	70-135	20	
Diesel Range Or	rganics (DRO)	<8.12	999	878	88	999	960	96	9	70-135	20	

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

Xenco
Labor
atories

The Environmental Lab of T

587939

ico Labor	atories		CHAIN OF CUST	ODY RECORD A	ND ANALYSIS	REQUEST	
ronmental Lab of Tex	as		12600 West I-20 East Odessa, Texas 79765		Phone: 4 Fax: 4	32-563-1800 32-563-1713	
Project Manager:	Joel Lowry			Project Name:		Sweet Moore	
Company Name	TRC Solutions, Inc			Project #:		303081	
Company Address:	2057 Commerce			Project Loc:		Lea County, NM	
City/State/Zip:	Midland, TX 79703			Invoice to:	Plains Pi	peline, LP c/o Ca	unille Bryant
Telephone No:	432-466-4450	Fax No:	432,520,7701	Report Format:	Standard	TRRP	<b>NPDES</b>
Sampler Signature:	Sylwia Reynolds	e-mail:	ilowry@trcsolutions.com				
only)			<u>sreynolds@trcsolutions.com</u> algroves@paalb.com		TCIP: Analyze	For	irs

	reinquisn	Relinquish	Relinquish	Run deep	Special Ir							LAB # (lab use only)	URDER	lan use o						
	ied by:	ed by: /	ad march	per sample for TPH if	nstructions:				TW	WT	W	PIE	73	niy)		Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name
				TPH is > 100 π					T-1 12ft	T-1 10ft	FT-1 8ft	D CODE				Sylwia Reynol	432-466-4450	Midland, TX 7	2057 Commer	<b>TRC</b> Solutions
	Date	Date	6///X	ig/Kg											]	ds		9703	Ce	Inc
	-	4 -	$\hat{\boldsymbol{\Omega}}$						12ft	10ft	8ff	Beginning Depth								
	Ime	me	Q 🖁									Ending Depth	1							
	Received by EL	Received by	Reddinged by:	Ø					5/31/2018	5/31/2018	5/31/2018	Date Sampled								
	OT:		MUN	- 1					17:45	17:30	17:15	Time Sampled				e-mail:	Fax No:			
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			$\delta_{i}$						ŝ	ŝ	Ś	NP=Non-Potable Specify Other	trix		1		por		-	
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	Te	Sa	225	VO	2							Cations (Ca, Mg, Na, K)					đ	to	00	*
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				_					<u> </u>				_						4	÷.

Final 1.000



# **XENCO** Laboratories



ATORIES Prelogin/Nonconformance Report- Sample Log-In

Acceptable Temperature	Range: 0 - 6 degC					
Air and Metal samples Ac	ceptable Range: Ambient					
Temperature Measuring device used : R8						
pt Checklist	Comments					
11.8						
Yes						
Yes						
N/A						
N/A						
N/A						
Yes						
No						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
No						
N/A						
	Acceptable Temperature Air and Metal samples Ad Temperature Measuring of pt Checklist 11.8 Yes Yes N/A N/A N/A Yes No Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes					

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

Analyst:

PH Device/Lot#:

Date: 06/01/2018

 Checklist completed by:
 Juilding

 Katie Lowe

 Checklist reviewed by:
 Mange Morah

 Kelsey Brooks

Date: 06/04/2018

# **Analytical Report 591010**

for TRC Solutions, Inc

**Project Manager: Joel Lowry** 

**Moore Sweet** 

### 09-JUL-18

Collected By: Client





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

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757) Xenco-Atlanta (LELAP Lab ID #04176) Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)



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09-JUL-18

ACCREDING STATE

Project Manager: **Joel Lowry TRC Solutions, Inc** 2057 Commerce Midland, TX 79703

Reference: XENCO Report No(s): **591010 Moore Sweet** Project Address: Lea County, NM

#### Joel Lowry:

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) 591010. 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. 591010 will be filed for 45 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,

