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1RP - 2294
ENDEAVOR ENERGY RESOURCES, LP



### SOUTH ENVIRONMENTAL SERVICES, INC.

P.O BOX 11064 MIDLAND, TEXAS 79702 OFFICE: (432) 682-3547 FAX: (432) 682-4182

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MAR 1 4 2011 HOBBSOCD

SITE REMEDIATION AND CLOSURE REPORT

ENEAVOR ENERGY RESOURCES, LP PETERSON "C" WELL # 1 ROOSEVELT COUNTY, NEW MEXICO

Prepared For: ENDEAVOR ENERGY RESOURCES, LP 110 N. MARIENDFIELD, SUITE 200 MIDLAND, TEXAS 79701

Prepared by: SOUTH ENVIRONMENTAL SERVICES, INC. 2400 S. LOOP 250 WEST MIDLAND, TEXAS 79702

**MARCH 2011** 

An Environmental Company
SOLIDIFICATION, BIOREMEDIATION, LAND FARMING, SOIL SHREDDING

### A Report Prepared For:

### ENDEAVOR ENERGY RESOURCES, LP 110 N. MARIENFIELD STREET, SUITE 200 MIDLAND, TEXAS 79701

### SITE REMEDIATION AND CLOSURE REPORT

Prepared by:

Ronnie W. Nickell

SOUTH ENVIRONMENTAL SERVICES, INC 2400 S. LOOP 250 WEST MIDLAND, TEXAS 79702

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### 1.0 INTRODUCTION

On behalf of Endeavor Energy Resources, LP. (Endeavor), South Environmental Services, Inc. (SES) is please to submit this Site Remediation and Closure Report for the site known as Peterson "C" Well #1. This report presents the results of initial response, site investigation, and remedial actions performed at the above referenced site.

### 1.1 Purpose of the Report

The purpose of this report is to present the results of the site investigation and document response and remedial actions completed to date in order to facilitate closure for this site.

### 2.0 SUMMARY OF FIELD ACTIVITIES

### 2.1 Site Remediation and Closure Activities

The following activities were completed to achieve compliance with Oil Conservation Division (OCD) Statewide Rule for Total Petroleum Hydrocarbons (TPH) (<1,000 mg/kg), Chlorides (<500 ppm), and Benzene (<10.0 mg/kg), as set out below:

- Mobilized SES personnel and equipment to the site,
- Excavate approximately 1,462 cubic yards of impacted soil down to clean bottom, and take bottom hole samples,
- Removal of contaminated rock and soil will be properly disposed of in a licensed disposal,
- Perform excavation bottom hole confirmation sampling event to verify remedial levels, TPH <1,000 mg/kg (ppm), Chlorides <500 mg/kg (ppm), and Benzene < 10 mg/kg (ppm),
- Backfill excavation areas with clean remediated soil, based on analytical verification meeting OCD requirements,
- Preparation of a Site Remediation and Closure Report for Submittal to the OCD, as required to resolve the enforcement action regulatory requirements as set out below.

### 3.0 DISTRIBUTION OF HYDROCARBONS IN SOIL

The distribution of hydrocarbons in the unsaturated zone was determined by utilizing the following techniques:

- Visual observations of soils during trenching and/or excavation during remediation;
- 2. Visual observations of soils during the following excavation;
- 3. Visual observations of soil samples; and,
- 4. Laboratory analyses of the above samples.

Following excavation of impacted soil, confirmation soil samples were collected from the base of the excavation, based on minimum of one (1) discrete sample for each 500 square feet of surface area. Following conformation sampling event(s), any area still exhibiting TPH concentrations > 1,000 mg/kg, Chloride Concentrations > 500 mg/kg, or Benzene concentrations > 50.0 mg/kg were over-excavated and re-sampled to confirm attainment of remedial goals. All samples were submitted for laboratory analysis for TPH, BTEX, and chlorides as referenced above. Site photographs are included as Attachment 3.

### 3.1 Remediation Results

Following intensive remediation of the site, via land farming, site inspections and multiple sampling events were conducted from 26 August 10 until clean bottom hole samples were taken on 14 January 10. Samples were collected at multiple locations within the impacted area as depicted in Attachment 2.

All remediation confirmation samples collected from each area were analyzed for TPH (SW 8051B Method), BTEX (SW 8021B Method), and Chlorides (EPA 300 Method).

### 4.0 QA/QC PROCEDURES

### 4.1 Soil Sampling

Samples of subsurface and treated soil will be obtained utilizing proper EPA protocols and/or standards. Representative soil samples will be collected using clean, disposable gloves and clean sampling tools. The soil samples will the be placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container will be filled to capacity to limit the amount of head-space present. Then each container will be labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler will be sealed for shipment to the laboratory. Proper chain-of-custody documentation will be maintained throughout the sampling and transportation process.

Soil samples will be delivered to Xenco Laboratories in Midland, Texas for TPH, BTEX, and Chloride analysis using the methods described below. Soil samples will be analyzed for Chlorides, BTEX, and TPH within fourteen days following the collection date.

The soil samples were analyzed as follows:

- 1. BTEX concentrations' in accordance with Method SW-846 8021B.
- 2. Chloride concentrations in accordance with Method 4500-CI-B.
- 3. TPH concentrations in accordance with EPA SW-846 8015M.

### 4.2 Laboratory Protocol

The laboratory will be responsible for proper QA/QC procedures. These Procedures will either be transmitted with the laboratory reports or on file at the laboratory.

### **5.0 LIMITAIONS**

South Environmental Services, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. South Environmental Services, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. WE have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. South Environmental Services, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. South Environmental Services, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Endeavor Energy Services, LP. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of South Environmental Services, Inc. and/or Endeavor Energy Services, LP.

Thank you for your assistance in this matter. If you have any questions or require additional information, please feel free to contact me at 432-425-8454.

Sincerely, SOUTH ENVIRONMENTAL SERVICES, INC.

Romie W. Nickell Sr. Project Manager

Cc: Endeavor Energy Services, LP, Midland, Texas

### Table 1

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDE IN SOIL

### Site Activities Report Endeavor Energy, Peterson Penn Storage System

## Roosevelt County, New Mexico

All concentrations are in mg/kg

E300	Chloride	8.42	53.7	ND	26.5	583	ND		ND	13.6	ND		539	3870	1480	111	7.05	6.51	25.8	
	% Moisture	16.50	4.22	9.55	2.01	1.94	8.64		7.65	6.81	6.23	7 4 7	11.60	8.60	11.70	12.20	2.22	11.50	8888	
	TPH C <sub>6</sub> -C <sub>35</sub>	6564	33980	171	11814	17472	ND		215.5	ND	1462.2	3	2814.7	6675	6545	380	481.3	422.6	ND	i C
SW8015 Mod	TPH C <sub>28</sub> -C <sub>35</sub>	131	1460.0	ND	650.0	1070.0	ND	2	ND	ND	45.4		2.06	345.0	285.0	18.1	36.9	ND	ND	
SW801	TPH C <sub>12</sub> -C <sub>28</sub>	2690	29900	171	10500	16000	ND		199	ND	1360		2270	5210	3730	301	428	381	ND	
	TPH C <sub>6</sub> -C <sub>12</sub>	743	2620	N N	664	402	N		16.5	R	8.99		454	1120	2530	6.09	16.4	41.6	ND	
100	BTEX	0.2075	0.8420	ND	0.1627	0.0331	ND		ND	ND	ND		1.3423	0.4320	7.7694	0.0362	0.0094	ND	ND	
	TOTAL	0.1865	0.6263	QN	0.1437	0.0246	ND		ND	ND	ND		1.3423	0.3347	1.7720	0.0182	0.0021	ND	ND	
EPA 8021B	ETHYL- BENZENE	0.0154	0.0677	ND ON	0.0128	0.0043	ND		ND	ON	ND		ND	0.0350	3.6470	0.0104	0.0036	ND	ND	
EP	TOLUENE	0.0042	0.1451	ND	0.0049	0.0026	ND		ND	ND	ND		ND	0.0503	1.5590	0.0059	0.0026	ND	ND	- C 646
	BENZENE	0.0014	0.0029	ON	0.0013	0.0016	ON		N	ND	ND		ND	0.0120	0.7914	0.0017	0.0011	ON	QN.	
q	Dept	0"-12"	0"-12"	0"-12"	0"-12"	0"-12"	0"-12"		0"-12"	0"-12"	0"-12"		0"-48"	0"-48"	0"-48"	0"-48"	0"-48"	0"-48"	0"-48"	
	SAMPLE ID	FL1-001	FL2-001	FL3-001	FL4-001	FL5-001	FL6-001		FL7-001	FL8-001	FL9-001		09/21/10 PWSW1-001	PWNW2-001	PWNE3-001	PWSE4-001	PWFN1-001	PWFC2-001	PWFS3-001	
	Well	08/26/10							08/28/10				09/21/10							

		_	_	_	_	_	_	_	_
E300	Chloride	916	376	149	50.3				56.8
	% Moist	8 42	9.57	8.21	12.10	7.11	1.70	7.86	10.30
	TPH	5758	7188	4913	140.1	ND	332	ND	872
SW8015 Mod	TPH	128	188.0	113.0	ND	ND ND	N	ND ND	N
SW801	TPH		4980	3160	123	N N	332	ND	200
	TPH	2110	2020	1640	17.1	N N	QN	QN	372
	BTEX								5.2494
	XYLENE	0							4.4120
EPA 8021B	ETHYL- BENZENE								0.5678
EF	TOLUENE								0.2696
	BENZENE TOLUENE								ND
Ч	Dept	09-0	09-0	09-0	09-0	0-48"	0-48"	0-48"	0-10,
	SAMPLE ID	PW SE1-002	PW SE1-003	PW SE1-004	PW SE1-005	PW SE1-003	PW NE2-003	PW NW3-003 0-48"	01/12/11 PW N1-001 0-10'
	Well	09/30/10				10/19/10			01/12/11

Table 2
WATER ELEVATION FOR SURROUNDING WELLS

### Site Activities Report Endeavor Energy, Peterson C Well 1

### Roosevelt County, New Mexico

All measurements are in feet.

