

REVIEWED

By Olivia Yu at 8:32 am, Apr 03, 2018

Release Characterization Workplan for Heisenberg #007H

Preliminary data accepted for 1RP-4879. Horizontal and vertical delineation need to be completed for areas represented by SP13, SP14, and SP18.

Prepared by: Ryan Millunzi, Microbiologist, R.E.X. LLC, ryan@oilandsaltremediation.com, (936)-648-7549



Prepared For:

Steward Energy II, LLC
1354 US-82
Plains, TX 79355

Prepared By:

Remediation & Environmental Xperts, LLC
2903 N. Birdwell Lane
Big Spring, TX 79720

March 14, 2018

Nature of Release

On November 20, 2017 at 7:15 am CST, an unauthorized release of an estimated 80 barrels, consisting of a mixture of oil and water, occurred at the oil well 30-025-43754 Heisenberg State Com #007H. See *Table 1* below for information pertaining to the well.

Table1: 30-025-43754 Heisenberg State Com #007H¹

Operator:	[371682] Steward Energy II, LLC
Well Type:	Oil
Work Type:	New
Surface Location:	J-04-14S-38E 2040 FSL 1450FEL
Lat/Long:	33.1317966, -103.0981685

¹Information obtained from the NM OCD Oil and Gas Map available at the OCD GIS website.

Upon discovery of the unauthorized release immediate notice was given to Olivia Yu, of the New Mexico Oil Conservation District 1. The cause of the release was the failure of a 3/8-inch stainless steel nipple on the wellhead. The well was shut down and shut in, the location closed off and the appropriate calls were made as required to report the release and begin cleanup. Immediate cleanup efforts consisted of the use of a backhoe in order to build berms and further contain the spill. A vacuum truck was brought in to recover any fluids spilled. Of the estimated 80 barrels released, it was also estimated that all 80 barrels were recovered. The clear majority of the release remained on the surface of the caliche pad surrounding the well head. The only portion making it off the pad occurred in the form of a mist. The total area affected by the release is 16.75 acres, the total area of the pad affected is 0.497 acres. Refer to *Table 2*, on page 3, for the spatial data pertaining to the spill boundary perimeter.

Table 2: GPS Coordinates¹

<u>Soil Sample Locations</u>	<u>Latitude</u>	<u>Longitude</u>
Sample Location #1	33.13263	-103.097325
Sample Location #2	33.132839	-103.096548
Sample Location #3	33.133061	-103.095763
Sample Location #4	33.132995	-103.094975
Sample Location #5	33.132527	-103.096126
Sample Location #6	33.131996	-103.096818
Sample Location #7	33.132058	-103.097322
Sample Location #8	33.133956	-103.096669
Sample Location #9	33.133798	-103.093852
Sample Location #10	33.132045	-103.094352
Sample Location #11	33.131215	-103.098293
Sample Location #12	33.131855	-103.098992
Sample Location #13	33.13203	-103.09815
Sample Location #14	33.13183	-103.09836
Sample Location #15	33.13215	-103.0983
Sample Location #16	33.13199	-103.09858
Sample Location #17	33.13172	-103.09774
Sample Location #18	33.13217	-103.09781
Sample Location #19	33.13237	-103.09823
Sample Location #20	33.13168	-103.09805
Well Location	33.131987	-103.098439

¹All spatial data taken on location with GPS device.

Horizontal Delineation of Soil Impacts

Horizontal delineation of soil impacts occurred in each of the four cardinal compass directions and occurred within the impacted area and beyond, this can be confirmed by the spatial data within *Table 2*. Adsorbed soil contamination was characterized for the following constituents using the specified method: benzene, toluene, ethylbenzene, and total xylenes by method EPA 8021B, total petroleum hydrocarbons by method TPH Texas1005, and for chlorides by method EPA 300. The results of the adsorbed soil contamination are characterized within *Table 3*.

Table 3: Analytical Data for Heisenberg 7H¹

Sample	TPH²	Chloride	Benzene	Toluene	Ethylbenzene	Total Xylenes
Sample #1 Surface	54.9	123.0	<0.00199	<0.00199	<0.00199	<0.00199
Sample #1 12"	<24.9	22.4	<0.00200	<0.00200	<0.00200	<0.00200
Sample #2 Surface	31.6	129.0	<0.00201	<0.00201	<0.00201	<0.00201
Sample #2 12"	<25.0	22.6	<0.00202	<0.00202	<0.00202	<0.00202
Sample #3 Surface	<24.9	71.8	<0.00200	<0.00200	<0.00200	<0.00200
Sample #3 12"	<25.0	9.4	<0.00199	<0.00199	<0.00199	<0.00199
Sample #4 Surface	<24.9	13.4	<0.00200	<0.00200	<0.00200	<0.00200
Sample #4 12"	<25.0	<4.98	<0.00202	<0.00202	<0.00202	<0.00202
Sample #5 Surface	33.5	32.0	<0.00200	<0.00200	<0.00200	<0.00200
Sample #5 12"	<25.0	5.9	<0.01000	<0.01000	<0.01000	<0.01000
Sample #6 Surface	37.6	76.7	<0.01000	<0.01000	<0.01000	<0.01000
Sample #6 12"	<25.0	<4.97	<0.01000	<0.01000	<0.01000	<0.01000
Sample #7 Surface	86.1	112.0	<0.01000	<0.01000	<0.01000	<0.01000
Sample #7 12"	<24.9	<4.99	<0.01000	<0.01000	<0.01000	<0.01000
Sample #8 Surface	<25.0	21.8	<0.01000	<0.01000	<0.01000	<0.01000
Sample #8 12"	<25.0	<4.94	<0.01000	<0.01000	<0.01000	<0.01000
Sample #9 Surface	<4.99	<25.0	<0.01000	<0.01000	<0.01000	<0.01000
Sample #9 12"	<24.9	<4.97	<0.01000	<0.01000	<0.01000	<0.01000
Sample #10 Surface	<25.0	6.45	<0.01000	<0.01000	<0.01000	<0.01000
Sample #10 12"	<25.0	<4.97	<0.01000	<0.01000	<0.01000	<0.01000
Sample #11 Surface	<24.9	93.3	<0.01000	<0.01000	<0.01000	<0.01000
Sample #11 12"	<25.0	321.0	<0.01000	<0.01000	<0.01000	<0.01000
Sample #12 Surface	<25.0	<4.94	<0.01000	<0.01000	<0.01000	<0.01000
Sample #12 12"	<24.9	<4.92	<0.01000	<0.01000	<0.01000	<0.01000
Sample #13 Surface	5490	238000	<0.00201	<0.00201	0.00331	<0.00201
Sample #13 12"	<15.0	4670	<0.00199	<0.00199	0.00274	<0.00199
Sample #14 Surface	6190	322	<0.00200	<0.00200	<0.00200	<0.00200
Sample #14 12"	3750	171	<0.00202	<0.00202	<0.00202	<0.00202
Sample #15 Surface	410	169	<0.00201	<0.00201	<0.00201	<0.00201
Sample #15 12"	<15.0	128	<0.00201	<0.00201	<0.00201	<0.00201
Sample #16 Surface	144	123	<0.00199	<0.00199	<0.00199	<0.00199
Sample #16 12"	<15.0	12.8	<0.00199	<0.00199	<0.00199	<0.00199
Sample #17 Surface	103	133	<0.00198	<0.00198	<0.00198	<0.00198
Sample #17 12"	<15.0	8.85	<0.00202	<0.00202	<0.00202	<0.00202
Sample #18 Surface	926	2990	<0.00200	0.00552	0.0189	0.0493
Sample #18 12"	86.2	576	<0.00202	<0.00202	0.00772	0.0215
Sample #19 Surface	121	578	<0.00198	<0.00198	<0.00198	<0.00198
Sample #19 12"	<15.0	16.0	<0.00201	<0.00201	<0.00201	<0.00201
Sample #20 Surface	<15.0	186	<0.00202	<0.00202	<0.00202	<0.00202
Sample #20 12"	<4.97	<15.0	<0.00199	<0.00199	<0.00199	<0.00199

¹The above table displays all values provided to REX, LLC by Xenco Laboratories. See attached *Analytical Report 569997* and *Analytical Report 572250*.

² All data is in units of ppm.

Vertical Delineation of Soil Impacts

Vertical delineation of soil impacts occurred in each of the four cardinal compass directions and occurred within the impacted area and beyond, this can be confirmed by the spatial data within *Table 2*. Vertical delineation of soil impacts took place to a depth of 12 inches from the surface. Adsorbed soil contamination was characterized for the following constituents using the specified method: benzene, toluene, ethylbenzene, and total xylenes by method EPA 8021B, total petroleum hydrocarbons by method TPH Texas1005, and for chlorides by method EPA 300. The results of the adsorbed soil contamination are characterized above, within *Table 3*.

Delineation of Ground Water Impacts

According to the USGS Caprock CRN well, the groundwater depth, as of November 30, 2017, is 60.05 feet. This information was obtained from the USGS National Water Information System: Web interface. The lateral distance to the nearest surface water was measured as 1,785 feet. The nearest surface water is a small (3,227 square feet) pond. There are two water sources in the vicinity of the affected area, both are a pivot irrigation system, one is located to the north in the affected wheat field and one is located to the east in the affected cotton field. The pivot in the wheat field is measured to have a lateral distance of 1,084 feet, and the cotton field pivot is 993 feet. No tests were conducted to determine groundwater contamination as the depth of the groundwater is greater than the specified 50 feet.

Other Adverse Impacts

As a result of this unauthorized release two agricultural fields and one CRP field were affected within the spill zone. Please refer to *Map 1* for a visual representation of the release area. All three fields were exposed to a very light mist of oil and water from the release. This exposure is documented via the images taken at the release site on December 1, 2017.