Knisk

Kelsey Brooks Project Manager

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

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 591010



## TRC Solutions, Inc, Midland, TX

Moore Sweet

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WHA-1b @1'	S	06-29-18 14:00	1 ft	591010-001
WHA-1c @1'	S	06-29-18 14:10	1 ft	591010-002
EHA-1b @2'	S	06-29-18 14:30	2 ft	591010-003
EHA-1c @2'	S	06-29-18 14:40	2 ft	591010-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc Project Name: Moore Sweet

Project ID: Work Order Number(s): 591010 Report Date:09-JUL-18Date Received:06/30/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None





### TRC Solutions, Inc, Midland, TX

Moore Sweet

Sample Id:	WHA-1b @1'		Matrix:	Soil		Sample	e Depth: 1 ft		
Lab Sample Id	: 591010-001		Date Collecte	ed: 06.29.18	14.00	Date R	eceived: 06.30.	18 09.0	00
Analytical Me	thod: TPH by SW8015 Mod	1				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3055782		Date Prep: 07	7.06.18 14.00	1				
1			Prep seq: 70	657984					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	ange Hydrocarbons (GRO)	PHC610	10.5	14.9	7.97	mg/kg	07.09.18 10:06	J	1
Diesel Ran	ge Organics (DRO)	C10C28DRO	265	14.9	8.10	mg/kg	07.09.18 10:06		1
Oil Range	Hydrocarbons (ORO)	PHCG2835	11.7	14.9	8.10	mg/kg	07.09.18 10:06	J	1
Total TPH		PHC635	287.2		7.97	mg/kg	07.09.18 10:06		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		102		70 - 1	35 %	<u></u>		
o-Terpheny	1		102		70 - 1	135 %	ó		
Sample Id:	WHA-1c @1'		Matrix:	Soil		Sample	e Depth: 1 ft		
Lab Sample Id	: 591010-002		Date Collecte	ed: 06.29.18	14.10	Date R	eceived: 06.30.	18 09.0	00
Analytical Me	thod: TPH by SW8015 Mod	1				Prep M	Iethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3055782		Date Prep: 07	7.06.18 14.00	)				
			Prep seq: 70	657984					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	07.06.18 21:36	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	<8.11	15.0	8.11	mg/kg	07.06.18 21:36	U	1
Oil Range H	Hydrocarbons (ORO)	PHCG2835	<8.11	15.0	8.11	mg/kg	07.06.18 21:36	U	1
Total TPH		PHC635	<7.99		7.99	mg/kg	07.06.18 21:36	U	
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		96		70 - 1	35 %	ó		

101

70 - 135

%





### TRC Solutions, Inc, Midland, TX

Moore Sweet

Sample Id:	EHA-1b @2'		Matrix:	Soil		Sample	e Depth: 2 ft		
Lab Sample Id	: 591010-003		Date Collecte	ed: 06.29.18	14.30	Date R	eceived: 06.30.	18 09.0	00
Analytical Me	thod: TPH by SW8015 Mod	l				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3055782		Date Prep: 07	7.06.18 14.00	1				
1			Prep seq: 76	557984					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline R	ange Hydrocarbons (GRO)	PHC610	9.76	15.0	7.99	mg/kg	07.06.18 22:35	J	1
Diesel Ran	ge Organics (DRO)	C10C28DRO	30.0	15.0	8.12	mg/kg	07.06.18 22:35		1
Oil Range I	Hydrocarbons (ORO)	PHCG2835	<8.12	15.0	8.12	mg/kg	07.06.18 22:35	U	1
Total TPH		PHC635	39.76		7.99	mg/kg	07.06.18 22:35		
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		94		70 - 1	35 %	6		
o-Terpheny	1		97		70 - 1	35 %	ó		
Sample Id:	EHA-1c @2'		Matrix:	Soil		Sample	e Depth: 2 ft		
Lab Sample Id	: 591010-004		Date Collecte	ed: 06.29.18	14.40	Date R	eceived: 06.30.	18 09.0	00
Analytical Me	thod: TPH by SW8015 Mod	l				Prep M	lethod: 1005		
Analyst:	ARM		% Moist:			Tech:	ARM		
Seq Number:	3055782		Date Prep: 07	7.06.18 14.00	1				
			Prep seq: 76	557984					
Parameter	r	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Ra	ange Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	07.06.18 22:54	U	1
Diesel Rang	ge Organics (DRO)	C10C28DRO	<8.10	14.9	8.10	mg/kg	07.06.18 22:54	U	1
Oil Range I	Hydrocarbons (ORO)	PHCG2835	<8.10	14.9	8.10	mg/kg	07.06.18 22:54	U	1
Total TPH		PHC635	<7.97		7.97	mg/kg	07.06.18 22:54	U	
Surrogate			% Recovery		Limits	Un	its Analysis	Date	Flag
1-Chlorooc	tane		93		70 - 1	35 %	ó		