WELL NAME	DATE MEASURED	DEPTH TO WATER	TOTAL DEPTH	DISTANCE FROM SITE	WELL TYPE
CL00147	12/26/2010	65	80	49902	Domestic
CL00254	9/27/2009	29	50	50315	Monitoring
CL00004	1/9/2009	28	238	50728	Municipal
CL00224	7/22/2008	95	147	64177	Livestock
Average Dept	h to Water	54.25			

<sup>\*</sup>Source: New Mexico Office of the State Engineer



## Wells with Well Log Information New Mexico Office of the State Engineer

			(dna	(quarters	=NW 2=	=NE 3=	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)	(NAD83	(NAD83 UTM in meters)	ers)				(in feet)	et)	
	Sub				9 9 9								Log File	Depth	Depth	
POD Number CL 00147 POD1	basin		Use County DOM RO	Source	64164	Sec 23	Tws Rng 04S 31E	× 624770	3756868	Distance 15210	Start Date 12/26/2006	Finish Date Date 12/26/2006 01/10	Finish Date Date 12/26/2006 01/16/2007	Well 80	Water 65	
CL 00254 POD1		MON	80	Shallow	121	24	04S 31E	625001	3757445	15336	09/22/2009	09/27/2009	12/21/2009	20	29	
CL 00254 POD2		MOM		Shallow				625001	3757445	15336	09/22/2009	09/27/2009	12/21/2009	34		
CL 00255 POD1		MON	80	Shallow	121	24	04S 31E	625001	3757445	15336	09/23/2009	09/23/2009	12/21/2009	49	29	
CL 00255 POD2		MON		Shallow				625001	3757445	15336	15336 09/23/2009	09/23/2009	09/23/2009 12/21/2009	34	29	
CL 00256 POD1		MON	RO	Shallow	121	24	04S 31E	625001	3757445	15336	09/24/2009	09/24/2009	09/24/2009 12/21/2009	52	29	
CL 00256 POD2		MON	U.Stra	Shallow				625001	3757445	15336	09/24/2009	09/24/2009	09/24/2009 12/21/2009	40	29	
CL 00257 POD1		MON	RO	Shallow	121	24	04S 31E	625001	3757445	15336	09/25/2009	09/25/2009	09/25/2009 12/21/2009	34	29	
CL 00257 POD2		MON		Shallow				625001	3757445	15336	09/25/2009	09/25/2009	09/25/2009 12/21/2009	51	29	
CL 00258 POD1		MON	RO	Shallow	121	24	04S 31E	625001	3757445	15336	15336 09/26/2009	09/26/2009	09/26/2009 12/21/2009	20	59	
CL 00258 POD2		MON		Shallow				625001	3757445	15336	15336 09/26/2009	09/26/2009	09/26/2009 12/21/2009	34	29	
CL 00253 POD1		MON	RO	Shallow	3 1 1	24	04S 31E	624792	3757165	15352	15352 10/05/2008	10/05/2008	10/05/2008 08/21/2009	30		
CL 00004 POD3		MCN	RO	Shallow	2 2 2	23	04S 31E	624747	3757297	15462	15462 01/09/2009	09/15/2009	09/15/2009 09/29/2009	238	28	
CL 00252 POD1		MON	Ro	Shallow	3 1 3	13	04S 31E	624805	3758080	15863	15863 10/05/2008	10/05/2008	10/05/2008 08/21/2009	30		
CL 00121 POD1		DOM	RO	Shallow	4 4 2	22	06S 35E	653597	3739212*	18598	18598 05/15/2007	05/16/2007	05/16/2007 06/06/2007	155		
CL 00224 POD1		STK	Ro	Shallow	4 4 2	30	05S 35E	657015	3746259	19561	19561 07/20/2008 07/22/2008 08/22/2008	07/22/2008	08/22/2008	147	95	

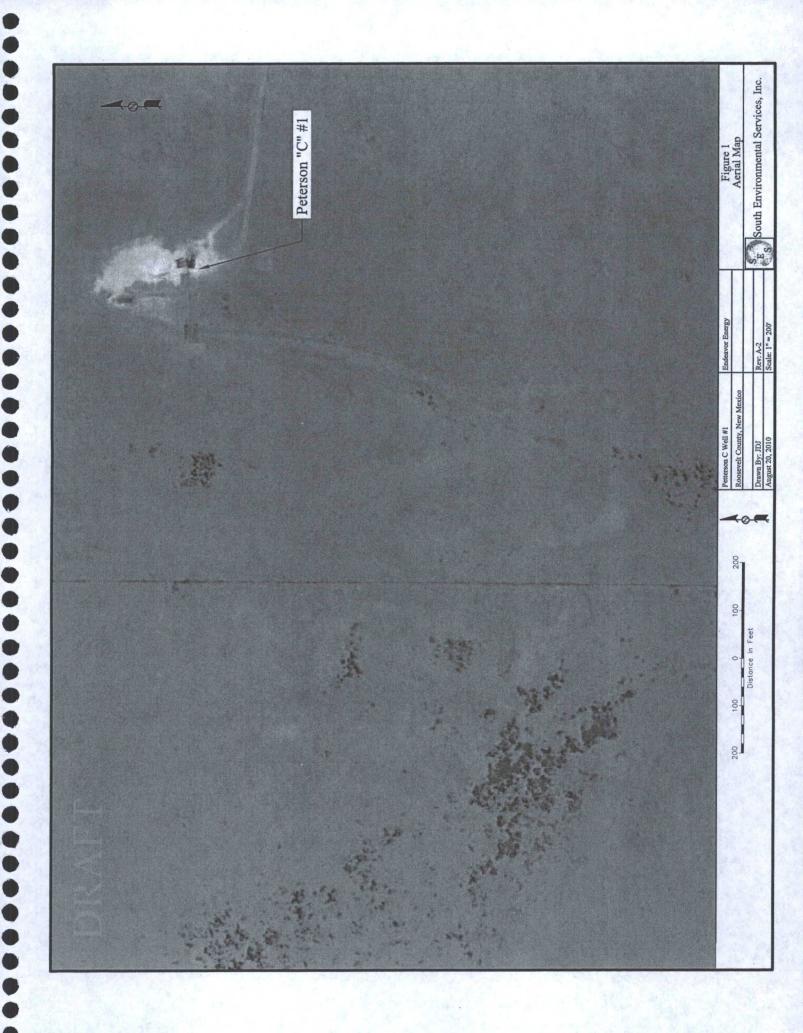
\*UTM location was derived from PLSS - see Help

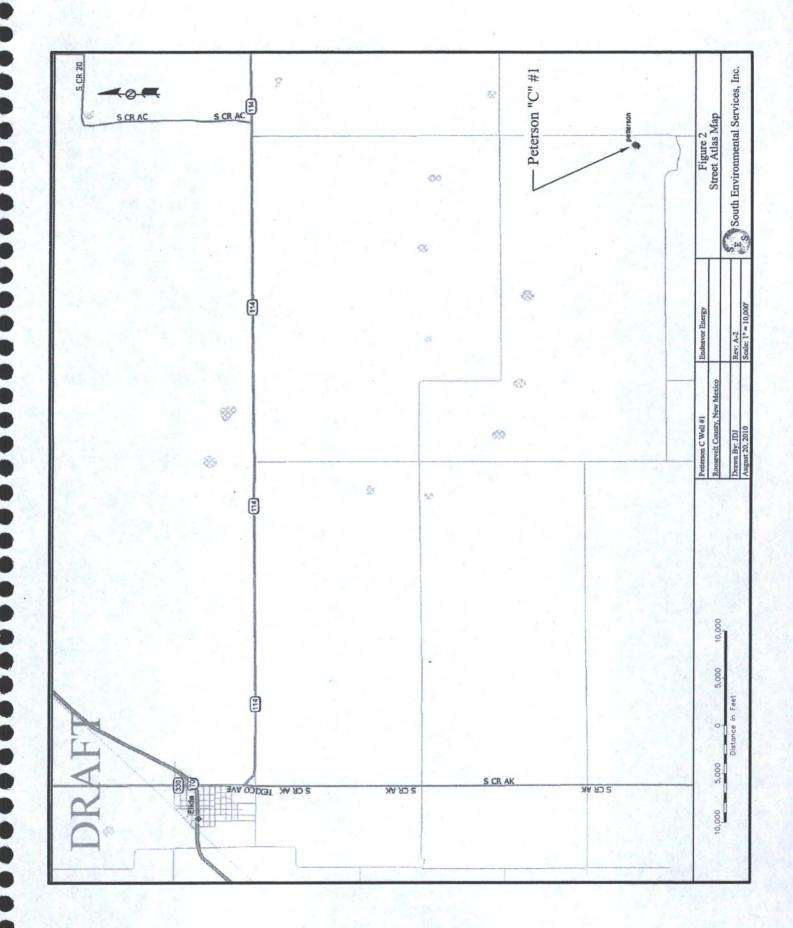
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

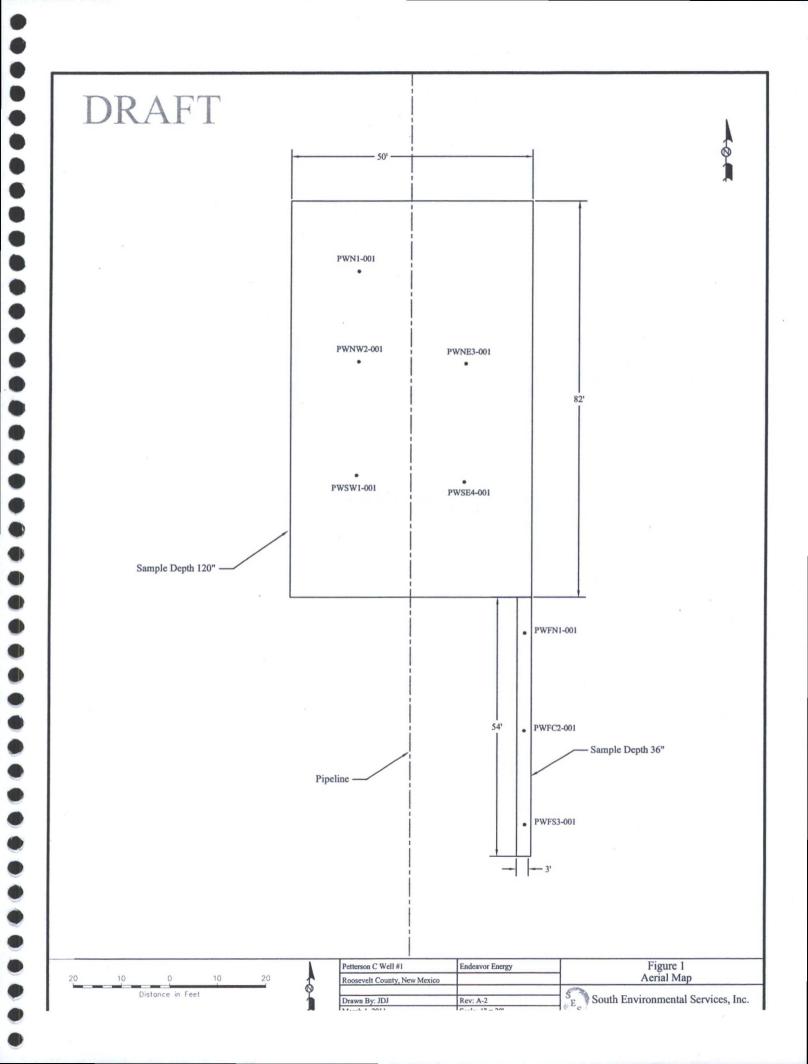
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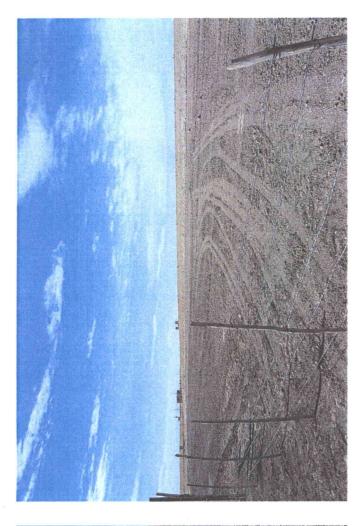
Page 1 of 2