Requested Equivalency of Methods

In *Analytical Report 569997*, the TPH samples were analyzed using TX1005 instead of the required EPA 8015. Per the request of Olivia Yu, this section is intended to provide an equivalency of methods between the two. Xenco Laboratories' Sr. Corp. Technical Director, Dr. Blair Leftwich, MPH, DSc, provided this statement regarding the matter:

"EPA 8015 and TX1005 are run exactly the same way. Both are extracted by pentane and tested by GC/FID. The curves are the same and the break down of carbon ranges are the same and the break down of carbon ranges are the same, C6-12 GRO, C12-28 DRO, and C28-35 ORO. Some labs may run C6-C12 GRO by purge and trap for 8015 like BTEX. Purge and trap has lower detection limits, but for high concentrations, get the same results as pentane extraction."

Release Site Images



Above left and right: affected cotton field, facing east from oil well.



Above left: close up of affected cotton. Above right: affected cotton, facing west towards oil well.



Above left: affected wheat, facing southwest towards oil well. Above right: close up of affected wheat



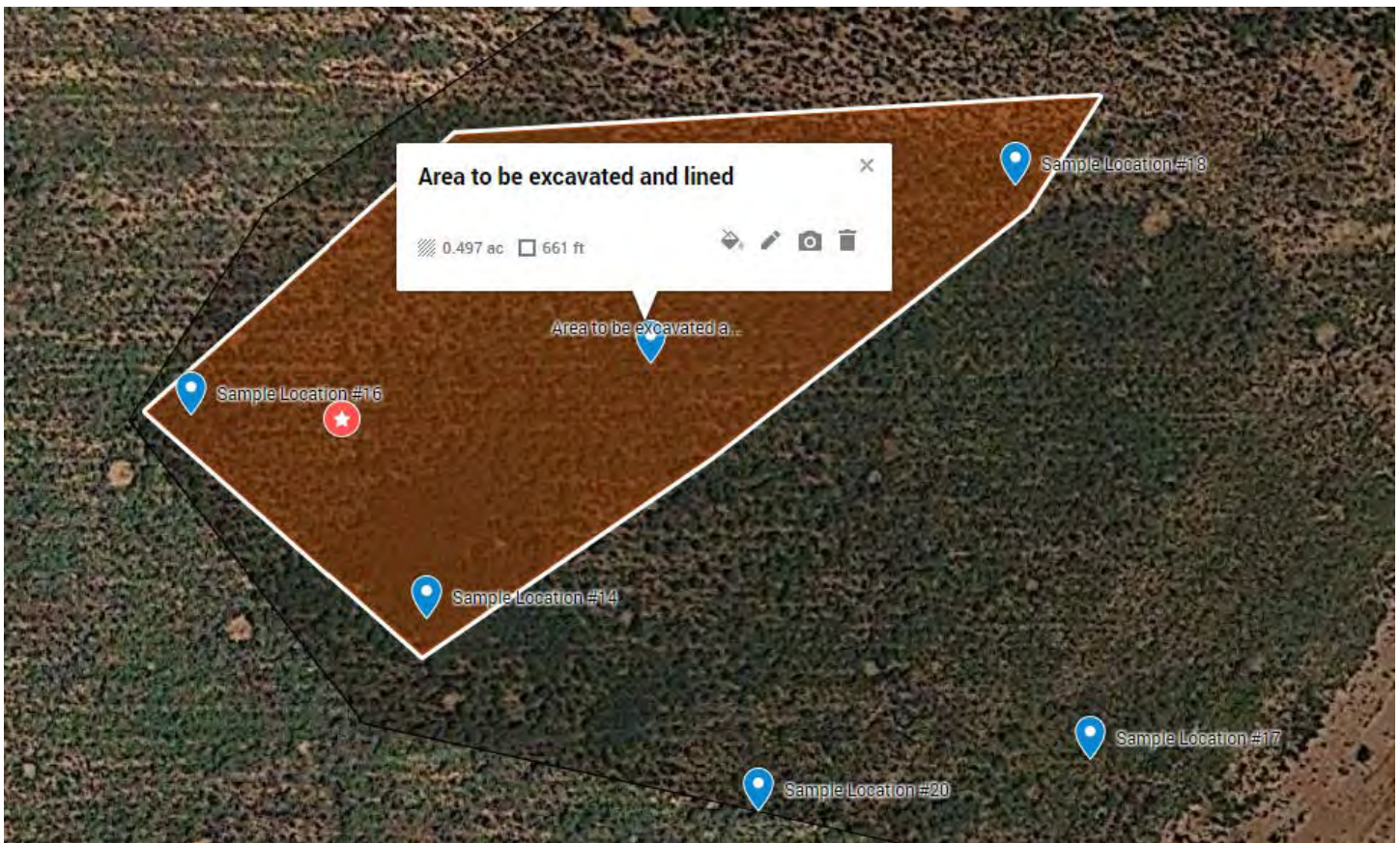
Above: Wellhead facing north, area to be excavated located to the right of the wellhead.

Corrective Action

Recommended corrective action for this release includes the following:

- Excavation of a 0.497 acre area to a depth of 12”
- Placement of a 20 mil polyethylene liner in the bottom of the excavation
- Disposal of all soil excavated at an approved OCD facility
- Backfilling of the excavation with clean fill material and wheel compacting to grade

The Heisenberg State Com #007H is an actively producing oil well, with underground lines, various equipment on site, workover rigs, trucks, etc. Due to these circumstances, Steward Energy II would request for deferred corrective action of all excavation activities until the well has undergone plugging and abandonment procedures and excavation can be conducted in a safer environment. Please reference the below map to note the location of the proposed 0.497 acre area to be excavated. This area is located entirely on the caliche pad near the wellhead, none of the soil samples taken off the pad returned contaminated levels.



30-025-43754 Heisenberg State Com #007H [317665]
Operator: [371682] Steward Energy II, LLC
Well Type: Oil
Work Type: New
Surface Location: J-04-14S-38E 2040 FSL 1450 FEL
Lat/Long: 33.1317966, -103.0981685

Map 1: Heisenberg State Com #007H



This map is intended to aid in the characterization of the release that occurred on 11/20/2017, at the oil well, Heisenberg State Com #007H.

Legend

Symbol	Description
	Agricultural Field
	Release Boundary
	Area to be excavated & lined
	Soil Sample Point
	Origin of Spill

Note: All spatial data taken in field with GPS device. See GIS file for more information.

Analytical Report 569997
for
Remediation and Environmental Xperts, LLC

Project Manager: Rex Rainey

Steward

05-DEC-17

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), 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 (T104704400-17-13)
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)



05-DEC-17

Project Manager: **Rex Rainey**
Remediation and Environmental Xperts, LLC
P.O. Box 2699
Big Spring, TX 79720

Reference: XENCO Report No(s): **569997**
Steward
Project Address: Heisenberg State Com 7H

Rex Rainey:

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) 569997. 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. 569997 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,

Holly Taylor
Project Manager

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Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Spot 1	S	12-01-17 09:30	Surface	569997-001
Spot 1	S	12-01-17 10:00	12 In	569997-002
Spot 2	S	12-01-17 10:30	Surface	569997-003
Spot 2	S	12-01-17 11:00	12 In	569997-004
Spot 3	S	12-01-17 11:30	Surface	569997-005
Spot 3	S	12-01-17 12:00	12 In	569997-006
Spot 4	S	12-01-17 12:30	Surface	569997-007
Spot 4	S	12-01-17 13:00	12 In	569997-008
Spot 5	S	12-01-17 13:30	Surface	569997-009
Spot 5	S	12-01-17 14:00	12 In	569997-010
Spot 6	S	12-01-17 09:00	Surf	569997-011
Spot 6	S	12-01-17 09:30	12 In	569997-012
Spot 7	S	12-01-17 10:00	Surf	569997-013
Spot 7	S	12-01-17 10:30	12 In	569997-014
Spot 8	S	12-01-17 11:00	Surf	569997-015
Spot 8	S	12-01-17 11:30	12 In	569997-016
Spot 9	S	12-01-17 12:00	Surf	569997-017
Spot 9	S	12-01-17 12:30	12 In	569997-018
Spot 10	S	12-01-17 13:00	Surf	569997-019
Spot 10	S	12-01-17 13:30	12 In	569997-020
Spot 12	S	12-01-17 14:30	Surf	569997-021
Spot 12	S	12-01-17 15:00	12 In	569997-022
Spot 11	S	12-01-17 15:30	Surf	569997-023
Spot 11	S	12-01-17 16:00	12 In	569997-024



CASE NARRATIVE

Client Name: Remediation and Environmental Xperts, LLC

Project Name: Steward

Project ID:
Work Order Number(s): 569997

Report Date: 05-DEC-17
Date Received: 12/04/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3034895 BTEX by EPA 8021B

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

Batch: LBA-3034937 BTEX by EPA 8021B

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

Lab Sample ID 569997-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 569997-010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024.