99

70 - 135

%





### TRC Solutions, Inc, Midland, TX

Moore Sweet

Parameter		CAS	Recult	ΜΟΙ	SDI	Unite	Analysis	Flag	Dil Factor
			Prep seq: 76	57984					
Seq Number: 30	55782		Date Prep: 07	2.06.18 14.00					
Analyst: AF	RM		% Moist:			Tech:	ARM		
Analytical Method	1: TPH by SW8015 Mod					Prep Meth	od: 1005		
Lab Sample Id: 76	57984-1-BLK		Date Collecte	d:		Date Rece	ived:		
Sample Id: 76	57984-1-BLK		Matrix:	Solid		Sample De	epth:		

	Number	liobali		522	cints	Date		
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	07.06.18 20:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	07.06.18 20:18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<8.13	15.0	8.13	mg/kg	07.06.18 20:18	U	1
Total TPH	PHC635	<8		8	mg/kg	07.06.18 20:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	108	70 - 135	%		



# **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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clier	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



# Project Name: Moore Sweet

Batch: SUR	1 Matrix: ROGATE RE	Solid		
SUR.	ROGATE RE	COVERY S	TUDY	
ount			JUDY	
ınd 4]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
)1	100	101	70-135	
.8	50.0	108	70-135	
Batch:	1 Matrix:	Solid		
SURI	ROGATE RE	COVERY S	STUDY	
ount and A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
6	100	116	70-135	
.9	50.0	104	70-135	
Ratch:	<sup>1</sup> Matrix:	Solid	<u> </u>	
SUR	ROGATE RE	COVERY S	STUDY	
ount und A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		[D]	I	
4	100	114	70-135	
.1	50.0	110	70-135	
Batch:	1 Matrix:	Soil		
SURJ	ROGATE RE	COVERY S	STUDY	
ount and A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		[IJ]		
1	40.0	102	70-135	
.6	49.9	105	/0-155	
Batch:	1 Matrix:	Soil		
	RUGALE RE		5TUD1	
ount .ind A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
8	99.7	118	70-135	
6	49.9	105	70-135	
	and   and   and   and   and   batch:   SUR   ount   and   and   and   and   batch:   SUR   ount   and   and   batch:   SUR   ount   and   and   batch:   SUR   ount   and   and   and   batch:   SUR   ount   and   and <td< td=""><td>Junt     Arrue       and     Amount       [B]     [B]       11     100       .8     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       Amount     [B]       6     100       .9     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       A]     [B]       4     100       .1     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       A]     [B]       .1     99.7       .6     49.9       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     [B]       .1     99.7       .6     49.9       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     T</td><td>Jame and A MAmount [B]Recovery <math>%R</math> [D]1100101.850.0108Batch:1Matrix: SolidSURROGATE RECOVERY Sount md A]True (B]Recovery <math>%R</math> [D]6100116.950.0104Batch:1Matrix: SolidSURROGATE RECOVERY Sount und A]True (B]Recovery <math>%R</math> [D]4100114.150.0110Batch:1Matrix: SolidSURROGATE RECOVERY Sount und ATrue (B]Recovery <math>%R</math> [D]4100114.150.0110Batch:1Matrix: SoilSURROGATE RECOVERY Sount und A]True (B]Recovery <math>%R</math> [D]199.7111.649.9103Batch:1Matrix: SoilSurrogATE RECOVERY Sount und A]True (B]Recovery <math>%R</math> [D].199.7111.649.9105</td><td>Jand Al (B)         Amount (B)         Recovery %R (D)         Control Limits %R           1         100         101         70-135           3         50.0         108         70-135           Batch:         1         Matrix: Solid         70-135           Batch:         1         Matrix: Solid         Control Limits           ount and Al         True Amount (B)         Recovery %R (D)         Control Limits           6         100         116         70-135           9         50.0         104         70-135           Batch:         1         Matrix: Solid         SURROGATE RECOVERY STUDY           ount and Al         True Amount (B)         Recovery %R (D)         Control Limits %R           ount and A         True Amount (B)         Recovery %R (D)         