Page 1 of 2

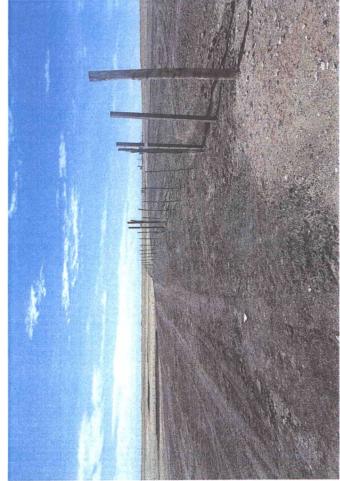


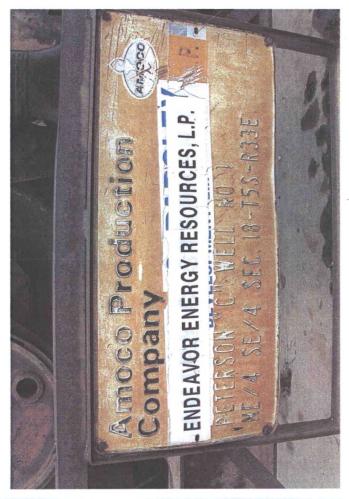


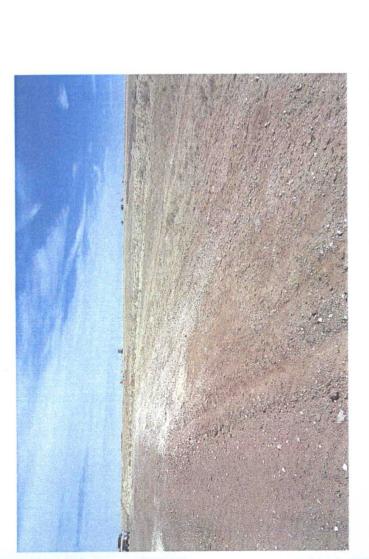










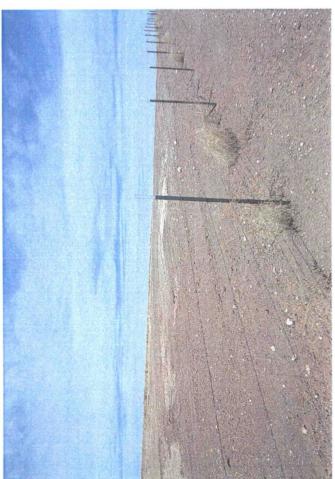


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### **ATTACHMENTS: 4**

LABORATORY ANALYSIS REPORT

### **Analytical Report 387388**

for Endeavor Energy

Project Manager: Ronnie Nickell

Peterson C Well #1

01-SEP-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Louisiana (04176), USDA (P330-07-00105)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





01-SEP-10

Project Manager: Ronnie Nickell

**Endeavor Energy** 

110 N. Marienfeld, Suite 200

Midland, TX 79701

Reference: XENCO Report No: 387388

Peterson C Well #1

Project Address: Roosevelt County, NM

### Ronnie Nickell:

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 387388. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 387388 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



### **Sample Cross Reference 387388**



### Endeavor Energy, Midland, TX

Peterson C Well #1

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
FL1-001	S	Aug-26-10 11:56	0 - 12 In	387388-001
FL2-001	S	Aug-26-10 12:05	0 - 12 In	387388-002
FL3-001	S	Aug-26-10 12:12	0 - 12 In	387388-003
FL4-001	S	Aug-26-10 12:25	0 - 12 In	387388-004
FL5-001	S	Aug-26-10 12:33	0 - 12 In	387388-005
FL6-001	S	Aug-26-10 12:36	0 - 12 In	387388-006

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson C Well #1



Project ID:

Work Order Number: 387388

Report Date: 01-SEP-10 Date Received: 08/27/2010

### Sample receipt non conformances and Comments:

None

### Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-820668 Soil pH by EPA 9045C

None

Batch: LBA-820734 Percent Moisture

None

Batch: LBA-820781 TPH By SW8015 Mod

None

Batch: LBA-820841 Inorganic Anions by EPA 300/300.1

None

Batch: LBA-821086 BTEX by EPA 8021B

SW8021BM

Batch 821086, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 387388-001, -005, -003, -002, -006, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is

within laboratory Control Limits

### SW8021BM

Batch 821086, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene RPD was outside QC limits

Samples affected are: 387388-001, -005, -003, -002, -006, -004

### SW8021BM

Batch 821086, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 387020-001 S,387388-002,387388-004,387388-001.

Laboratories

Endeavor Energy, Midland, TX

Project Name: Peterson C Well #1

Project Location: Roosevelt County, NM Contact: Ronnie Nickell

Project Id:

Date Received in Lab: Fri Aug-27-10 08:18 am

Report Date:

Project Manager: Brent Barron, II

					Project Manager: E	Brent Barron, 11	
	Lab Id:	387388-001	387388-002	387388-003	387388-004	387388-005	387388-006
Andheis Dogwood	Field Id:	FL1-001	FL2-001	FL3-001	FL4-001	FL5-001	FL6-001
maisan hay sisting	Depth:	0-12. In	0-12 In	0-12 In	0-12 In	0-12 In	0-12 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-26-10 11:56	Aug-26-10 12:05	Aug-26-10 12:12	Aug-26-10 12:25	Aug-26-10 12:33	Aug-26-10 12:36
BTEX by EPA 8021B	Extracted:	Aug-30-10 08:00	Aug-30-10 08:00	Aug-30-10 08:00	Aug-30-10 08:00	Aug-30-10 08:00	Aug-30-10 08:00
	Analyzed:	Aug-31-10 09:01	Aug-31-10 09:24	Aug-31-10 10:57	Aug-31-10 11:20	Aug-31-10 11:43	Aug-31-10 12:07
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0,0014 0,0012	0.0029 0.0010	ND 0.0011	0.0013 0.0010	0.0016 0.0010	ND 0,0011
Toluene		0.0042 0.0024	0.1451 0.0021	ND 0.0022	0.0049 0.0020	0.0026 0.0020	ND 0.0022
Ethylbenzene		0.0154 0.0012	0.0677 0.0010	ND 0.0011	0.0128 0.0010	0.0043 0.0010	ND 0.0011
m,p-Xylenes		0.0771 0.0024	0.2841 0.0021	ND 0.0022	0.0525 0.0020	0.0193 0.0020	ND 0.0022
o-Xylene		0.1094 0.0012	0.3422 0.0010	ND 0.0011	0.0912 0.0010	0.0053 0.0010	ND 0.0011
Total Xylenes		0.1865 0.0012	0.6263 0.0010	ND 0.0011	0.1437 0.0010	0.0246 0.0010	. ND 0.0011
Total BTEX		0.2075 0.0012	0.8420 0.0010	ND 0.0011	0.1627 0.0010	0.0331 0.0010	ND 0.0011
Inorganic Anions by EPA 300/300.1	Extracted:						
	Analyzed:	Aug-27-10 09:31	Aug-27-10 09:31	Aug-27-10 09:31	Aug-27-10 09:31	Aug-27-10 09:31	Aug-27-10 09:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8.42 5.99	53.7 5.22	ND 5.53	26.5 5.10	583 10.2	ND 5.47
Percent Moisture	Extracted:						
	Analyzed:	Aug-28-10 09:09	Aug-28-10 09:09	Aug-28-10 09:09	Aug-28-10 09:09	Aug-28-10 09:09	Aug-28-10 09:09
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		16.5 1.00	4.22 1.00	9.55 1.00	2.01 1.00	1.94 1.00	8.64 1.00
Soil pH by EPA 9045C	Extracted:					.07	
	Analyzed:	Aug-27-10 11:11	Aug-27-10 11:11	Aug-27-10 11:11	Aug-27-10 11:11	Aug-27-10 11:11	Aug-27-10 11:11
	Units/RL:	SU RL	SU RL	SU RL	SU RL	SU RL	SU RL
Hd		8.12	8.37	7.75	8.15	7.63	7.06
	-						

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

Odessa Laboratory Manager



Project Location: Roosevelt County, NM Contact: Ronnie Nickell

Project Id:

## Certificate of Analysis Summary 38/388 Endeavor Energy, Midland, TX

Project Name: Peterson C Well #1



Date Received in Lab: Fri Aug-27-10 08:18 am

Report Date: 01-SEP-10

					1 10 ct Managel. Divili Dalloll, 11	JULI Dalloll, II	
	Lab Id:	387388-001	387388-002	387388-003	387388-004	387388-005	387388-006
Analysis Roquested	Field Id:	FL1-001	FL2-001	FL3-001	FL4-001	FL5-001	FL6-001
manager confirmer	Depth:	0-12 In	0-12 In	0-12 In	0-12 In	0-12 In	0-12 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-26-10 11:56	Aug-26-10 12:05	Aug-26-10 12:12	Aug-26-10 12:25	Aug-26-10 12:33	Aug-26-10 12:36
TPH By SW8015 Mod	Extracted:	Aug-27-10 11:00	Aug-27-10 11:00	Aug-27-10 11:00	Aug-27-10 11:00	Aug-27-10 11:00	Aug-27-10 11:00
	Analyzed:	Aug-27-10 13:44	Aug-27-10 14:03	Aug-27-10 14:23	Aug-27-10 14:43	Aug-27-10 15:02	Aug-27-10 15:22
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		743 17.9	2620 157	ND 16.5	664 76.5	402 153	ND 16.4
C12-C28 Diesel Range Hydrocarbons		5690 17.9	29900 157	171 16.5	10500 76.5	16000 153	ND 16.4
C28-C35 Oil Range Hydrocarbons	1	131 17.9	1460 157	ND 16.5	650 76.5	1070 153	
Total TPH		6564 17.9	33980 157	171 16.5	11814 76.5	17472 153	ND 164

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Odessa Laboratory Manager Brefit Barron, II

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### **Flagging Criteria**

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

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit

**PQL** Practical Quantitation Limit

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Project Name: Peterson C Well #1

Work Orders: 387388,

Project ID:

Lab Batch #: 821086

Sample: 572124-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 08/31/10 01:41	SI	JRROGATE R	ECOVERY S	STUDY	
BTEX by EPA 8021B  Analytes	Amount Found [A]	True . Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	Car S.
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	272 7

Lab Batch #: 821086

Sample: 572124-1-BLK / BLK

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 08/31/10 02:50	SU	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	Patrick
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	7 -

Lab Batch #: 821086

Sample: 387020-001 S / MS

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 03:36	SU	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0372	0.0300	124	80-120	**

Lab Batch #: 821086

Sample: 387020-001 SD / MSD

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 04:00	SU	RROGATE R	<b>ECOVERY</b> S	STUDY	
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	No.
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	F W.