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



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 1** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-001 Date Collected: 12.01.17 09.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.04.17 17.00 Basis: Wet Weight
Seq Number: 3034981

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	123	4.94	mg/kg	12.04.17 22.58		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 14.19	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	54.9	25.0	mg/kg	12.04.17 14.19		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 14.19	U	1
Total TPH 1005	PHC635	54.9	25.0	mg/kg	12.04.17 14.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.04.17 14.19	
o-Terphenyl	84-15-1	88	%	70-130	12.04.17 14.19	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 1**
Lab Sample Id: 569997-001

Matrix: Soil
Date Collected: 12.01.17 09.30

Date Received: 12.04.17 10.50
Sample Depth: Surface

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3034895

Date Prep: 12.04.17 11.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.04.17 14.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.04.17 14.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 14.04		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.04.17 14.04		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 1** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-002 Date Collected: 12.01.17 10.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.04.17 17.00 Basis: Wet Weight
Seq Number: 3034981

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.4	4.97	mg/kg	12.05.17 10.01		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 15.20	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 15.20	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 15.20	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 15.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.04.17 15.20	
o-Terphenyl	84-15-1	98	%	70-130	12.04.17 15.20	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 1** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-002 Date Collected: 12.01.17 10.00 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.04.17 14.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.17 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 14.23		
1,4-Difluorobenzene	540-36-3	95	%	80-120	12.04.17 14.23		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 2** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-003 Date Collected: 12.01.17 10.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.04.17 17.00 Basis: Wet Weight
Seq Number: 3034981

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	129	4.96	mg/kg	12.05.17 10.10		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 15.40	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	31.6	24.9	mg/kg	12.04.17 15.40		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 15.40	U	1
Total TPH 1005	PHC635	31.6	24.9	mg/kg	12.04.17 15.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	12.04.17 15.40	
o-Terphenyl	84-15-1	85	%	70-130	12.04.17 15.40	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 2** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-003 Date Collected: 12.01.17 10.30 Sample Depth: Surface
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.04.17 14.42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.04.17 14.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	12.04.17 14.42		
1,4-Difluorobenzene	540-36-3	95	%	80-120	12.04.17 14.42		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 2** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-004 Date Collected: 12.01.17 11.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.04.17 17.00 Basis: Wet Weight
Seq Number: 3034981

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.6	4.92	mg/kg	12.05.17 10.18		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 16.01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 16.01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 16.01	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 16.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.04.17 16.01	
o-Terphenyl	84-15-1	92	%	70-130	12.04.17 16.01	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 2**
Lab Sample Id: 569997-004

Matrix: Soil
Date Collected: 12.01.17 11.00

Date Received: 12.04.17 10.50
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3034895

Date Prep: 12.04.17 11.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.04.17 15.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.04.17 15.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	80-120	12.04.17 15.00		
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 15.00		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 3** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-005 Date Collected: 12.01.17 11.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.8	4.95	mg/kg	12.05.17 10.47		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 16.21	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 16.21	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 16.21	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.04.17 16.21	
o-Terphenyl	84-15-1	97	%	70-130	12.04.17 16.21	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 3** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-005 Date Collected: 12.01.17 11.30 Sample Depth: Surface
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.04.17 15.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.17 15.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	80-120	12.04.17 15.19		
4-Bromofluorobenzene	460-00-4	93	%	80-120	12.04.17 15.19		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 3** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-006 Date Collected: 12.01.17 12.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.37	4.97	mg/kg	12.05.17 11.05		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 16.41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 16.41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 16.41	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 16.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.04.17 16.41	
o-Terphenyl	84-15-1	97	%	70-130	12.04.17 16.41	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 3** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-006 Date Collected: 12.01.17 12.00 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.04.17 15.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.04.17 15.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	12.04.17 15.39		
1,4-Difluorobenzene	540-36-3	96	%	80-120	12.04.17 15.39		



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Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 4** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-007 Date Collected: 12.01.17 12.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.4	4.95	mg/kg	12.05.17 11.11		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 17.01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 17.01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 17.01	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 17.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.04.17 17.01	
o-Terphenyl	84-15-1	88	%	70-130	12.04.17 17.01	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 4** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-007 Date Collected: 12.01.17 12.30 Sample Depth: Surface
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.04.17 15.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.17 15.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	12.04.17 15.58		
4-Bromofluorobenzene	460-00-4	91	%	80-120	12.04.17 15.58		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 4** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-008 Date Collected: 12.01.17 13.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	12.05.17 11.16	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 17.21	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 17.21	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 17.21	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 17.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	12.04.17 17.21	
o-Terphenyl	84-15-1	86	%	70-130	12.04.17 17.21	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 4**
Lab Sample Id: 569997-008

Matrix: Soil
Date Collected: 12.01.17 13.00

Date Received: 12.04.17 10.50
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3034895

Date Prep: 12.04.17 11.15

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.04.17 16.17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.04.17 16.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	80-120	12.04.17 16.17		
1,4-Difluorobenzene	540-36-3	95	%	80-120	12.04.17 16.17		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 5** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-009 Date Collected: 12.01.17 13.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.0	4.99	mg/kg	12.05.17 11.22		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 17.41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	33.5	25.0	mg/kg	12.04.17 17.41		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 17.41	U	1
Total TPH 1005	PHC635	33.5	25.0	mg/kg	12.04.17 17.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	12.04.17 17.41	
o-Terphenyl	84-15-1	81	%	70-130	12.04.17 17.41	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 5** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-009 Date Collected: 12.01.17 13.30 Sample Depth: Surface
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.15 Basis: Wet Weight
Seq Number: 3034895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.04.17 16.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.17 16.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	80-120	12.04.17 16.37		
1,4-Difluorobenzene	540-36-3	95	%	80-120	12.04.17 16.37		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 5** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-010 Date Collected: 12.01.17 14.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.87	4.99	mg/kg	12.05.17 11.40		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 18.01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 18.01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 18.01	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.04.17 18.01	
o-Terphenyl	84-15-1	98	%	70-130	12.04.17 18.01	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 5** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-010 Date Collected: 12.01.17 14.00 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 19.45	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 19.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	80-120	12.04.17 19.45		
1,4-Difluorobenzene	540-36-3	91	%	80-120	12.04.17 19.45		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 6** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-011 Date Collected: 12.01.17 09.00 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.7	4.98	mg/kg	12.05.17 11.46		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 19.06	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	37.6	25.0	mg/kg	12.04.17 19.06		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 19.06	U	1
Total TPH 1005	PHC635	37.6	25.0	mg/kg	12.04.17 19.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.04.17 19.06	
o-Terphenyl	84-15-1	85	%	70-130	12.04.17 19.06	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 6** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-011 Date Collected: 12.01.17 09.00 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 19.26	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 19.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	12.04.17 19.26		
4-Bromofluorobenzene	460-00-4	93	%	80-120	12.04.17 19.26		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 6** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-012 Date Collected: 12.01.17 09.30 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	12.05.17 11.52	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 19.27	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 19.27	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 19.27	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 19.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.04.17 19.27	
o-Terphenyl	84-15-1	110	%	70-130	12.04.17 19.27	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 6** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-012 Date Collected: 12.01.17 09.30 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 20.02	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 20.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	12.04.17 20.02		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.04.17 20.02		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 7** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-013 Date Collected: 12.01.17 10.00 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	112	4.98	mg/kg	12.05.17 11.58		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 19.48	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	86.1	24.9	mg/kg	12.04.17 19.48		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 19.48	U	1
Total TPH 1005	PHC635	86.1	24.9	mg/kg	12.04.17 19.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.04.17 19.48	
o-Terphenyl	84-15-1	91	%	70-130	12.04.17 19.48	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 7** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-013 Date Collected: 12.01.17 10.00 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 20.21	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 20.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	12.04.17 20.21		
1,4-Difluorobenzene	540-36-3	100	%	80-120	12.04.17 20.21		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 7** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-014 Date Collected: 12.01.17 10.30 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	12.05.17 12.04	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 20.08	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 20.08	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 20.08	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 20.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.04.17 20.08	
o-Terphenyl	84-15-1	95	%	70-130	12.04.17 20.08	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 7** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-014 Date Collected: 12.01.17 10.30 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 20.40	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 20.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	80-120	12.04.17 20.40		
1,4-Difluorobenzene	540-36-3	91	%	80-120	12.04.17 20.40		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 8** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-015 Date Collected: 12.01.17 11.00 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.8	4.95	mg/kg	12.05.17 12.10		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 20.30	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 20.30	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 20.30	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 20.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.04.17 20.30	
o-Terphenyl	84-15-1	84	%	70-130	12.04.17 20.30	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 8**
Lab Sample Id: 569997-015

Matrix: Soil
Date Collected: 12.01.17 11.00

Date Received: 12.04.17 10.50
Sample Depth: Surf

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3034937

Date Prep: 12.04.17 11.20

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 20.59	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 20.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.04.17 20.59		
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 20.59		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 8** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-016 Date Collected: 12.01.17 11.30 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	12.05.17 12.28	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 20.51	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 20.51	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 20.51	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 20.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	12.04.17 20.51	
o-Terphenyl	84-15-1	84	%	70-130	12.04.17 20.51	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 8** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-016 Date Collected: 12.01.17 11.30 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 21.17	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 21.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	80-120	12.04.17 21.17		
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 21.17		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 9** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-017 Date Collected: 12.01.17 12.00 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	12.05.17 12.34	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 21.12	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 21.12	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 21.12	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.04.17 21.12	
o-Terphenyl	84-15-1	93	%	70-130	12.04.17 21.12	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 9** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-017 Date Collected: 12.01.17 12.00 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 21.36	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 21.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.04.17 21.36		
4-Bromofluorobenzene	460-00-4	84	%	80-120	12.04.17 21.36		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 9** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-018 Date Collected: 12.01.17 12.30 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	12.05.17 12.51	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 21.34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 21.34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 21.34	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 21.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	12.04.17 21.34	
o-Terphenyl	84-15-1	78	%	70-130	12.04.17 21.34	