Control Limits %R           4         100         114         70-135           Batch:         1         Matrix: Soil           SURROGATE RECOVERY STUDY         Matrix: Soil           0unt and Al         True Amount (B)         Recovery %R (D)         Control Limits %R           1         99.7         111         70-135           1         Matrix: Soil         SURROGATE RECOVERY STUDY</td></td<>	Junt     Arrue       and     Amount       [B]     [B]       11     100       .8     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       Amount     [B]       6     100       .9     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       A]     [B]       4     100       .1     50.0       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     Amount       A]     [B]       .1     99.7       .6     49.9       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     True       and     [B]       .1     99.7       .6     49.9       Batch:     1       Matrix:     SURROGATE       SURROGATE     RE       ount     T	Jame and A MAmount [B]Recovery $%R$ [D]1100101.850.0108Batch:1Matrix: SolidSURROGATE RECOVERY Sount md A]True (B]Recovery $%R$ [D]6100116.950.0104Batch:1Matrix: SolidSURROGATE RECOVERY Sount und A]True (B]Recovery $%R$ [D]4100114.150.0110Batch:1Matrix: SolidSURROGATE RECOVERY Sount und ATrue (B]Recovery $%R$ [D]4100114.150.0110Batch:1Matrix: SoilSURROGATE RECOVERY Sount und A]True (B]Recovery $%R$ [D]199.7111.649.9103Batch:1Matrix: SoilSurrogATE RECOVERY Sount und A]True (B]Recovery $%R$ [D].199.7111.649.9105	Jand Al (B)         Amount (B)         Recovery %R (D)         Control Limits %R           1         100         101         70-135           3         50.0         108         70-135           Batch:         1         Matrix: Solid         70-135           Batch:         1         Matrix: Solid         Control Limits           ount and Al         True Amount (B)         Recovery %R (D)         Control Limits           6         100         116         70-135           9         50.0         104         70-135           Batch:         1         Matrix: Solid         SURROGATE RECOVERY STUDY           ount and Al         True Amount (B)         Recovery %R (D)         Control Limits %R           ount and A         True Amount (B)         Recovery %R (D)         Control Limits %R           4         100         114         70-135           Batch:         1         Matrix: Soil           SURROGATE RECOVERY STUDY         Matrix: Soil           0unt and Al         True Amount (B)         Recovery %R (D)         Control Limits %R           1         99.7         111         70-135           1         Matrix: Soil         SURROGATE RECOVERY STUDY

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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


# **BS / BSD Recoveries**



### **Project Name:** Moore Sweet

Work Order	#: 591010		Project ID:											
Analyst:	ARM	D	ate Prepar	ed: 07/06/201	<b>Date Analyzed:</b> 07/06/2018									
Lab Batch ID:	<b>:</b> 3055782 <b>Sample:</b> 7657984-1	-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid				
Units:	mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analy	tes		[B]	[C]	[D]	[E]	Result [F]	[G]						
Gasoline F	Range Hydrocarbons (GRO)	<8.00	1000	976	98	1000	992	99	2	70-135	20			
Diesel Rar	nge Organics (DRO)	<8.13	1000	1010	101	1000	1040	104	3	70-135	20			

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



## Form 3 - MS / MSD Recoveries

#### **Project Name: Moore Sweet**



Work Order # :	591010						Project II	D:				
Lab Batch ID:	3055782	QC- Sample ID:	591010	-002 S	Ba	tch #:	1 Matri	x: Soil				
Date Analyzed:	07/06/2018	Date Prepared:	07/06/2	018	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY				
TPH by SW8015 Mod		Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range	Hydrocarbons (GRO)	<7.98	997	977	98	997	1030	103	5	70-135	20	
Diesel Range Or	rganics (DRO)	<8.10	997	1010	101	997	1060	106	5	70-135	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.