Lab Batch #: 821086

Sample: 387388-001 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 09:01	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0258	0.0300	86	80-120		
4-Bromofluorobenzene	0.0863	0.0300	288	80-120	**	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson C Well #1

Work Orders: 387388,

**Project ID:** 

Lab Batch #: 821086

Sample: 387388-002 / SMP

Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 09:24	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	7779	
4-Bromofluorobenzene	0.1278	0.0300	426	80-120	**	

Lab Batch #: 821086

Sample: 387388-003 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 10:57	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	17.5		
4-Bromofluorobenzene	0.0314	0.0300	105	80-120			

Lab Batch #: 821086

Sample: 387388-004 / SMP Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 11:20	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	-		
4-Bromofluorobenzene	0.1647	0.0300	549	80-120	**		

Lab Batch #: 821086

Sample: 387388-005 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 11:43	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0293	0.0300	98	80-120			
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	A POUR		

Lab Batch #: 821086

Sample: 387388-006 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/31/10 12:07	SU	RROGATE R	ECOVERY S	STUDY	3
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0350	0.0300	117	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson C Well #1

Work Orders: 387388,

Project ID:

Lab Batch #: 820781

Sample: 571907-1-BKS / BKS

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 08/27/10 12:44	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	95.0	99.8	95	70-135		
o-Terphenyl	55.5	49.9	111	70-135		

Lab Batch #: 820781

Sample: 571907-1-BSD / BSD

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 08/27/10 13:04	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	96.5	99.6	97	70-135	- 4		
o-Terphenyl	62.1	49.8	125	70-135	11		

Lab Batch #: 820781

Sample: 571907-1-BLK / BLK

Batch: 1

Matrix: Solid

SURROGATE RECOVERY STUDY						
Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
99.2	100	99	70-135			
54.2	50.1	108	70-135	\$ 90 V		
	Amount Found [A]	Amount Found Amount [A] [B]	Amount Found Amount [A] Recovery %R [D] 99.2 100 99	Found   Amount   Recovery   Limits   %R   [D]     99.2   100   99   70-135		

Lab Batch #: 820781

Sample: 387388-001 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 13:44	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	100	99.9	100	70-135			
o-Terphenyl	61.8	50.0	124	70-135	SPECE		

Lab Batch #: 820781

Sample: 387388-002 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 14:03	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	101	100	101	70-135	100		
o-Terphenyl	50.8	50.0	102	70-135	3277.3		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson C Well #1

Work Orders: 387388,

Project ID:

Lab Batch #: 820781

Sample: 387388-003 / SMP

Batch: 1 M

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 14:23	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	97.5	99.7	98	70-135		
o-Terphenyl	53.4	49.9	107	70-135		

Lab Batch #: 820781

Sample: 387388-004 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 14:43	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	99.9	88	70-135	
o-Terphenyl	41.2	50.0	82	70-135	

Lab Batch #: 820781

Sample: 387388-005 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 15:02	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.8	94	70-135	1
o-Terphenyl	36.3	49.9	73	70-135	

Lab Batch #: 820781

Sample: 387388-006 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 15:22	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 820781

Sample: 387390-003 S / MS

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 19:00	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.5	97	70-135	
o-Terphenyl	57.8	49.8	116	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson C Well #1

Work Orders: 387388,

**Project ID:** 

Lab Batch #: 820781

Sample: 387390-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 08/27/10 19:19	SU	RROGATE R	ECOVERY S	STUDY	a 1 2
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.5	104	70-135	
o-Terphenyl	53.1	49.8	. 107	70-135	

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



### **Blank Spike Recovery**



Project Name: Peterson C Well #1

Work Order #: 387388

Project ID:

Lab Batch #: 821086

Sample: 572124-1-BKS

Matrix: Solid

Date Analyzed: 08/31/2010

Date Prepared: 08/30/2010

Analyst: ASA

Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY	TUDY
BTEX by EPA 8021B  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.0996	0.0898	90	70-130	
Toluene	ND	0.0996	0.0882	89	70-130	
Ethylbenzene	, ND	0.0996	0.0918	92	71-129	
m,p-Xylenes	ND	0.1992	0.1791	90	70-135	2-178
o-Xylene	ND	0.0996	0.0918	92	71-133	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



### BS / BSD Recoveries



Project Name: Peterson C Well #1

Nork Order #: 387388

Analyst: LATCOR

ab Batch ID: 820841

Sample: 820841-1-BKS

Date Prepared: 08/27/2010

Project ID: Date Analyzed: 08/27/2010

Matrix: Solid

Batch #: 1

Units: mg/kg		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	PIKE / B	LANKS	PIKE DUPI	ICATE F	RECOVE	RY STUD	Y	14
Inorganic Anions by EPA 300/300.1	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike	Spike Added	Blank Spike Dumlicate	BIk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	€	[B]	[C]	[0]	[3]	Result [F]	<u>5</u>	?	No.	O WOY	
Chloride	QN	10.0	86.6	100	10	10.3	103	3	80-120	20	

Sample: 571907-1-BKS ab Batch ID: 820781 Analyst: BEV

Date Prepared: 08/27/2010 Batch #: 1

Matrix: Solid

Date Analyzed: 08/27/2010

Units: mg/kg	3	BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	PIKE / B	LANKS	PIKE DUPI	ICATE 1	RECOVE	RECOVERY STUDY	Y	
TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	<u></u>	[8]	[C]	[D]	[E]	Result [F]	[G]	?	70 K	%KFD	
C6-C12 Gasoline Range Hydrocarbons	Ð	866	1030	103	966	1040	104	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	- Q	866	1000	100	966	1010	101	1	70-135	35	

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

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### Form 3 - MS Recoveries

Project Name: Peterson C Well #1



Work Order #: 387388 Lab Batch #: 820841

Date Analyzed: 08/27/2010

Date Prepared: 08/27/2010

Batch #:

Project ID:

Analyst: LATCOR

QC- Sample ID: 387262-001 S

Matrix: Soil

Reporting Units: mg/kg	MATRI	X / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	171	201	366	97	80-120	

atrix Spike Percent Recovery [D] = 100\*(C-A)/B slative Percent Difference [E] = 200\*(C-A)/(C+B) l Results are based on MDL and Validated for QC Purposes

₹L - Below Reporting Limit



### Sample Duplicate Recovery



Project Name: Peterson C Well #1

Work Order #: 387388

Lab Batch #: 820841 Date Analyzed: 08/27/2010

**Project ID:** 

**Date Prepared:** 08/27/2010

Analyst: LATCOR

QC- Sample ID: 387262-001 D

Batch #:

Matrix: Soil

Reporting Units: mg/kg	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Inorganic Anions by EPA 300/300.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	171	175	2	20	

Lab Batch #: 820734

Date Analyzed: 08/28/2010

Date Prepared: 08/28/2010

Analyst:JLG

QC- Sample ID: 387388-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

					14 16 18 18 18
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte	[]	[B]			
Percent Moisture	16.5	15.4	7	20	

Lab Batch #: 820668

Date Analyzed: 08/27/2010

Date Prepared: 08/27/2010

Analyst:JLG

QC-Sample ID: 387388-001 D

Batch #:

Matrix: Soil

Reporting Units: SU	SAMPLE /	SAMPLE	DUPLIC	CATE REC	OVERY
Soil pH by EPA 9045C	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
pH	8.12	8.13	0	20	



# Form 3 - IVIS / IVISD RECOVERIES



Project Name: Peterson C Well #1

Work Order # 387388

Lab Batch ID: 821086

Date Analyzed: 08/31/2010

Project ID:

Matrix: Soil Batch #:

Analyst:

QC- Sample ID: 387020-001 S Date Prepared: 08/30/2010

ASA

eporting Units: mg/kg		M	ATRIX SPIKE	MATI	UX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	TE REC	VERY !	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits	Control Limits %RPD	Flag
Benzene	ND	0.1114	0.0350	31	0.1125	0.0618	55	55	70-130	35	XF
Toluene	ND	0.1114	0.0328	29	0.1125	0.0580	52	99	70-130	35	XF
sthylbenzene	ND	0.1114	0.0305	27	0.1125	0.0547	46	57	71-129	35	XF
n,p-Xylenes	QN	0.2227	0.0681	31	0.2250	0.1150	51	51	70-135	35	XF
o-Xylene	QN	0.1114	0.0355	32	0.1125	0.0569	51	46	71-133	35	XF
/lene	ON	0.1114	0.0355	32	0.1125		0.0569		51	51 46	51 46 71-133

Lab Batch ID: 820781

Date Analyzed: 08/27/2010

QC-Sample ID: 387390-003 S

Batch #:

BEV

Matrix: Soil

Analyst: Date Prepared: 08/27/2010

Reporting Units: mg/kg		M	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	/MAT	UX SPII	KE DUPLICA	TE REC	OVERY S	STUDY		
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1330	1420	107	1330	1480	111	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1330	1370	103	1330	1420	107	4	70-135	35	

rix Spike Percent Recovery [D] = 100\*(C-A)/Butive Percent Difference RPD = 200\*(C-F)/(C+F)

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

= Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not IicableN = See Narrative, EQL = Estimated Quantitation Limit

Final 1.001



### **XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Eo	deav	0/							
			20818						
Lab ID#:	28	7388							
Initials:	JMF								
		(4)	S	ample Receip	t Check	list			
1. Samples on	ice?					Blue	(Water)	No	
2. Shipping co	ntainer in	good cond	tion?			Yes	No	None	
3. Custody sea	als intact o	on shipping	container (co	ooler) and bottles	?	Yes	No	(NA)	
4. Chain of Cu	stody pres	sent?			, 1	Yes	No		
5. Sample inst	ructions c	omplete on	chain of cus	tody?		(Yes)	No		
6. Any missing	j / extra sa	mples?			-	Yes	(No)		
7. Chain of custody signed when relinquished / received?						Yes	No		)
8. Chain of custody agrees with sample label(s)?						Yes	No		id onlic
9. Container labels legible and intact?						Yes	No		1)
10. Sample matrix / properties agree with chain of custody?						Yes	No		
11. Samples in	proper co	ontainer / be	ottle?		11	Yes	No		
12. Samples p	roperly pr	eserved?				Yes	No	N/A	
13. Sample container intact?						Yes	No		
14. Sufficient sample amount for indicated test(s)?						Yes	No		j.
15. All samples	s received	within suff	icient hold ti	me?		(es)	No		
16. Subcontrac	ct of samp	ole(s)?				Yes	No	N/A	1.4
17. VOC samp	le have ze	ro head spa	ice?			Yes	No	N/A	
18. Cooler 1 No	0.	Cooler 2 N	0.	Cooler 3 No.		Cooler 4 No		Cooler 5 No	
lbs	5.1 °C	lbs	°C	lbs	°C	Ibs	°c	lbs	°c
			None	onformance	Docume	ntation			
Contact:			Contacted by	/:			Date/Time:_		
Regarding: _									
Corrective Act	ion Taken								
Check all that	apply:	Cooling pr	ocess has be	gun shortly after	sampling	event and or	ut of tempera	iture	

Check all that apply: □Cooling process has begun shortly after sampling event and out of temperate condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis



### **Sample Cross Reference 390736**



### Endeavor Energy, Midland, TX

Peterson "C" Well #1

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
PWSW1-001	S	Sep-21-10 13:00	0 - 48 In	390736-001
PWNW2-001	S	Sep-21-10 13:06	0 - 48 In	390736-002
PWNE3-001	S	Sep-21-10 13:10	0 - 48 In	390736-003
PWSE4-001	S	Sep-21-10 13:15	0 - 48 In	390736-004
PWFN1-001	S	Sep-21-10 12:35	0 - 48 In	390736-005
PWFC2-001	S	Sep-21-10 12:42	0 - 48 In	390736-006
PWFS3-001	S	Sep-21-10 12:57	0 - 48 In	390736-007

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson "C" Well #1



Project ID:

Fence line Pit

Work Order Number: 390736

Report Date: 25-SEP-10

Date Received: 09/22/2010

Sample receipt non conformances and Comments:

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-824258 TPH By SW8015 Mod

None

Batch: LBA-824274 Percent Moisture

None

Batch: LBA-824277 Anions by E300

None

Batch: LBA-824526 BTEX by EPA 8021B

SW8021BM

Batch 824526, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 390736-003,390736-001. 1,4 Difluorobenzene was within QC limits.