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 9** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-018 Date Collected: 12.01.17 12.30 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 21.55	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 21.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	12.04.17 21.55		
4-Bromofluorobenzene	460-00-4	85	%	80-120	12.04.17 21.55		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 10** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-019 Date Collected: 12.01.17 13.00 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.45	4.94	mg/kg	12.05.17 12.57		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 21.55	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 21.55	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 21.55	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	12.04.17 21.55	
o-Terphenyl	84-15-1	94	%	70-130	12.04.17 21.55	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 10** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-019 Date Collected: 12.01.17 13.00 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 22.14	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 22.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	80-120	12.04.17 22.14		
4-Bromofluorobenzene	460-00-4	82	%	80-120	12.04.17 22.14		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 10** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-020 Date Collected: 12.01.17 13.30 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	12.05.17 13.03	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 22.14	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 22.14	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 22.14	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 22.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.04.17 22.14	
o-Terphenyl	84-15-1	91	%	70-130	12.04.17 22.14	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 10**
Lab Sample Id: 569997-020

Matrix: Soil
Date Collected: 12.01.17 13.30

Date Received: 12.04.17 10.50
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.04.17 11.20

Basis: Wet Weight

Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 23.10	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 23.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 23.10		
1,4-Difluorobenzene	540-36-3	96	%	80-120	12.04.17 23.10		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 12** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-021 Date Collected: 12.01.17 14.30 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	12.05.17 13.09	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 17.50	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 17.50	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 17.50	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 17.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	12.04.17 17.50	
o-Terphenyl	84-15-1	82	%	70-130	12.04.17 17.50	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 12** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-021 Date Collected: 12.01.17 14.30 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 23.29	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 23.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.04.17 23.29		
1,4-Difluorobenzene	540-36-3	91	%	80-120	12.04.17 23.29		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 12** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-022 Date Collected: 12.01.17 15.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	12.05.17 13.15	U	1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 18.10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 18.10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 18.10	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 18.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.04.17 18.10	
o-Terphenyl	84-15-1	88	%	70-130	12.04.17 18.10	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 12** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-022 Date Collected: 12.01.17 15.00 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.04.17 23.48	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.04.17 23.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	12.04.17 23.48		
4-Bromofluorobenzene	460-00-4	87	%	80-120	12.04.17 23.48		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 11** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-023 Date Collected: 12.01.17 15.30 Sample Depth: Surf
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.3	4.92	mg/kg	12.05.17 13.21		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<24.9	24.9	mg/kg	12.04.17 18.31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<24.9	24.9	mg/kg	12.04.17 18.31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<24.9	24.9	mg/kg	12.04.17 18.31	U	1
Total TPH 1005	PHC635	<24.9	24.9	mg/kg	12.04.17 18.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.04.17 18.31	
o-Terphenyl	84-15-1	84	%	70-130	12.04.17 18.31	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 11** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-023 Date Collected: 12.01.17 15.30 Sample Depth: Surf
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.05.17 00.06	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.05.17 00.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	12.05.17 00.06		
1,4-Difluorobenzene	540-36-3	92	%	80-120	12.05.17 00.06		



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 11** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-024 Date Collected: 12.01.17 16.00 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MNV % Moisture:
Analyst: MNV Date Prep: 12.05.17 09.00 Basis: Wet Weight
Seq Number: 3034991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	321	4.95	mg/kg	12.05.17 13.27		1

Analytical Method: TPH by Texas1005 Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.04.17 11.00 Basis: Wet Weight
Seq Number: 3034916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	<25.0	25.0	mg/kg	12.04.17 18.52	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<25.0	25.0	mg/kg	12.04.17 18.52	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<25.0	25.0	mg/kg	12.04.17 18.52	U	1
Total TPH 1005	PHC635	<25.0	25.0	mg/kg	12.04.17 18.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.04.17 18.52	
o-Terphenyl	84-15-1	88	%	70-130	12.04.17 18.52	



Certificate of Analytical Results 569997



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 11** Matrix: Soil Date Received: 12.04.17 10.50
Lab Sample Id: 569997-024 Date Collected: 12.01.17 16.00 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.04.17 11.20 Basis: Wet Weight
Seq Number: 3034937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	12.05.17 00.24	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
Total BTEX		<0.0100	0.0100	mg/kg	12.05.17 00.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	12.05.17 00.24		
1,4-Difluorobenzene	540-36-3	91	%	80-120	12.05.17 00.24		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(602) 437-0330	

Remediation and Environmental Xperts, LLC
Steward**Analytical Method: Chloride by EPA 300**

Seq Number: 3034981

MB Sample Id: 7635398-1-BLK

Matrix: Solid

LCS Sample Id: 7635398-1-BKS

Prep Method: E300P

Date Prep: 12.04.17

LCSD Sample Id: 7635398-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	249	100	90-110	0	20	mg/kg	12.04.17 19:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3034981

MB Sample Id: 7635431-1-BLK

Matrix: Solid

LCS Sample Id: 7635431-1-BKS

Prep Method: E300P

Date Prep: 12.05.17

LCSD Sample Id: 7635431-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	246	98	90-110	0	20	mg/kg	12.05.17 10:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3034981

Parent Sample Id: 569113-013

Matrix: Soil

MS Sample Id: 569113-013 S

Prep Method: E300P

Date Prep: 12.04.17

MSD Sample Id: 569113-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	710	249	964	102	965	102	90-110	0	20	mg/kg	12.04.17 21:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3034991

Parent Sample Id: 569997-005

Matrix: Soil

MS Sample Id: 569997-005 S

Prep Method: E300P

Date Prep: 12.05.17

MSD Sample Id: 569997-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.8	248	322	101	316	98	90-110	2	20	mg/kg	12.05.17 10:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3034991

Parent Sample Id: 569997-015

Matrix: Soil

MS Sample Id: 569997-015 S

Prep Method: E300P

Date Prep: 12.05.17

MSD Sample Id: 569997-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.8	248	282	105	286	107	90-110	1	20	mg/kg	12.05.17 12:16	

Remediation and Environmental Xperts, LLC
Steward

Analytical Method: TPH by Texas1005

Seq Number: 3034916

MB Sample Id: 7635383-1-BLK

Matrix: Solid

LCS Sample Id: 7635383-1-BKS

Prep Method: TX1005P

Date Prep: 12.04.17

LCSD Sample Id: 7635383-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	1000	1010	101	944	94	70-135	7	35	mg/kg	12.04.17 12:40	
C12-C28 Diesel Range Hydrocarbons	<25.0	1000	1010	101	967	97	70-135	4	35	mg/kg	12.04.17 12:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		116		109		70-135	%	12.04.17 12:40
o-Terphenyl	95		113		102		70-130	%	12.04.17 12:40

Analytical Method: TPH by Texas1005

Seq Number: 3034997

MB Sample Id: 7635408-1-BLK

Matrix: Solid

LCS Sample Id: 7635408-1-BKS

Prep Method: TX1005P

Date Prep: 12.04.17

LCSD Sample Id: 7635408-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	1000	850	85	933	93	70-135	9	35	mg/kg	12.04.17 13:23	
C12-C28 Diesel Range Hydrocarbons	<25.0	1000	802	80	980	98	70-135	20	35	mg/kg	12.04.17 13:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		72		99		70-135	%	12.04.17 13:23
o-Terphenyl	101		77		97		70-130	%	12.04.17 13:23

Analytical Method: TPH by Texas1005

Seq Number: 3034916

Parent Sample Id: 569990-016

Matrix: Soil

MS Sample Id: 569990-016 S

Prep Method: TX1005P

Date Prep: 12.04.17

MSD Sample Id: 569990-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	999	928	93	967	97	70-135	4	35	mg/kg	12.04.17 17:07	
C12-C28 Diesel Range Hydrocarbons	54.7	999	1020	97	1030	98	70-135	1	35	mg/kg	12.04.17 17:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		107		70-135	%	12.04.17 17:07
o-Terphenyl	97		99		70-130	%	12.04.17 17:07

Remediation and Environmental Xperts, LLC
Steward

Analytical Method: TPH by Texas1005

Seq Number: 3034997

Parent Sample Id: 569997-001

Matrix: Soil

MS Sample Id: 569997-001 S

Prep Method: TX1005P

Date Prep: 12.04.17

MSD Sample Id: 569997-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	998	930	93	847	85	70-135	9	35	mg/kg	12.04.17 14:39	
C12-C28 Diesel Range Hydrocarbons	54.9	998	1030	98	948	89	70-135	8	35	mg/kg	12.04.17 14:39	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		80		70-135	%	12.04.17 14:39
o-Terphenyl	93		90		70-130	%	12.04.17 14:39

Analytical Method: BTEX by EPA 8021B

Seq Number: 3034895

MB Sample Id: 7635368-1-BLK

Matrix: Solid

LCS Sample Id: 7635368-1-BKS

Prep Method: SW5030B

Date Prep: 12.04.17

LCSD Sample Id: 7635368-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.113	113	0.116	115	70-130	3	35	mg/kg	12.04.17 07:42	
Toluene	<0.00200	0.100	0.108	108	0.109	108	70-130	1	35	mg/kg	12.04.17 07:42	
Ethylbenzene	<0.00200	0.100	0.104	104	0.106	105	71-129	2	35	mg/kg	12.04.17 07:42	
m,p-Xylenes	<0.00401	0.200	0.200	100	0.204	101	70-135	2	35	mg/kg	12.04.17 07:42	
o-Xylene	<0.00200	0.100	0.0971	97	0.0988	98	71-133	2	35	mg/kg	12.04.17 07:42	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		98		98		80-120	%	12.04.17 07:42
4-Bromofluorobenzene	80		93		97		80-120	%	12.04.17 07:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3034937