www.xenco.com

<b>3</b> 5	<b>2</b> 3)	- <b>1</b>		<b>5</b>	<u>ى</u>	~~~~	<u>- 1</u>	6	, <u>,</u>	4	<u></u>	2	<u>1</u>		Ś	<u>s</u>	ρ	Ŗ	D	φ	=	V	Π	۲ ج		ק	0
-	J)O	S. C. S.	Relinquished by (Initial							HA-ICe2	HA- 1 bez	VHA-1 cel'	SHA-160	Sample ID	ampler Name	pecial DLs (GW DW Q	APP Per-Contract CLF	eg Program: UST DR	uote/Pricing:	II to: PLAISSA	voice to Accounting	"	-mail Results to	J, PA, SC, TN, UT Other	MODZE SIX	roject Name-Location	IRC Source
		7	s and Sign)							6.29.18	6-29-18	10-29-18	6-29-18	Sampling Date		APP MDLs RLs	AGCEE NAV	Y-CLEAN Land-I		ARKETIS	µInc. Invoice wi	SOLUTION	PFM and R-CO		A LA MS NC	Previously	TIONS
		31-62-9	Date & Ti							2:40	2:30	2:10	2:00	Time	Signature	See Lab PA	ODE DO	Fill Waste-D	P.O. No:	9 4/2 A	th Final Repo	アン	20102		ACOU	/ done at XEI	4
	4)	3: 192)1	me R							215	2:5	1'5	11 5	Depth ft' ln" m Matrix Composite		1 Included	D USACE	isp NPDES		MAREL	ort I Invoic	00710	O PAA		N.C.		Phone
1 × 1 × 1	Amustu	SOUMAU	elinquished									-	~	Grab # Containers Container Size		Call PM)	OTHER:	S DW TRR		QZOVE	e must have	17050		NF	22	Project	466-4
R		70 ( DAW -	to (Initials a							61	11	+1	T	Container Type Preservatives				Ť	I for P.O.	R	a P.O.	Lucion.	CON			5	1450
		10/07	nd Sign)											VOA: Full-List VOA: PP TCL PAHs SIM 8	BTE	X-MTBE	Et( x-1	ЭН Арро	Oxyg dx-2	CAL	DHs	φth ζ	OA: ier:	S	It is typica	TAT: AS	Lab Only
	6 6	26-21	Date											TX-1005 DRO SVOCs: Full-Lis	GR t D	O MA	EPH AE	MA TCL	VF P P	PH PA	/ \ppd	lx-2	С	ALL	lly 5-7 Wor	AP 5h 12h	••
0	18 091	52:8 81-1	& Time											OC Pesticides Metals: RCRA-8 SPLP - TCLP (I	PCB RCI Meta	s Herb RA-4 P Is VOC	icide b 13F s S	s O PP 2: VOC	P P 3TAL s P	estic Ap est.	pdx Her	s 1 A rb.	PC	dx2 Bs)	king Days fo	24h 48h	
Jherehv regi	until paid. \$	Otherwise	Total Conta							X	メ	4	X	EDB/DBCP		5 n	E	¥7	- (	Ń	54	7			or level II an	3d 5d 7	9/01
liested Rush	Samples will	agreed on w	ainers per Co																				-		d 10+ Work	d 10d 21	
Chames an	be held 30 c	riting. Repor	<u>;</u>															<u></u>							ting days for	d Standard	
d Collection	days after fin	ts are the In	Coc																						r level III an	I TAT is pro	
Fees are nre.	al report is e	tellectual Pro	ler Temp: (											TATASAP 5h Addn: PAH abov Hold Samples (S	12h e urch	n 24h mg/L arges w	48h W,	30 mg	/Kg	S⊢ s ⊢	lighe	est l	∠ Hit /ed)	)	d IV data.	ject specific	
annroved if r	-mailed unle:	perty of XEN	0 											Sample Clean-up	os ar	e pre-ap	prov	ed as	пее	ded				Rema		?	
hahaan	SS		-											Addn:	Date		Rcv	v. by:		Fro	om:		_	rks			

Page 13 of 14

Final 1.000

**ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD** 



#14 Sample container(s) intact?