### SW8021BM

Batch 824526, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 390736-006, -003, -007, -001.

The Laboratory Control Sample for Toluene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-824570 BTEX by EPA 8021B

SW8021BM

Batch 824570, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 390736-004.

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson "C" Well #1



Project ID:

Fence line Pit

Work Order Number: 390736

Report Date: 25-SEP-10 Date Received: 09/22/2010

Batch: LBA-824680 BTEX by EPA 8021B

SW8021BM

Batch 824680, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 390736-002.



Project Location: Roosevelt Co., NM

Contact: Ronnie Nickell Project Id: Fence line Pit

Certificate of Analysis Summary 390750

Endeavor Energy, Midland, TX

Project Name: Peterson "C" Well #1

Date Received in Lab: Wed Sep-22-10 09:25 am

25-SEP-10 Report Date:

17.0 17.0 17.0 0.0023 0.0023 0.0011 0.0011 0.0011 0.001 0.0011 Sep-22-10 12:14 Sep-22-10 12:50 Sep-23-10 09:56 Sep-22-10 17:00 Sep-22-10 18:14 Sep-21-10 12:42 Sep-22-10 11:20 PWFC2-001 390736-006 0-48 In SOIL R S S S S 41.6 R 381 mg/kg mg/kg mg/kg 0.0021 0.0010 1.00 0.0011 0.0010 0.0026 0.0020 0.0036 0.0010 0.0021 0.0020 ND 0.0010 0.0094 0.0010 15.3 15.3 15.3 15.3 Sep-23-10 23:16 Sep-22-10 12:14 Sep-22-10 17:55 Sep-21-10 12:35 Sep-23-10 17:00 Sep-22-10 17:00 Sep-22-10 11:20 390736-005 PWFN1-001 Brent Barron, II 0-48 In SOIL 16.4 428 36.9 481 mg/kg mg/kg mg/kg Project Manager: 17.1 R 17.1 17.1 17.1 0.0182 0.0011 0.0017 0.0011 0.0059 0.0023 0.0104 0.0011 0.0159 0.0023 0.0023 0.0011 0.0011 K Sep-23-10 22:53 Sep-22-10 17:17 Sep-21-10 13:15 Sep-22-10 12:14 Sep-23-10 17:00 Sep-22-10 17:00 Sep-22-10 11:20 390736-004 PWSE4-001 0-48 In SOIL 0.0362 12.2 6.09 18.1 380 301 mg/kg mg/kg 1.00 17.0 23.8 RL 17.0 17.0 RL K 1.559 0.0453 1.309 0.0453 0.7914 0.0227 0.4634 0.0227 1.772 0.0227 7.770 0.0227 3.647 0.0227 Sep-21-10 13:10 Sep-22-10 12:14 Sep-22-10 12:50 Sep-23-10 15:24 Sep-22-10 11:20 Sep-22-10 16:57 Sep-22-10 17:00 PWNE3-001 390736-003 0-48 In SOIL 1480 2530 3730 285 6545 mg/kg mg/kg mg/kg % 16.4 16.4 16.4 16.4 1.00 RL 0.0120 0.0055 0.0503 0.0109 0.0350 0.0055 0.1583 0.0109 0.1764 0.0055 0.3347 0.0055 0.4320 0.0055 R R Sep-22-10 12:14 Sep-24-10 13:00 Sep-24-10 18:31 Sep-22-10 17:00 Sep-22-10 11:20 Sep-22-10 16:38 Sep-21-10 13:06 390736-002 PWNW2-001 0-48 In SOIL 3870 5210 345 8.60 1120 mg/kg mg/kg 17.0 17.0 17.0 R 1.3423 0.0226 1.3423 0.0226 R RL ND 0.0453 ND 0.0226 0.9154 0.0453 0.4269 0.0226 K ND 0.0226 Sep-22-10 12:14 Sep-22-10 17:00 Sep-22-10 16:19 Sep-22-10 12:50 Sep-22-10 11:20 Sep-23-10 14:41 Sep-21-10 13:00 PWSW1-001 390736-001 0-48 In SOIL 454 2270 90.7 2815 mg/kg mg/kg Lab Id: Depth: Field Id: Matrix: Sampled: Analyzed: Units/RL: Extracted: Analyzed: Units/RL: Analyzed: Units/RL: Extracted: Analyzed: Extracted: Units/RL: TPH By SW8015 Mod BTEX by EPA 8021B C6-C12 Gasoline Range Hydrocarbons Percent Moisture C12-C28 Diesel Range Hydrocarbons Analysis Requested Anions by E300 C28-C35 Oil Range Hydrocarbons Percent Moisture Total Xylenes Ethylbenzene m,p-Xylenes Total TPH o-Xylene Benzene Toluene Chloride

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Odessa Laboratory Manager Brefit Barron, II

Page 6 of 24



Project Location: Roosevelt Co., NM Contact: Ronnie Nickell Project Id: Fence line Pit

Project Name: Peterson "C" Well #1



Date Received in Lab: Wed Sep-22-10 09:25 am

Report Date: 25-SEP-10

				0	
	Lab Id:	390736-007			
Analysis Ronnostod	Field Id:	PWFS3-001			
naisanhar sichmit	Depth:	0-48 In			
	Matrix:	SOIL			
	Sampled:	Sep-21-10 12:57			
Anions by E300	Extracted:				
	Analyzed:	Sep-22-10 12:14			
	Units/RL:	mg/kg RL			
Chloride		25.8 4.61			
BTEX by EPA 8021B	Extracted:	Sep-22-10 12:50			
	Analyzed:	Sep-23-10 10:17			
	Units/RL:	mg/kg RL			
Benzene	3	ND 0.0011			
Toluene		ND 0.0022			
Ethylbenzene		ND 0.0011			
m,p-Xylenes		ND 0.0022			
o-Xylene		ND 0.0011			
Total Xylenes		ND 0.0011			
Total BTEX	14	ND 0.0011			
Percent Moisture	Extracted:				
	Analyzed:	Sep-22-10 17:00	· · · · · · · · · · · · · · · · · · ·		
	Units/RL:	% RL			
Percent Moisture		8.88 1.00			
TPH By SW8015 Mod	Extracted:	Sep-22-10 11:20			
	Analyzed:	Sep-22-10 18:34			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.5			
C12-C28 Diesel Range Hydrocarbons		ND 16.5			
C28-C35 Oil Range Hydrocarbons		ND 16.5			
Total TPH		ND 16.5			

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Odessa Laboratory Manager Brefit Barron, II



### **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.
- 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.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- MDL Method Detection Limit
- **PQL** Practical Quantitation Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Peterson "C" Well #1

Work Orders: 390736, Lab Batch #: 824526

Sample: 574012-1-BKS / BKS

Project ID: Fence line Pit

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 09/23/10 04:18 SURROGATE RECOVERY S					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 824526

Sample: 574012-1-BSD / BSD

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 09/23/10 04:39	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0272	0.0300	91	80-120			
4-Bromofluorobenzene	0.0262	0.0300	87	80-120			

Lab Batch #: 824526

Sample: 574012-1-BLK / BLK

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 09/23/10 05:42	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0274	0.0300	91	80-120		
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	3/	

Lab Batch #: 824526

Sample: 390757-002 S / MS

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 09/23/10 06:24	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	The same		
4-Bromofluorobenzene	0.0282	0.0300	94	80-120			

Lab Batch #: 824526

Sample: 390757-002 SD / MSD

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 09/23/10 06:45	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	0	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	Territoria, in	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson "C" Well #1

Work Orders: 390736,

Project ID: Fence line Pit

Lab Batch #: 824526

Sample: 390736-006 / SMP

Matrix: Soil Batch:

Units: mg/kg Date Analyzed: 09/23/10 09:56	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	TOWN.	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120		

Lab Batch #: 824526

Sample: 390736-007 / SMP

Batch:

Matrix: Soil

Control	16
%R	Flags
80-120	2 3 7
80-120	
	80-120

Lab Batch #: 824526

Sample: 390736-001 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 09/23/10 14:41 SURROGATE RECOVERY S					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0256	0.0300	85	80-120	
4-Bromofluorobenzene	0.0472	0.0300	157	80-120	*

Lab Batch #: 824526

Sample: 390736-003 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 09/23/10 15:24	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	GENERAL SE	
4-Bromofluorobenzene	0.1338	0.0300	446	80-120	*	

Lab Batch #: 824570

Sample: 574257-1-BKS/BKS

Batch: 1

Matrix: Solid

Units: mg/kg Date Analyzed: 09/23/10 17:50	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0335	0.0300	112	80-120		
4-Bromofluorobenzene	0.0350	0.0300	117	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson "C" Well #1

Work Orders: 390736,

Project ID: Fence line Pit

Lab Batch #: 824258

Sample: 390739-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 09/22/10 21:10	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.0	99.7	87	70-135	
o-Terphenyl	44.5	49.9	89	70-135	

Lab Batch #: 824258

Sample: 390739-001 SD / MSD

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 09/22/10 21:29	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.3	99.8	87	70-135	
o-Terphenyl	44.4	49.9	89	70-135	

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: Peterson "C" Well #1

Nork Order #: 390736

Analyst: SEE

ab Batch ID: 824526

Sample: 574012-1-BKS

Date Prepared: 09/22/2010

Project ID: Fence line Pit Date Analyzed: 09/23/2010

Matrix: Solid

Batch #:

Units: mg/kg		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	SPIKE / B	LANKS	PIKE DUPI	LICATE F	ECOVE	RY STUD	Y.	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits	Control Limits %RPD	Flag
Benzene	QN	0.1000	0.1070	107	0.1	0.0989	66	00	70-130	35	
Toluene	QN	0.1000	0.0948	95	0.1	0.0862	98	10	70-130	35	
Ethylbenzene	Q.	0.1000	9660.0	100	0.1	0.0898	06	10	71-129	35	
m,p-Xylenes	QN	0.2000	0.1995	100	0.2	0.1801	06	10	70-135	35	
o-Xylene	ND	0.1000	0.0826	83	0.1	0.0752	75	6	71-133	35	