MB Sample Id: 7635396-1-BLK

Matrix: Solid

LCS Sample Id: 7635396-1-BKS

Prep Method: SW5030B

Date Prep: 12.04.17

LCSD Sample Id: 7635396-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.566	113	0.558	112	70-130	1	35	mg/kg	12.04.17 17:15	
Toluene	<0.0100	0.500	0.526	105	0.527	105	70-130	0	35	mg/kg	12.04.17 17:15	
Ethylbenzene	<0.0100	0.500	0.506	101	0.503	101	71-129	1	35	mg/kg	12.04.17 17:15	
m,p-Xylenes	<0.0200	1.00	0.976	98	0.966	97	70-135	1	35	mg/kg	12.04.17 17:15	
o-Xylene	<0.0100	0.500	0.475	95	0.474	95	71-133	0	35	mg/kg	12.04.17 17:15	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		95		95		80-120	%	12.04.17 17:15
4-Bromofluorobenzene	81		89		95		80-120	%	12.04.17 17:15

Remediation and Environmental Xperts, LLC
Steward

Analytical Method: BTEX by EPA 8021B

Seq Number: 3034895

Parent Sample Id: 569948-001

Matrix: Soil

MS Sample Id: 569948-001 S

Prep Method: SW5030B

Date Prep: 12.04.17

MSD Sample Id: 569948-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0883	89	0.0926	93	70-130	5	35	mg/kg	12.04.17 08:20	
Toluene	0.00636	0.0996	0.0833	77	0.0891	83	70-130	7	35	mg/kg	12.04.17 08:20	
Ethylbenzene	<0.00199	0.0996	0.0691	69	0.0743	74	71-129	7	35	mg/kg	12.04.17 08:20	X
m,p-Xylenes	<0.00398	0.199	0.135	68	0.142	71	70-135	5	35	mg/kg	12.04.17 08:20	X
o-Xylene	<0.00199	0.0996	0.0629	63	0.0707	71	71-133	12	35	mg/kg	12.04.17 08:20	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		97		80-120	%	12.04.17 08:20
4-Bromofluorobenzene	104		98		80-120	%	12.04.17 08:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3034937

Parent Sample Id: 569997-011

Matrix: Soil

MS Sample Id: 569997-011 S

Prep Method: SW5030B

Date Prep: 12.04.17

MSD Sample Id: 569997-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.474	95	0.487	97	70-130	3	35	mg/kg	12.04.17 17:53	
Toluene	<0.0100	0.500	0.422	84	0.421	84	70-130	0	35	mg/kg	12.04.17 17:53	
Ethylbenzene	<0.0100	0.500	0.379	76	0.368	74	71-129	3	35	mg/kg	12.04.17 17:53	
m,p-Xylenes	<0.0200	1.00	0.719	72	0.712	71	70-135	1	35	mg/kg	12.04.17 17:53	
o-Xylene	<0.0100	0.500	0.356	71	0.351	70	71-133	1	35	mg/kg	12.04.17 17:53	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		96		80-120	%	12.04.17 17:53
4-Bromofluorobenzene	95		95		80-120	%	12.04.17 17:53



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 3

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5261)

www.xenco.com

Phoenix, Arizona (480-565-0900)

Xenco Quote #

Xenco Job #

569997

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes						
Company Name / Branch: REX, LLC				Project Name/Number: Steward				Project Location: Hilsenberg State Corral, TX				Invoice To: REX LLC						
Company Address: P.O. BOX 2699 BIG SPRING, TX 79721				Project Location: Hilsenberg State Corral, TX				Invoice To: REX LLC				PO Number:						
Email: admin@colandresaltremediation.com 432-213-3105 text@colandresaltremediation.com				Project Contact: Rex Rainey and/or Roylyn Welch				Sampler's Name:				Field ID / Point of Collection						
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Cl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	TPH	BTEX	8021
1	SPT 1	5'11"	12/1	9:30														
2	SPT 1	12"	12/1	10:00														
3	SPT 2	5'11"	12/1	10:30														
4	SPT 2	12"	12/1	11:00														
5	SPT 3	5'11"	12/1	11:30														
6	SPT 3	12"	12/1	12:00														
7	SPT 4	5'11"	12/1	12:30														
8	SPT 4	12"	12/1	1:00														
9	SPT 5	5'11"	12/1	1:30														
10	SPT 5	12"	12/1	2:00														
Turnaround Time (Business days)																		
Data Deliverable Information																		
Notes:																		
Temp: 3.9 IR ID: R-8																		
CF: (0-6: -0.2°C) (6-23: +0.2°C)																		
Corrected Temp: 4.1																		
TAT Starts Day received by Lab, if received by 5:00 pm																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																		
Relinquished by Sampler: 1. Ryan Milunzi Date Time: 12/1 10:00 Received By: 2. Anna Chandler Date Time: 12/4 10:50																		
Relinquished by: 3. Date Time: Received By: 4. Custody Seal # 4 On Ice Cooler Temp. Thermo. Corr. Factor																		
Relinquished by: 5. Date Time: Received By: 6. Custody Seal # 6 On Ice Cooler Temp. Thermo. Corr. Factor																		

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Phoenix, Arizona (480-355-0900)

569997

No.	Field ID / Point of Collection	Collection			Number of preserved bottles										Notes			Field Comments
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	TPH	BTEX	
1	SP0+6	SUR	12/1	9:00											✓	✓	+	
2	SP0+6	12"	12/1	9:30											✓	✓		
3	SP0+7	SUR	12/1	10:00											✓	✓		
4	SP0+7	12"		10:30											✓	✓		
5	SP0+8	SUR		11:00											✓	✓		
6	SP0+8	12"		11:30											✓	✓		
7	SP0+9	SUR		12:00											✓	✓		
8	SP0+9	12"		12:30											✓	✓		
9	SP0+10	SUR		1:00											✓	✓		
10	SP0+10	12"		1:30											✓	✓		
Turnaround Time (Business days)						Date Deliverable information								Notes:				

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY									
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:
1 Relinquished by Sampler: Ryan Mulvihill	12/11 10:00	1 [Signature]	2 [Signature]	12/14	1 [Signature]	2 [Signature]	12/14 10:50	1 [Signature]	2 [Signature]
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:
3		3 [Signature]	4 [Signature]						
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:
5		5 [Signature]	6 [Signature]						
				Preserved where applicable					
				On Ice	☒	Cooler Temp.			
				Thermo. Corr. Factor					

losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xencro, a minimum charge of \$75 will be applied to each project. Xencro's liability will be limited to the cost of samples. Any samples received by Xencro but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Phoenix, Arizona (480-355-0900)

569997

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: REX, LLC				Project Name/Number: Steward											
Company Address: P. O. BOX 2699 BIG SPRING, TX 79721				Project Location: Hilsenberg State.com											
Email: amie@landsoftremediation.com amie@landsoftremediation.com				Invoice To: REX LLC											
Project Contact: Rex Rainey and/or Roylyn Welch				PO Number: 											
Sampler's Name															

No.	Field ID / Point of Collection	Collection			# of bottles	Number of preserved bottles								Chlorides	TPH	BTEX	Field Comments
		Sample Depth	Date	Time		HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE				
1	SPOT 12	SVR 12"	12/1	2:30													
2	SPOT 12	SVR 12"	12/1	3:00													
3	SPOT 11	SVR 12"	12/1	3:30													
4	SPOT 11	SVR 12"	12/1	4:00													
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (Business days)				Data Deliverable Information				Notes:			
☐ Same Day TAT ☒ Next Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 3 Day EMERGENCY				☐ 5 Day TAT ☐ 7 Day TAT ☐ Contract TAT ☐ TRRP Checklist				Temp: 3.9 CF:(0-6: -0.2°C) (6-23: +0.2°C) Corrected Temp: 4.1 IIR ID:R-8			

TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #			
--	--	--	--	--------------------------	--	--	--

Relinquished by Sampler:				Relinquished By:				Date Time:				Relinquished By:				Date Time:			
1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi			
3				3				3				3				3			
Relinquished by:				Relinquished By:				Date Time:				Relinquished By:				Date Time:			
5				5				5				5				5			

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY				Date Time:				Relinquished By:				Date Time:				Relinquished By:			
1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi				1 Amie Philuzzi			
3				3				3				3				3			
Relinquished by:				Relinquished By:				Date Time:				Relinquished By:				Date Time:			
5				5				5				5				5			

On Ice				Cooler Temp.				Thermo. Corr. Factor			
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Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be placed on orders previously negotiated under a fully executed dated contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Remediation and Environmental Xperts,

Date/ Time Received: 12/04/2017 10:50:00 AM

Work Order #: 569997

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	4.1
#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
#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:

Connie Hernandez

Date: 12/04/2017

Checklist reviewed by:

Holly Taylor

Date: 12/04/2017



Certificate of Analysis Summary 572250

Remediation and Environmental Xperts, LLC, Big Spring, TX



Project Name: Steward

Project Id:

Date Received in Lab: Thu Dec-28-17 03:00 pm

Contact: Rex Rainey

Report Date: 04-JAN-18

Project Location: Heisenberg 7H

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	572250-001	572250-002	572250-003	572250-004	572250-005	572250-006
	Field Id:	Spot 13	Spot 13	Spot 14	Spot 14	Spot 15	Spot 15
	Depth:	Surface-	12- In	Surface-	12- In	Surface- In	12- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Dec-28-17 08:06	Dec-28-17 08:15	Dec-28-17 08:30	Dec-28-17 08:45	Dec-28-17 09:00	Dec-28-17 09:15
BTEX by EPA 8021B	Extracted:	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00
	Analyzed:	Dec-29-17 22:21	Dec-29-17 16:16	Dec-29-17 14:59	Dec-29-17 16:35	Dec-29-17 17:18	Dec-29-17 17:37
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Ethylbenzene		0.00331 0.00201	0.00274 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399	<0.00403 0.00403	<0.00402 0.00402	<0.00402 0.00402
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Total BTEX		0.00331 0.00201	0.00274 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Chloride by EPA 300	Extracted:	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00
	Analyzed:	Jan-02-18 11:39	Jan-02-18 11:46	Dec-29-17 13:52	Dec-29-17 14:13	Dec-29-17 14:20	Dec-29-17 14:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		238000 2480	4670 50.0	322 4.97	171 4.94	169 4.92	128 4.92
TPH by SW8015 Mod	Extracted:	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00
	Analyzed:	Dec-29-17 07:58	Dec-29-17 00:36	Dec-29-17 06:02	Dec-29-17 00:55	Dec-29-17 01:16	Dec-29-17 01:38
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		17.6 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		4850 15.0	<15.0 15.0	2820 15.0	1790 15.0	351 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		622 15.0	<15.0 15.0	3370 15.0	1960 15.0	59.2 15.0	<15.0 15.0
Total TPH		5490 15.0	<15.0 15.0	6190 15.0	3750 15.0	410 15.0	<15.0 15.0