#17 Subcontract of sample(s)?

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



Client: TRC Solutions, Inc Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 06/30/2018 09:00:00 AM Temperature Measuring device used : R8 Work Order #: 591010 Comments Sample Receipt Checklist #1 \*Temperature of cooler(s)? .1 #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seals intact on shipping container/ cooler? N/A #5 Custody Seals intact on sample bottles? N/A #6\*Custody Seals Signed and dated? N/A #7 \*Chain of Custody present? Yes #8 Any missing/extra samples? No #9 Chain of Custody signed when relinquished/ received? Yes #10 Chain of Custody agrees with sample labels/matrix? Yes #11 Container label(s) legible and intact? Yes #12 Samples in proper container/ bottle? Yes #13 Samples properly preserved? Yes

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

Analyst:

PH Device/Lot#:

#15 Sufficient sample amount for indicated test(s)?

#18 Water VOC samples have zero headspace?

#16 All samples received within hold time?

Date: 07/02/2018

Yes

Yes

Yes

N/A

N/A

Checklist completed by: Build Tal Brianna Teel Checklist reviewed by: Muss Moak Kelsey Brooks

Date: 07/03/2018

#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

## **Release Notification and Corrective Action**

			<b>OPERAT</b> (	)R	🛛 Initial Re	port	Final Report
Name of Compan	y Plains Marketing, LP		Contact	Camille Bryant			
Address	505 N. Big Spring, Midland, T)	( 79701	Telephone No.	(575) 441-1099			
Facility Name	Moore Sweet Historical		Facility Type	Storage and Pump	Station		
Surface Owner N	MSLO	Mineral Owner			Lease No.		

	LOCATION OF RELEASE												
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County					
A, H	13	115	32E					Lea					

Latitude N 33.369369° Longitude W 103.66272°

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release Unknown	Volume Recovered Unknown
Source of Release Station piping and tank	Date and Hour of Occurrence	Date and Hour of Discovery
	Historical	04/11/2018 @ 10:00
Was Immediate Notice Given?	If YES. To Whom?	
Yes No ix Not Required		
By Whom?	Date and Hour	
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	itercourse.
🗌 Yes 🖾 No		
If a Watercourse was Impacted Describe Fully *		
The material and impacted beschoes any,	DECEIVED	
	KECEIVED	
	By Olivia Yu at 9:	57 am, Apr 23, 2018
Describe Cause of Problem and Remedial Action Taken.* Historical imp	act identified during reclamation of fa	icility.
Describe Area Affected and Cleanup Action Taken. Visually stained crue remediated as per applicable NMOCD guidelines.	de oil impacted soil located at former	facility. The impacted areas will be
I hereby certify that the information given above is true and complete to	the best of my knowledge and underst	and that pursuant to NMOCD rules and
regulations all operators are required to report and/or file certain release	notifications and perform corrective a	ctions for releases which may endanger
public health or the environment. The acceptance of a C-141 report by the	he NMOCD marked as "Final Report"	does not relieve the operator of liability
should their operations have failed to adequately investigate and remedia	te contamination that pose a threat to	ground water, surface water, human health
or the environment. In addition, NMOCD acceptance of a C-141 report	does not relieve the operator of respon	sibility for compliance with any other
tederal, state or docal laws and/or regulations.		
	<u>OIL CONSER</u>	VATION DIVISION
Signature: DALIDA SA		<i>⊳∕</i> 1
	Assessed by blacks of	01
Printed Name: Camille Biyant	Approved by District Supervisor:	
	4/23/2018	
Title: Remediation Supervisor	Approval Date: 4/23/2018	Expiration Date:
E-mail Address: cjbryant@paalp.com	Conditions of Approval:	
	coo attached directive	Attached
Date: 920115 Phone: (575) 441-1099	see allached uneclive	
* Attach Additional Sheets If Necessary		
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