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Holly Taylor
Project Manager



Certificate of Analysis Summary 572250

Remediation and Environmental Xperts, LLC, Big Spring, TX



Project Name: Steward

Project Id:

Date Received in Lab: Thu Dec-28-17 03:00 pm

Contact: Rex Rainey

Report Date: 04-JAN-18

Project Location: Heisenberg 7H

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	572250-007	572250-008	572250-009	572250-010	572250-011	572250-012
	Field Id:	Spot 16	Spot 16	Spot 17	Spot 17	Spot 18	Spot 18
	Depth:	Surface- In	12- In	Surface- In	12- In	Surface- In	12- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Dec-28-17 09:30	Dec-28-17 09:45	Dec-28-17 10:00	Dec-28-17 10:15	Dec-28-17 10:30	Dec-28-17 10:45
BTEX by EPA 8021B	Extracted:	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00
	Analyzed:	Dec-29-17 17:57	Dec-29-17 22:02	Dec-29-17 21:43	Dec-29-17 21:24	Dec-29-17 19:29	Dec-29-17 19:49
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.00552 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.0189 0.00200	0.00772 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00396 0.00396	<0.00404 0.00404	0.0142 0.00401	0.00895 0.00399
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.0107 0.00200	0.00479 0.00200
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.0249 0.00200	0.0137 0.00200
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.0493 0.00200	0.0215 0.00200
Chloride by EPA 300	Extracted:	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00
	Analyzed:	Dec-29-17 14:34	Dec-29-17 14:41	Dec-29-17 14:55	Dec-29-17 15:15	Dec-29-17 15:36	Dec-29-17 15:43
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Chloride		123 4.99	12.8 4.93	133 4.90	8.85 4.90	2990 24.8	576 4.99
TPH by SW8015 Mod	Extracted:	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00
	Analyzed:	Dec-29-17 02:00	Dec-29-17 02:20	Dec-29-17 05:02	Dec-29-17 05:22	Dec-29-17 15:21	Dec-29-17 03:41
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	19.1 15.0	<15.0 15.0
Diesel Range Organics (DRO)		115 15.0	<15.0 15.0	78.2 15.0	<15.0 15.0	808 15.0	86.2 15.0
Oil Range Hydrocarbons (ORO)		29.0 15.0	<15.0 15.0	24.6 15.0	<15.0 15.0	99.2 15.0	<15.0 15.0
Total TPH		144 15.0	<15.0 15.0	103 15.0	<15.0 15.0	926 15.0	86.2 15.0

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Holly Taylor
Project Manager



Certificate of Analysis Summary 572250

Remediation and Environmental Xperts, LLC, Big Spring, TX



Project Name: Steward

Project Id:

Date Received in Lab: Thu Dec-28-17 03:00 pm

Contact: Rex Rainey

Report Date: 04-JAN-18

Project Location: Heisenberg 7H

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	572250-013	572250-014	572250-015	572250-016		
	Field Id:	Spot 19	Spot 19	Spot 20	Spot 20		
	Depth:	surface- In	12- In	Surface- In	12- In		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Dec-28-17 11:00	Dec-28-17 11:15	Dec-28-17 11:30	Dec-28-17 11:45		
BTEX by EPA 8021B	Extracted:	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00	Dec-29-17 08:00		
	Analyzed:	Dec-29-17 20:08	Dec-29-17 20:27	Dec-29-17 20:46	Dec-29-17 21:05		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Benzene		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
Toluene		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
Ethylbenzene		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
m,p-Xylenes		<0.00397 0.00397	<0.00402 0.00402	<0.00403 0.00403	<0.00398 0.00398		
o-Xylene		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
Total Xylenes		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
Total BTEX		<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199		
Chloride by EPA 300	Extracted:	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00	Dec-29-17 10:00		
	Analyzed:	Dec-29-17 15:50	Dec-29-17 15:57	Dec-29-17 16:04	Dec-29-17 16:11		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Chloride		578 4.91	16.0 4.91	186 4.95	<4.97 4.97		
TPH by SW8015 Mod	Extracted:	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00	Dec-28-17 15:00		
	Analyzed:	Dec-29-17 05:42	Dec-29-17 04:02	Dec-29-17 04:22	Dec-29-17 04:42		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		104 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Oil Range Hydrocarbons (ORO)		16.5 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		121 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		

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Holly Taylor
Project Manager

Analytical Report 572250
for
Remediation and Environmental Xperts, LLC

Project Manager: Rex Rainey

Steward

04-JAN-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), 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 (T104704400-17-13)
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)



04-JAN-18

Project Manager: **Rex Rainey**
Remediation and Environmental Xperts, LLC
P.O. Box 2699
Big Spring, TX 79720

Reference: XENCO Report No(s): **572250**
Steward
Project Address: Heisenberg 7H

Rex Rainey:

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) 572250. 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. 572250 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,

Holly Taylor
Project Manager

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Sample Cross Reference 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Spot 13	S	12-28-17 08:06	Surface	572250-001
Spot 13	S	12-28-17 08:15	12 In	572250-002
Spot 14	S	12-28-17 08:30	Surface	572250-003
Spot 14	S	12-28-17 08:45	12 In	572250-004
Spot 15	S	12-28-17 09:00	Surface In	572250-005
Spot 15	S	12-28-17 09:15	12 In	572250-006
Spot 16	S	12-28-17 09:30	Surface In	572250-007
Spot 16	S	12-28-17 09:45	12 In	572250-008
Spot 17	S	12-28-17 10:00	Surface In	572250-009
Spot 17	S	12-28-17 10:15	12 In	572250-010
Spot 18	S	12-28-17 10:30	Surface In	572250-011
Spot 18	S	12-28-17 10:45	12 In	572250-012
Spot 19	S	12-28-17 11:00	surface In	572250-013
Spot 19	S	12-28-17 11:15	12 In	572250-014
Spot 20	S	12-28-17 11:30	Surface In	572250-015
Spot 20	S	12-28-17 11:45	12 In	572250-016



CASE NARRATIVE

Client Name: Remediation and Environmental Xperts, LLC

Project Name: Steward

Project ID:
Work Order Number(s): 572250

Report Date: 04-JAN-18
Date Received: 12/28/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3037330 BTEX by EPA 8021B

Lab Sample ID 572250-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 572250-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016.

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

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



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 13** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-001 Date Collected: 12.28.17 08.06 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	238000	2480	mg/kg	01.02.18 11.39		500

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	17.6	15.0	mg/kg	12.29.17 07.58		1
Diesel Range Organics (DRO)	C10C28DRO	4850	15.0	mg/kg	12.29.17 07.58		1
Oil Range Hydrocarbons (ORO)	PHCG2835	622	15.0	mg/kg	12.29.17 07.58		1
Total TPH	PHC635	5490	15.0	mg/kg	12.29.17 07.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	12.29.17 07.58	
o-Terphenyl	84-15-1	86	%	70-135	12.29.17 07.58	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 13**
Lab Sample Id: 572250-001

Matrix: Soil
Date Collected: 12.28.17 08.06

Date Received: 12.28.17 15.00
Sample Depth: Surface

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.29.17 08.00

Basis: Wet Weight

Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.29.17 22.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.29.17 22.21	U	1
Ethylbenzene	100-41-4	0.00331	0.00201	mg/kg	12.29.17 22.21		1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.29.17 22.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.29.17 22.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.29.17 22.21	U	1
Total BTEX		0.00331	0.00201	mg/kg	12.29.17 22.21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	12.29.17 22.21		
1,4-Difluorobenzene	540-36-3	99	%	80-120	12.29.17 22.21		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 13** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-002 Date Collected: 12.28.17 08.15 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4670	50.0	mg/kg	01.02.18 11.46		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 00.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 00.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	12.29.17 00.36	
o-Terphenyl	84-15-1	79	%	70-135	12.29.17 00.36	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 13** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-002 Date Collected: 12.28.17 08.15 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.29.17 16.16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.29.17 16.16	U	1
Ethylbenzene	100-41-4	0.00274	0.00199	mg/kg	12.29.17 16.16		1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.29.17 16.16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.29.17 16.16	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.29.17 16.16	U	1
Total BTEX		0.00274	0.00199	mg/kg	12.29.17 16.16		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	81	%	80-120	12.29.17 16.16		
1,4-Difluorobenzene	540-36-3	88	%	80-120	12.29.17 16.16		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 14** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-003 Date Collected: 12.28.17 08.30 Sample Depth: Surface
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	322	4.97	mg/kg	12.29.17 13.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 06.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	2820	15.0	mg/kg	12.29.17 06.02		1
Oil Range Hydrocarbons (ORO)	PHCG2835	3370	15.0	mg/kg	12.29.17 06.02		1
Total TPH	PHC635	6190	15.0	mg/kg	12.29.17 06.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	12.29.17 06.02	
o-Terphenyl	84-15-1	78	%	70-135	12.29.17 06.02	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 14**
Lab Sample Id: 572250-003

Matrix: Soil
Date Collected: 12.28.17 08.30

Date Received: 12.28.17 15.00
Sample Depth: Surface

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3037330

Date Prep: 12.29.17 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.29.17 14.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.29.17 14.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	12.29.17 14.59		
1,4-Difluorobenzene	540-36-3	95	%	80-120	12.29.17 14.59		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 14** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-004 Date Collected: 12.28.17 08.45 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	171	4.94	mg/kg	12.29.17 14.13		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 00.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	1790	15.0	mg/kg	12.29.17 00.55		1
Oil Range Hydrocarbons (ORO)	PHCG2835	1960	15.0	mg/kg	12.29.17 00.55		1
Total TPH	PHC635	3750	15.0	mg/kg	12.29.17 00.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	12.29.17 00.55	
o-Terphenyl	84-15-1	83	%	70-135	12.29.17 00.55	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 14**
Lab Sample Id: 572250-004

Matrix: Soil
Date Collected: 12.28.17 08.45

Date Received: 12.28.17 15.00
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3037330

Date Prep: 12.29.17 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.29.17 16.35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.29.17 16.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	80-120	12.29.17 16.35		
1,4-Difluorobenzene	540-36-3	92	%	80-120	12.29.17 16.35		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 15** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-005 Date Collected: 12.28.17 09.00 Sample Depth: Surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	169	4.92	mg/kg	12.29.17 14.20		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 01.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	351	15.0	mg/kg	12.29.17 01.16		1
Oil Range Hydrocarbons (ORO)	PHCG2835	59.2	15.0	mg/kg	12.29.17 01.16		1
Total TPH	PHC635	410	15.0	mg/kg	12.29.17 01.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	12.29.17 01.16	
o-Terphenyl	84-15-1	81	%	70-135	12.29.17 01.16	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 15**
Lab Sample Id: 572250-005

Matrix: Soil
Date Collected: 12.28.17 09.00

Date Received: 12.28.17 15.00
Sample Depth: Surface In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.29.17 08.00

Basis: Wet Weight

Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.29.17 17.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.29.17 17.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	12.29.17 17.18		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.29.17 17.18		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 15** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-006 Date Collected: 12.28.17 09.15 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	4.92	mg/kg	12.29.17 14.27		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 01.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 01.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 01.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 01.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.29.17 01.38	
o-Terphenyl	84-15-1	86	%	70-135	12.29.17 01.38	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 15** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-006 Date Collected: 12.28.17 09.15 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.29.17 17.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.29.17 17.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	80-120	12.29.17 17.37		
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.29.17 17.37		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 16** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-007 Date Collected: 12.28.17 09.30 Sample Depth: Surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	123	4.99	mg/kg	12.29.17 14.34		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 02.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	115	15.0	mg/kg	12.29.17 02.00		1
Oil Range Hydrocarbons (ORO)	PHCG2835	29.0	15.0	mg/kg	12.29.17 02.00		1
Total TPH	PHC635	144	15.0	mg/kg	12.29.17 02.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	12.29.17 02.00	
o-Terphenyl	84-15-1	70	%	70-135	12.29.17 02.00	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 16** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-007 Date Collected: 12.28.17 09.30 Sample Depth: Surface In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.29.17 17.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.29.17 17.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	80-120	12.29.17 17.57		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.29.17 17.57		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 16** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-008 Date Collected: 12.28.17 09.45 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	4.93	mg/kg	12.29.17 14.41		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 02.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 02.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 02.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 02.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	12.29.17 02.20	
o-Terphenyl	84-15-1	83	%	70-135	12.29.17 02.20	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 16**
Lab Sample Id: 572250-008

Matrix: Soil
Date Collected: 12.28.17 09.45

Date Received: 12.28.17 15.00
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3037330

Date Prep: 12.29.17 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.29.17 22.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.29.17 22.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	80-120	12.29.17 22.02		
1,4-Difluorobenzene	540-36-3	93	%	80-120	12.29.17 22.02		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 17** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-009 Date Collected: 12.28.17 10.00 Sample Depth: Surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	133	4.90	mg/kg	12.29.17 14.55		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 05.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	78.2	15.0	mg/kg	12.29.17 05.02		1
Oil Range Hydrocarbons (ORO)	PHCG2835	24.6	15.0	mg/kg	12.29.17 05.02		1
Total TPH	PHC635	103	15.0	mg/kg	12.29.17 05.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-135	12.29.17 05.02	
o-Terphenyl	84-15-1	70	%	70-135	12.29.17 05.02	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 17**
Lab Sample Id: 572250-009

Matrix: Soil
Date Collected: 12.28.17 10.00

Date Received: 12.28.17 15.00
Sample Depth: Surface In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.29.17 08.00

Basis: Wet Weight

Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.29.17 21.43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.29.17 21.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	12.29.17 21.43		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.29.17 21.43		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 17** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-010 Date Collected: 12.28.17 10.15 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.85	4.90	mg/kg	12.29.17 15.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 05.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 05.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 05.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 05.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	12.29.17 05.22	
o-Terphenyl	84-15-1	81	%	70-135	12.29.17 05.22	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 17** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-010 Date Collected: 12.28.17 10.15 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.29.17 21.24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.29.17 21.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	12.29.17 21.24		
1,4-Difluorobenzene	540-36-3	93	%	80-120	12.29.17 21.24		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 18** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-011 Date Collected: 12.28.17 10.30 Sample Depth: Surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2990	24.8	mg/kg	12.29.17 15.36		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	19.1	15.0	mg/kg	12.29.17 15.21		1
Diesel Range Organics (DRO)	C10C28DRO	808	15.0	mg/kg	12.29.17 15.21		1
Oil Range Hydrocarbons (ORO)	PHCG2835	99.2	15.0	mg/kg	12.29.17 15.21		1
Total TPH	PHC635	926	15.0	mg/kg	12.29.17 15.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-135	12.29.17 15.21	
o-Terphenyl	84-15-1	77	%	70-135	12.29.17 15.21	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 18**
Lab Sample Id: 572250-011

Matrix: Soil
Date Collected: 12.28.17 10.30

Date Received: 12.28.17 15.00
Sample Depth: Surface In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.29.17 08.00

Basis: Wet Weight

Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.29.17 19.29	U	1
Toluene	108-88-3	0.00552	0.00200	mg/kg	12.29.17 19.29		1
Ethylbenzene	100-41-4	0.0189	0.00200	mg/kg	12.29.17 19.29		1
m,p-Xylenes	179601-23-1	0.0142	0.00401	mg/kg	12.29.17 19.29		1
o-Xylene	95-47-6	0.0107	0.00200	mg/kg	12.29.17 19.29		1
Total Xylenes	1330-20-7	0.0249	0.00200	mg/kg	12.29.17 19.29		1
Total BTEX		0.0493	0.00200	mg/kg	12.29.17 19.29		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90		%	80-120	12.29.17 19.29	
1,4-Difluorobenzene	540-36-3	88		%	80-120	12.29.17 19.29	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 18** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-012 Date Collected: 12.28.17 10.45 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	576	4.99	mg/kg	12.29.17 15.43		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 03.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	86.2	15.0	mg/kg	12.29.17 03.41		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 03.41	U	1
Total TPH	PHC635	86.2	15.0	mg/kg	12.29.17 03.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	12.29.17 03.41	
o-Terphenyl	84-15-1	73	%	70-135	12.29.17 03.41	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 18** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-012 Date Collected: 12.28.17 10.45 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.29.17 19.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.29.17 19.49	U	1
Ethylbenzene	100-41-4	0.00772	0.00200	mg/kg	12.29.17 19.49		1
m,p-Xylenes	179601-23-1	0.00895	0.00399	mg/kg	12.29.17 19.49		1
o-Xylene	95-47-6	0.00479	0.00200	mg/kg	12.29.17 19.49		1
Total Xylenes	1330-20-7	0.0137	0.00200	mg/kg	12.29.17 19.49		1
Total BTEX		0.0215	0.00200	mg/kg	12.29.17 19.49		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94		%	80-120	12.29.17 19.49	
1,4-Difluorobenzene	540-36-3	94		%	80-120	12.29.17 19.49	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 19** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-013 Date Collected: 12.28.17 11.00 Sample Depth: surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	578	4.91	mg/kg	12.29.17 15.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 05.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	104	15.0	mg/kg	12.29.17 05.42		1
Oil Range Hydrocarbons (ORO)	PHCG2835	16.5	15.0	mg/kg	12.29.17 05.42		1
Total TPH	PHC635	121	15.0	mg/kg	12.29.17 05.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-135	12.29.17 05.42	
o-Terphenyl	84-15-1	71	%	70-135	12.29.17 05.42	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 19**
Lab Sample Id: 572250-013

Matrix: Soil
Date Collected: 12.28.17 11.00

Date Received: 12.28.17 15.00
Sample Depth: surface In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 12.29.17 08.00

Basis: Wet Weight

Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.29.17 20.08	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.29.17 20.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.29.17 20.08		
4-Bromofluorobenzene	460-00-4	94	%	80-120	12.29.17 20.08		



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Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 19** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-014 Date Collected: 12.28.17 11.15 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.0	4.91	mg/kg	12.29.17 15.57		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 04.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 04.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 04.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 04.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	12.29.17 04.02	
o-Terphenyl	84-15-1	73	%	70-135	12.29.17 04.02	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 19** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-014 Date Collected: 12.28.17 11.15 Sample Depth: 12 In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.29.17 20.27	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.29.17 20.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	80-120	12.29.17 20.27		
4-Bromofluorobenzene	460-00-4	86	%	80-120	12.29.17 20.27		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX

Steward

Sample Id: **Spot 20** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-015 Date Collected: 12.28.17 11.30 Sample Depth: Surface In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	186	4.95	mg/kg	12.29.17 16.04		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 04.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 04.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 04.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 04.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-135	12.29.17 04.22	
o-Terphenyl	84-15-1	70	%	70-135	12.29.17 04.22	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 20** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-015 Date Collected: 12.28.17 11.30 Sample Depth: Surface In
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 12.29.17 08.00 Basis: Wet Weight
Seq Number: 3037330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.29.17 20.46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.29.17 20.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	80-120	12.29.17 20.46		
1,4-Difluorobenzene	540-36-3	93	%	80-120	12.29.17 20.46		



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 20** Matrix: Soil Date Received: 12.28.17 15.00
Lab Sample Id: 572250-016 Date Collected: 12.28.17 11.45 Sample Depth: 12 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 12.29.17 10.00 Basis: Wet Weight
Seq Number: 3037205

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	12.29.17 16.11	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: JUM % Moisture:
Analyst: JUM Date Prep: 12.28.17 15.00 Basis: Wet Weight
Seq Number: 3037191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.29.17 04.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.29.17 04.42	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	12.29.17 04.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.29.17 04.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	12.29.17 04.42	
o-Terphenyl	84-15-1	75	%	70-135	12.29.17 04.42	



Certificate of Analytical Results 572250



Remediation and Environmental Xperts, LLC, Big Spring, TX Steward

Sample Id: **Spot 20**
Lab Sample Id: 572250-016

Matrix: Soil
Date Collected: 12.28.17 11.45

Date Received: 12.28.17 15.00
Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3037330

Date Prep: 12.29.17 08.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.29.17 21.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.29.17 21.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	12.29.17 21.05		
1,4-Difluorobenzene	540-36-3	94	%	80-120	12.29.17 21.05		

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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Remediation and Environmental Xperts, LLC
Steward

Analytical Method: Chloride by EPA 300

Seq Number: 3037205

MB Sample Id: 7636757-1-BLK

Matrix: Solid

LCS Sample Id: 7636757-1-BKS

Prep Method: E300P

Date Prep: 12.29.17

LCSD Sample Id: 7636757-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	241	96	90-110	3	20	mg/kg	12.29.17 12:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3037205

Parent Sample Id: 572154-003

Matrix: Soil

MS Sample Id: 572154-003 S

Prep Method: E300P

Date Prep: 12.29.17

MSD Sample Id: 572154-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	179	248	425	99	440	105	90-110	3	20	mg/kg	12.29.17 13:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3037205

Parent Sample Id: 572250-009

Matrix: Soil

MS Sample Id: 572250-009 S

Prep Method: E300P

Date Prep: 12.29.17

MSD Sample Id: 572250-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	133	245	388	104	375	99	90-110	3	20	mg/kg	12.29.17 15:02	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3037191

MB Sample Id: 7636779-1-BLK

Matrix: Solid

LCS Sample Id: 7636779-1-BKS

Prep Method: TX1005P

Date Prep: 12.28.17

LCSD Sample Id: 7636779-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	840	84	918	92	70-135	9	35	mg/kg	12.28.17 22:15	
Diesel Range Organics (DRO)	<15.0	1000	838	84	917	92	70-135	9	35	mg/kg	12.28.17 22:15	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		89		96		70-135	%	12.28.17 22:15
o-Terphenyl	91		91		100		70-135	%	12.28.17 22:15

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery $[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD ResultMS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Remediation and Environmental Xperts, LLC

Steward

Analytical Method: TPH by SW8015 Mod

Seq Number: 3037191

Parent Sample Id: 572154-003

Matrix: Soil

MS Sample Id: 572154-003 S

Prep Method: TX1005P

Date Prep: 12.28.17

MSD Sample Id: 572154-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	787	79	881	88	70-135	11	35	mg/kg	12.28.17 23:56	
Diesel Range Organics (DRO)	<15.0	1000	777	78	877	88	70-135	12	35	mg/kg	12.28.17 23:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	85		105		70-135	%	12.28.17 23:56
o-Terphenyl	83		92		70-135	%	12.28.17 23:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3037330

MB Sample Id: 7636889-1-BLK

Matrix: Solid

LCS Sample Id: 7636889-1-BKS

Prep Method: SW5030B

Date Prep: 12.29.17

LCSD Sample Id: 7636889-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0885	89	0.0859	86	70-130	3	35	mg/kg	12.29.17 12:46	
Toluene	<0.00200	0.100	0.0830	83	0.0809	81	70-130	3	35	mg/kg	12.29.17 12:46	
Ethylbenzene	<0.00200	0.100	0.0932	93	0.0898	90	71-129	4	35	mg/kg	12.29.17 12:46	
m,p-Xylenes	<0.00401	0.200	0.184	92	0.177	89	70-135	4	35	mg/kg	12.29.17 12:46	
o-Xylene	<0.00200	0.100	0.0857	86	0.0828	83	71-133	3	35	mg/kg	12.29.17 12:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		95		99		80-120	%	12.29.17 12:46
4-Bromofluorobenzene	91		98		97		80-120	%	12.29.17 12:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3037330

Parent Sample Id: 572250-003

Matrix: Soil

MS Sample Id: 572250-003 S

Prep Method: SW5030B

Date Prep: 12.29.17

MSD Sample Id: 572250-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0669	67	0.0538	54	70-130	22	35	mg/kg	12.29.17 13:23	X
Toluene	<0.00199	0.0996	0.0468	47	0.0365	37	70-130	25	35	mg/kg	12.29.17 13:23	X
Ethylbenzene	<0.00199	0.0996	0.0365	37	0.0276	28	71-129	28	35	mg/kg	12.29.17 13:23	X
m,p-Xylenes	<0.00398	0.199	0.0696	35	0.0522	26	70-135	29	35	mg/kg	12.29.17 13:23	X
o-Xylene	<0.00199	0.0996	0.0348	35	0.0263	26	71-133	28	35	mg/kg	12.29.17 13:23	X

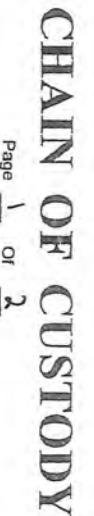
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		100		80-120	%	12.29.17 13:23
4-Bromofluorobenzene	102		102		80-120	%	12.29.17 13:23

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$

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

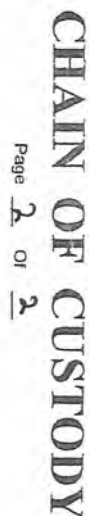
MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Phoenix, Arizona (480-355-0900)

572250

Final 1.000



Phoenix, Arizona (480-355-0900)

Xenco Quote

Xenco Job #

572250

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: REX, LLC				Project Name/Number: Steward				W = Water GW = Ground Water P = Product SW = Surface Water SL = Sludge OW = Ocean/Sea Water O = Oil WM = Waste Water A = Air S = Soil/Sediment DW = Drinking Water P = Product SW = Surface Water SL = Sludge OW = Ocean/Sea Water O = Oil WM = Waste Water A = Air				Temp: 5.4 IR ID: R-8 CF: (0.6: -0.2°C) (6-23: +0.2°C) Corrected Temp: 5.2 Field Comments:			
Company Address: P. O. Box 2699 BIG SPRING, TX 79721				Project Location: Heisenberg 74											
Email: info@colandrossremediation.com www.colandrossremediation.com				Invoice To: DEX, LLC											
Project Contact: Rex Rainey and Roylyn Welch				PO Number:											
Sampler's Name															

No.	Field ID / Point of Collection	Collection			Number of preserved bottles							Chlorides	TPH	BTEX			
		Sample Depth	Date	Time	Matrix	# of bottles	Cl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH						NaHSO4
1	Spot 18	Surface	12/28	10:36											✓	✓	✓
2	Spot 18	12"	12/28	10:45											✓	✓	✓
3	Spot 19	Surface	12/28	11:06											✓	✓	✓
4	Spot 19	12"	12/28	11:15											✓	✓	✓
5	Spot 20	Surface	12/28	11:36											✓	✓	✓
6	Spot 20	12"	12/28	11:45											✓	✓	✓
7																	
8																	
9																	
10																	

Turnaround Time (Business days)				Data Deliverable Information			
☐ Same Day TAT ☐ Next Day EMERGENCY ☐ 2 Day EMERGENCY ☒ 3 Day EMERGENCY		☐ 5 Day TAT ☐ 7 Day TAT ☐ Contract TAT		☐ Level II Std QC ☐ Level III Std QC+ Forms ☐ Level 3 (CLP Forms) ☐ TRRP Checklist		☐ Level IV (Full Data Pkg (raw data)) ☐ TRRP Level IV ☐ UST / RG -411	

TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #			
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY							
Relinquished by Sampler:		Received By:		Date Time:		Received By:	
Ryan M. Ilanz		[Signature]		12/28 2:45		[Signature]	
Relinquished by:		Received By:		Date Time:		Received By:	
3		3		12/28 3:00		4	
Relinquished by:		Received By:		Date Time:		Received By:	
5		5				4	

TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #			
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY							
Relinquished by Sampler:		Received By:		Date Time:		Received By:	
Ryan M. Ilanz		[Signature]		12/28 2:45		[Signature]	
Relinquished by:		Received By:		Date Time:		Received By:	
3		3		12/28 3:00		4	
Relinquished by:		Received By:		Date Time:		Received By:	
5		5				4	



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Remediation and Environmental Xperts,

Date/ Time Received: 12/28/2017 03:00:00 PM

Work Order #: 572250

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	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:

Shawnee Smith

Date: 12/28/2017

Checklist reviewed by:

Holly Taylor

Date: 12/29/2017