Analyst: SEE

Date Prepared: 09/23/2010

Matrix: Solid

Date Analyzed: 09/23/2010

.ab Batch ID: 824570 Sample: 574257-1-BKS	BKS	Batch #:	1#: 1					Matrix: Solid	olid		
Units: mg/kg	1	BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	PIKE / B	LANKS	PIKE DUPL	ICATE I	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike	Spike	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD	Control Limits	Control Limits	Flag
Analytes		[B]	[c]	[0]	E	Result [F]	<u>G</u>				
Benzene	N O	0.1000	0.0918	92	0.1	0.0819	82	11	70-130	35	
Toluene	N ON	0.1000	0.0899	06	0.1	0.0804	80	11	70-130	35	
Ethylbenzene	QN	0.1000	0.0924	92	0.1	0.0826	83	11	71-129	35	
m,p-Xylenes	N O	0.2000	0.1834	92	0.2	0.1640	82	111	70-135	35	
o-Xylene	N	0.1000	0.0921	92	0.1	0.0823	82	111	71-133	35	

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





Project Name: Peterson "C" Well #1

Nork Order #: 390736

Analyst: SEE

Sample: 574313-1-BKS

Date Prepared: 09/24/2010

Project ID: Fence line Pit Date Analyzed: 09/24/2010

Matrix: Solid

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Batch #: ab Batch ID: 824680 Units: mg/kg

Flag Control Limits %RPD 35 35 35 35 35 Control Limits 70-130 70-130 71-129 70-135 71-133 RPD % 11 12 11 11 Blk. Spk Dup. 95 94 16 96 16 Blank Spike Duplicate Result [F] 0.9618 0.4712 0.4868 0.4869 0.4773 Spike Added 0.5 0.5  $\Xi$ 0.5 0.5 Blank Spike %R [D] 87 85 84 87 98 0.4346 0.4360 Spike Result 0.4256 0.4194 0.8629 Blank [] Spike Added 0.5000 0.5000 0.5000 0.5000 1.000 [B] Sample Result Blank [A] R R R R ND BTEX by EPA 8021B Analytes Ethylbenzene m,p-Xylenes o-Xylene Benzene Toluene

Analyst: LATCOR

ab Batch ID: 824277

Date Prepared: 09/22/2010

Batch #: 1

Sample: 824277-1-BKS

Date Analyzed: 09/22/2010 Matrix: Solid

Units: mg/kg		BLAN	SLANK /BLANK SPIKE /		LANKS	BLANK SPIKE DUPLICATE 1	ICATE F	RECOVE	RECOVERY STUDY	Y	
Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits	Control Limits	Flag
Analytes		[B]	[0]	[0]	[E]	Result [F]	[6]				
Aloride	N N	10.0	9.74	16	10	9.64	96	1	75-125	20	

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





Project Name: Peterson "C" Well #1

Nork Order #: 390736

Analyst: BEV

ab Batch ID: 824258

Sample: 574058-1-BKS

Date Prepared: 09/22/2010

Batch #: 1

Project ID: Fence line Pit Date Analyzed: 09/22/2010

Matrix: Solid

Units: mg/kg		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	PIKE / E	LANKS	PIKE DUPI	ICATE 1	RECOVE	RECOVERY STUDY	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits	Control Limits %RPD	Flag
Analytes		[B]	[C]	[0]	[E]	Result [F]	<u>G</u>				
C6-C12 Gasoline Range Hydrocarbons	QV.	1000	1020	102	1010	1070	106	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	Q.	1000	905	91	1010	913	06	1	70-135	35	

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



### Form 3 - MS Recoveries

Project Name: Peterson "C" Well #1



Work Order #: 390736 Lab Batch #: 824277

Date Analyzed: 09/22/2010

Project ID: Fence line Pit

Date Prepared: 09/22/2010

**Analyst: LATCOR** 

QC-Sample ID: 390736-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	539	226	756	96	75-125	

atrix Spike Percent Recovery [D] = 100\*(C-A)/B lative Percent Difference [E] = 200\*(C-A)/(C+B)
Results are based on MDL and Validated for QC Purposes

₹L - Below Reporting Limit



## Form 5 - MS / MSD Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 390736

Lab Batch ID: 824526

Date Analyzed: 09/23/2010

390757-002 S 09/22/2010 QC- Sample ID:

Project ID: Fence line Pit

Matrix: Soil

Date Prepared:

Batch #: Analyst:

SEE

Flag

× × ×

Limits Control %RPD 35 35 35 35 35 Control Limits 70-130 71-129 71-133 70-130 70-135 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 15 14 12 12 11 Dup. 84 19 09 89 80 Duplicate Spiked Sample Result [F] 0.1967 0.0826 0.1028 0.0733 0.0831 Spike Added 0.1225 0.1225 0.1225 0.1225 0.2451 E Sample Spiked %R [D] 72 09 74 52 59 Spiked Sample Result 0.0724 0.1763 0.0735 0.0909 0.0631 C Spike Added 0.1225 0.1225 0.1225 0.2451 0.1225 [B] Parent Sample Result [A] S ND N N S BTEX by EPA 8021B Analytes Reporting Units: mg/kg Ethylbenzene m,p-Xylenes o-Xylene Toluene Benzene

Date Analyzed: 09/23/2010 Lab Batch ID: 824570

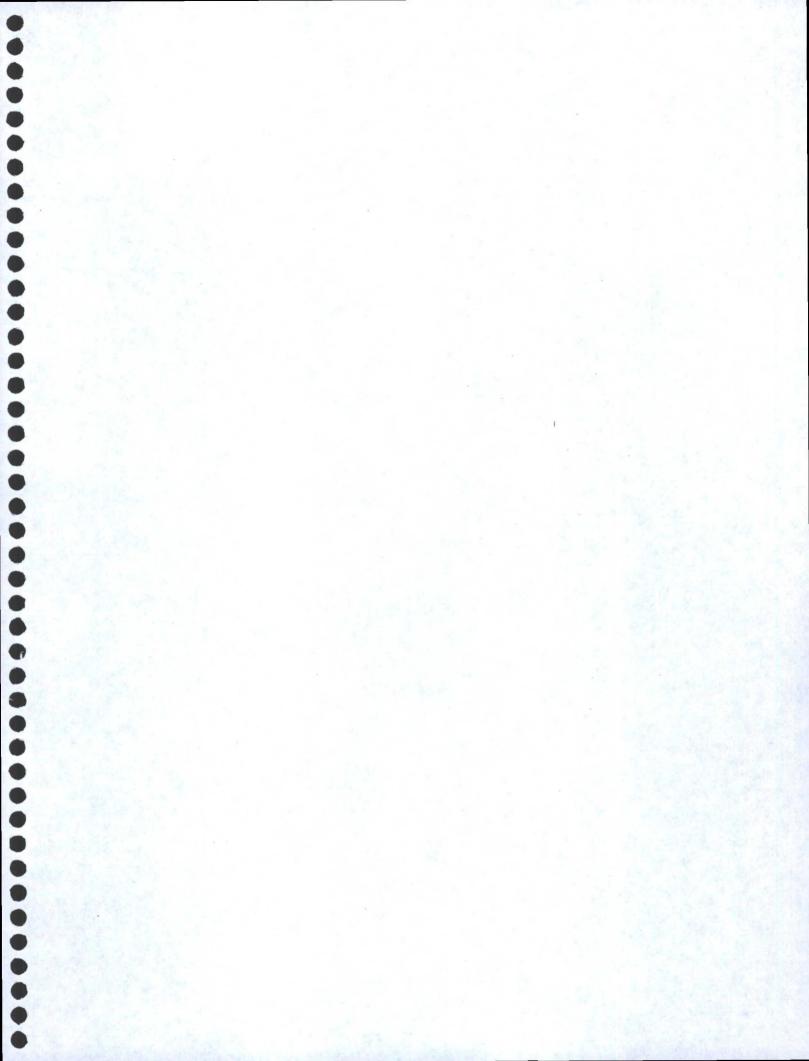
OC-Sample ID: 391036-001 S 09/23/2010 Date Prepared:

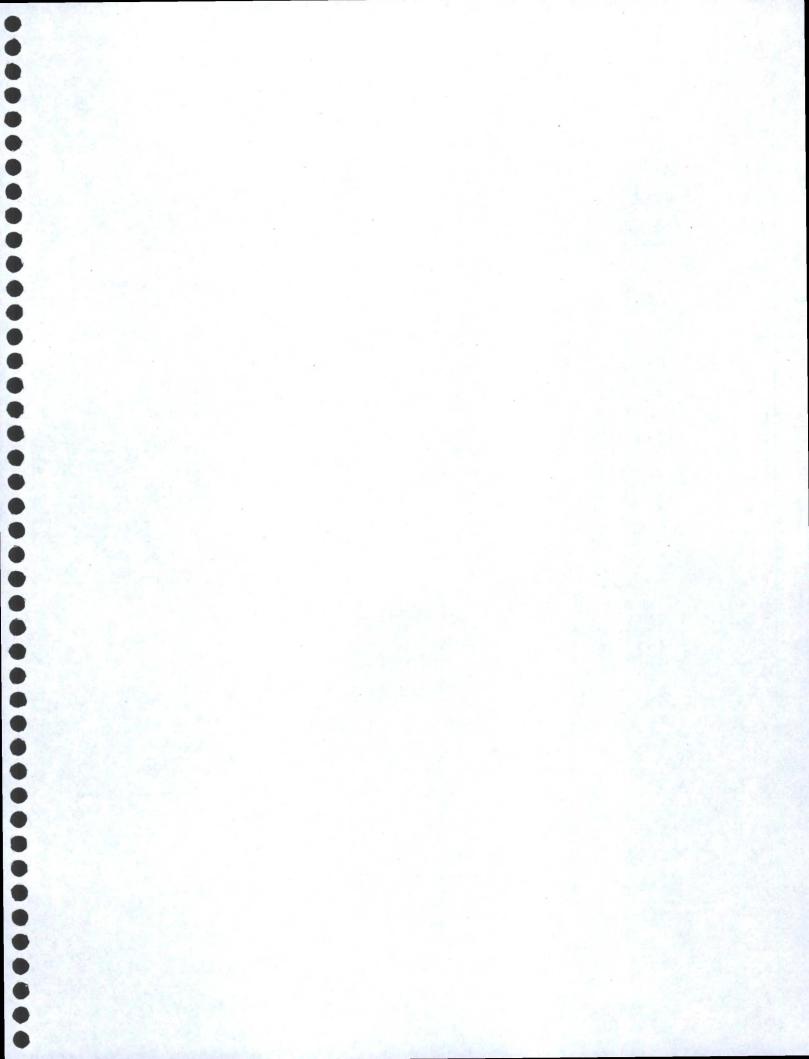
SEE Batch #: Analyst:

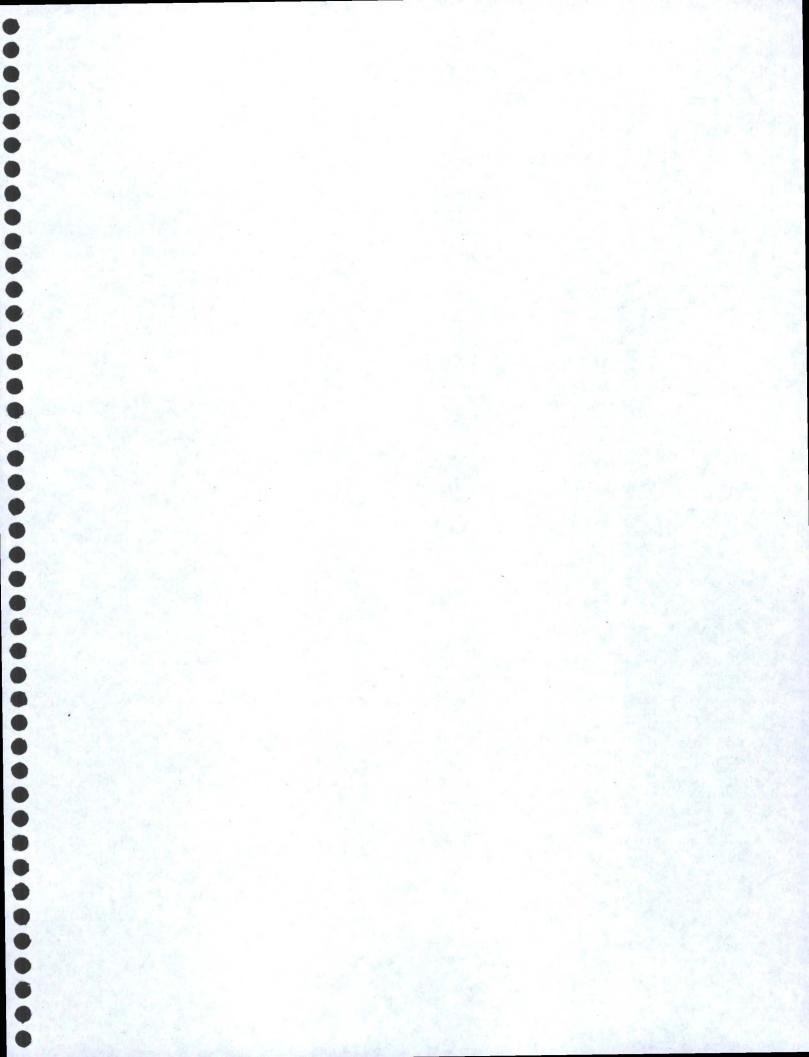
Matrix: Soil

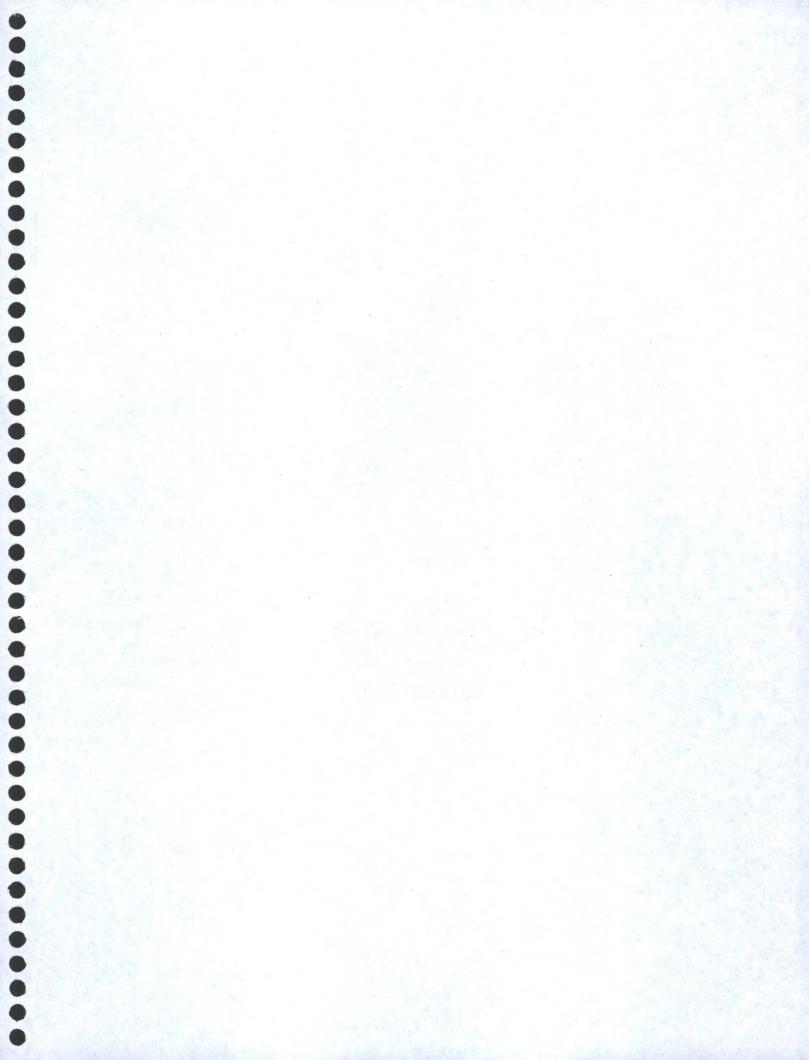
Flag Limits %RPD Control Control Limits %R MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % Spiked Dup. Duplicate Spiked Sample Result [F] Spike Added Spiked Sample Spiked Result Sample %R <u></u> Spike Added Parent Sample Result BTEX by EPA 8021B Reporting Units: mg/kg

Analytes	[A]	[B]		<u>a</u>	<b>E</b>		[5]			Con	
Benzene	ND	0.1000	0.0812	81	0.1000	0.0839	84	3	70-130	35	
Toluene	0.0050	0.1000	0.0818	77	0.1000	0.0843	79	3	70-130	35	
Ethylbenzene	0.0046	0.1000	0.0796	75	0.1000	0.0819	77	3	71-129	35	
m,p-Xylenes	0.0051	0.2000	0.1522	74	0.2000	0.1569	92	3	70-135	35	
o-Xylene	0.0021	0.1000	0.0730	71	0.1000	0.0752	73	3	71-133	35	











## Form 5 - MS / MSD Kecoveries





Work Order #: 390736

Lab Batch ID: 824258

Date Analyzed: 09/22/2010

Project ID: Fence line Pit

QC-Sample ID: 390739-001 S Date Prepared: 09/22/2010

1 Matrix: Soil	BEV
Batch #:	Analyst:

Reporting Units: mg/kg		M	ATRIX SPIK	E/MAT	RIX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	TE REC	OVERY S	TUDY		
TPH By SW8015 Mod	Parent Sample		Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1160	1200	103	1160	1220	105	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1160	944	81	1160	955	82	1	70-135	35	

rix Spike Percent Recovery [D] = 100\*(C-A)/B tive Percent Difference [RPD = 200\*(C-F)/(C+F)]

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

= Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not licableN = See Narrative, EQL = Estimated Quantitation Limit

1. Samples on ice?						Blue	Water	No	
2. Shipping container in	good condition?					Yes	No	None	
3. Custody seals intact of	on shipping conta	iner (c	ooler) and	bottles?		Yes	No	N/A)	-10
4. Chain of Custody pres	sent?					Yes	No		
5. Sample instructions of	omplete on chain	of cus	tody?			Yes	- No		
6. Any missing / extra sa	imples?					Yes	No		
7. Chain of custody sign	ed when relinqui	shed / ı	received?			(es)	No		
8. Chain of custody agre	es with sample la	abel(s)	?			Yes	No		L D-Lies
9. Container labels legib	le and intact?					Yes	No	Ž į	Ditter.
10. Sample matrix / prop	erties agree with	chain d	of custody	?	, 1	Yes	No		
11. Samples in proper co	ontainer / bottle?	41.3				Yes	No		
12. Samples properly pr	eserved?					Yes	No	N/A	
13. Sample container int	tact?					Yes	No		17-18-18
14. Sufficient sample an	nount for indicate	d test(s	5)?			Yes	No		Page 1
15. All samples received	within sufficient	hold ti	me?		. 1	Yes	No		
16. Subcontract of samp	ole(s)?					Yes	No	N/A	4.17.17
17. VOC sample have ze	ro head space?					Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.		Cooler 3 N	No.		Cooler 4 No	Mary lar	Cooler 5 No.	la l
1bs 3.6 °C	lbs	°C		lbs	°c	Ibs	°C	Ibs	°c
		None	conforma	ance Doo	umei	ntation			
Contact:	Conta	cted b	y:				Date/Time:_		
Regarding:			-						
Corrective Action Taken	:								
P. Maria			,						
Check all that apply:	Cooling process	has be	gun short	ly after san	pling	event and or	ut of tempera	ature	
C	condition a Initial and Backu	accepta p Tem	able by NE	onfirm out	.1.a.1. of tem	perature con	ditions		

☐ Client understands and would like to proceed with analysis

### **Analytical Report 392009**

for Endeavor Energy

**Project Manager: Ronnie Nickell** 

Peterson "C" Well #1

Pit

05-OCT-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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05-OCT-10

Project Manager: Ronnie Nickell **Endeavor Energy** 

110 N. Marienfeld, Suite 200

Midland, TX 79701

Reference: XENCO Report No: 392009

Peterson "C" Well #1

Project Address: Roosevelt Co, NM

### **Ronnie Nickell:**

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 392009. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 392009 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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### Sample Cross Reference 392009



### Endeavor Energy, Midland, TX

Peterson "C" Well #1

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
PW SE1-002	S	Sep-30-10 10:17	0 - 60 In	392009-001
PW NE2-002	S	Sep-30-10 10:22	0 - 60 In	392009-002
PW NW3-002	S	Sep-30-10 10:26	0 - 60 In	392009-003
PW SW4-002	S	Sep-30-10 10:30	0 - 60 In	392009-004

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson "C" Well #1



Project ID:

Work Order Number: 392009

Report Date: 05-OCT-10

Date Received: 10/01/2010

Sample receipt non conformances and Comments:

Sample receipt Non Conformances and Comments per Sample:

None



Project Location: Roosevelt Co, NM Contact: Ronnie Nickell

Project Id: Pit

Certificate of Analysis Summary 392009

Endeavor Energy, Midland, TX

Project Name: Peterson "C" Well #1

Date Received in Lab: Fri Oct-01-10 08:44 am 05-OCT-10 Report Date:

	Lab Id:	392009-001	392009-002	392009-003	392009-004	
Analysis Ronnostod	Field Id:	PW SE1-002	PW NE2-002	PW NW3-002	PW SW4-002	
maison had sectional	Depth:	0-60 In	uI 09-0	ul 09-0	0-60 In	
	Matrix:	SOIL	SOIL	SOIL	Non	
	Sampled:	Sep-30-10 10:17	Sep-30-10 10:22	Sep-30-10 10:26	Sep-30-10 10:30	
Anions by E300	Extracted:					
	Analyzed:	Oct-01-10 14:40	Oct-01-10 14:40	Oct-01-10 14:40	Oct-01-10 14:40	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		91.6 4.59	376 9.29	149 4.58	50.3 4.78	
Percent Moisture	Extracted:					
	Analyzed:	Oct-01-10 17:00	Oct-01-10 17:00	Oct-01-10 17:00	Oct-01-10 17:00	
	Units/RL:	% RL	% RL	% RL	% RL	
Percent Moisture		8.42 1.00	9.57 1.00	8.21 1.00	12.1 1.00	
TPH By SW8015 Mod	Extracted:	Oct-01-10 10:40	Oct-01-10 10:40	Oct-01-10 10:40	Oct-01-10 10:40	
	Analyzed:	Oct-01-10 14:32	Oct-01-10 14:51	Oct-01-10 15:10	Oct-01-10 15:29	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		2110 16.4	2020 16.6	1640 16.3	17.1 17.1	
C12-C28 Diesel Range Hydrocarbons		3520 16.4	4980 16.6	3160 16.3	123 17.1	
C28-C35 Oil Range Hydrocarbons		128 16.4	188 16.6	113 16.3	ND 17.1	
Total TPH		5758 16.4	7188 16.6	4913 16.3	140 17.1	

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

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

Odessa Laboratory Manager Brent Barron, II

Final 1:000



### Flagging Criteria

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

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Peterson "C" Well #1

Work Orders: 392009,

Project ID: Pit

Lab Batch #: 825806

Sample: 575002-1-BKS / BKS

Matrix: Solid Batch:

Units: mg/kg Date Analyzed: 10/01/10 12:31	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.2	100	84	70-135	
o-Terphenyl	55.1	50.2	110	70-135	17.5

Lab Batch #: 825806

Sample: 575002-1-BSD / BSD

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 10/01/10 12:51	SU	RROGATE R	ECOVERY	STUDY	April 1
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	168	201	84	70-135	
o-Terphenyl	92.6	100	93	70-135	

Lab Batch #: 825806

Sample: 575002-1-BLK / BLK

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 10/01/10 13:10	SU	RROGATE R	RECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	99.9	88	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 825806

Sample: 392009-001 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 10/01/10 14:32	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	- 12
o-Terphenyl	46.2	50.1	92	70-135	

Lab Batch #: 825806

Sample: 392009-002 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 10/01/10 14:51	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	38.6	50.1	77	70-135	1,796

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson "C" Well #1

Work Orders: 392009,

Project ID: Pit

Lab Batch #: 825806

Sample: 392009-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/01/10 15:10	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.8	100	70-135	
o-Terphenyl	46.2	49.9	93	70-135	to the

Lab Batch #: 825806

Sample: 392009-004 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 10/01/10 15:29	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl .	47.1	50.2	94	70-135	No. of the last

Lab Batch #: 825806

Sample: 392004-002 S / MS

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 10/01/10 18:05	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.2	99.9	89	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

Lab Batch #: 825806

Sample: 392004-002 SD / MSD

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 10/02/10 09:25	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.9	100	87	70-135	
o-Terphenyl	57.0	50.1	114	70-135	

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: Peterson "C" Well #1

Work Order #: 392009

Analyst: LATCOR

ab Batch ID: 825707 Sample: 825707-1-BKS

Date Prepared: 10/01/2010

Batch #:- 1

Project ID: Pit
Date Analyzed: 10/01/2010

Matrix: Solid

Flag Control Limits %RPD 20 BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Control Limits 75-125 RPD % Blk. Spk Dup. %R [G] 102 Duplicate Result [F] Blank Spike 10.2 Spike Added  $\Xi$ 10 Blank Spike %R [D] 103 Blank Spike Result [C] 10.3 Spike Added 10.0 [B] Sample Result Blank [**A**] R Anions by E300 Units: mg/kg Analytes Chloride

Analyst: BEV
.ab Batch ID: 825806 Sample: 575002-1-BKS

Date Prepared: 10/01/2010
Batch #: 1

Matrix: Solid

Date Analyzed: 10/01/2010

Units: mg/kg		BLAN	K /BLANK S	PIKE / E	LANKS	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE 1	RECOVE	RY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result	Spike	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	[B]	[C]	[D]	<b>(E)</b>	Dupneare Result [F]	[G]		70K	%KFD	
C6-C12 Gasoline Range Hydrocarbons	QN	1000	1010	101	1000	1050	105	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	903	06	1000	815	82	10	70-135	35	

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



### Form 3 - MS Recoveries

Project Name: Peterson "C" Well #1



Work Order #: 392009

**Lab Batch #:** 825707 **Date Analyzed:** 10/01/2010

Date Prepared: 10/01/2010

Project ID: Pit
Analyst: LATCOR

QC- Sample ID: 392009-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO		DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	91.6	109	205	104	75-125	17 The 1

atrix Spike Percent Recovery [D] = 100\*(C-A)/B
lative Percent Difference [E] = 200\*(C-A)/(C+B)
l Results are based on MDL and Validated for QC Purposes

L - Below Reporting Limit



# Form 3 - MS/ MSD Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 392009

Lab Batch ID: 825806

Date Analyzed: 10/01/2010

Project ID: Pit

Batch #:

QC-Sample ID: 392004-002 S

Date Prepared: 10/01/2010

Analyst: BEV

Matrix: Soil

Spiked Sample Spiked Sample Spike Spiked Sample Spiked Sample Spike Spiked Sample Spike Spiked Sample Spiked Spiked Sample Spiked Sample Spiked Sample Spiked Spike MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Parent Sample TPH By SW8015 Mod Reporting Units: mg/kg

Flag

Control

Analytes	Sample Result [A]	Spike Added [B]	Result [C]	Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Dup. %R [G]	RPD %	Limits %R	Limits %RPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1040	1100	106	1040	1070	103	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1040	890	98	1040	875	84	2	70-135	35	

rix Spike Percent Recovery [D] = 100\*(C-A)/B tive Percent Difference RPD = 200\*((C-F)/(C+F))

= Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not licableN = See Narrative, EQL = Estimated Quantitation Limit

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



### **Sample Duplicate Recovery**



Project Name: Peterson "C" Well #1

Work Order #: 392009

Lab Batch #: 825707 Date Analyzed: 10/01/2010

Project ID: Pit

Date Prepared: 10/01/2010

Analyst: LATCOR

QC-Sample ID: 392009-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]	100		
Chloride	91.6	94.1	3	20	

Lab Batch #: 825712

Date Analyzed: 10/01/2010

Date Prepared: 10/01/2010

Analyst: JLG

QC- Sample ID: 392004-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Reporting Onts. 70	DIRIVIL ELET	DIRIVIL ELE	DUILLE	TIL ILL	OVER
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			100
Percent Moisture	10.0	10.4	4	20	

Project Manager  Company Name  Company Address:  Sampler Signature:  Sampler Signature:  Seetal Instructions:  S	Xenco Laboratories The Environmental Lab of Texas						(	5600	X e	£ 5	AIN	OF Ist	20	CHAIN OF CUSTODY REC	~
Company Name Company Name Company Address:  City/State/Zip:  Telephone No:  Sampler Signature:  Company Address:  City/State/Zip:  Telephone No:  Sampler Signature:  Fig. No:	Project Manager:	Di		Victor		5.13	0	des	, g	exas	187	92	3.14		
City/State/Zip: Telephone No: Sampler Signature: Telephone No: Sampler Signature: Telephone No: Tele	3	7	En	700			72	200		0.1	2			- 1	
City/State/Zip:  Telephone No: Sampler Signature: Price Conditions  Telephone No: Tele	Company Address:			5					1,						
Sampler Signature:  Sampler Signature:  Sampler Signature:  Peacoved by  Time  Date  The Bodining Depth  And Depth Containers  Baselining Depth  And Depth Containers  Time  Date  Time  Date  Time  Date  Time  Date  D	4	Cari	-	1										1	
Sampler Signature:  Ampler Signa	Telephone No:				Fax No:									œ	w
Fig. 19 Control of the Control of th	Sampler Signature:	X	9	J. Cr.	e-mail:		3	A	, <sup>1</sup>	1	1	1	-	1	9
File Instructions:  The Sampled Beginning Depth File Instructions:  Time Sampled Beginning Depth File Instructions:  Time Beginning Depth File File File File File File File File	(labuseonly)			5											
Time Sampled  Time Sampled  Time Sampled  Time Sampled  Hold Fillered  Hold Fille	ORDER#: / COLO		-			t	4	Pres	ervati	on &	0	ontain	83	ž	CG
The SELECTON (CONTROL OF CONTROL					Time Sampled					'OS <sup>z</sup> H				DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid
The New York   Time	17 SE1- 203	N)	-3	· · · · · · · · · · · · · · · · · · ·	(C::10								-	5	-
The New York of the National Parts of the Na	FINE NEGOCO				W. 3.3.3m										-
Time Received by:    Control   Contr	かししていいいい				5		*****						_		
Lal Instructions:  Lal Instructions:  Date Time Received by:  LCT/C Suffer Time Received by:  Date Time Received by:  Date Time Received by:	1		>	À	1.76.11		1							,0	
lal instructions:    Instructions:			+				+	-	-		1	+	+		
lal instructions:  Juished by.  LCT/C Sulfau  Ushed by.  Date Time Received by.  Date Time Received by.  Date Time Received by.										N.			+		1 1
lat Instructions:  Date Time Received by:  UST IC STATE  Date Time Received by:  Date Time Received by:			+					-	1		4	-		-	
uished by:  Date Time Received by:  Date Time Received by:  Date Time Received by:  Date Time Received by:			1				-	-			1		-	-	
Aushed by:  Date Time Received by:  LC+/C Suffer Received by:  Date Time Received by:  Date Time Received by:	Special instructions:								1.0			410	100		
Date Time Received by:	Mished by: The Committee IC		Time S. 44/cs	-		10	200	100	1 -	1	1			Date	
Date Time Received	Relinquished by	Date	Time	Received by:		Acres		19		1				Date	
		Date	Time		01			4,				10000		)ale	2.2.7050.2

1. Samples on ice?				Blue	Water	No	
2. Shipping container in good c	ondition?			(Yes)	No	None	
3. Custody seals intact on shipp	oing container (co	ooler) and bottles?		Yes	No	ONA	
4. Chain of Custody present?			4	(Fes)	No		1
5. Sample instructions complete	e on chain of cus	tody?		Yes	No	19	
6. Any missing / extra samples?				Yes	No		
7. Chain of custody signed whe	n relinquished / r	received?		Tes	No	100	
8. Chain of custody agrees with	sample label(s)?	?		(Yes)	No		
9. Container labels legible and i	ntact?	Harry Corn	177	X(es)	No	- MAN 563	1_
10. Sample matrix / properties a	gree with chain o	of custody?	72, 10	(Yes)	No	100	
11. Samples in proper container	r / bottle?			(Yes)	No	Street, Sec.	
12. Samples properly preserved	?			Mes	No	NA	
13. Sample container intact?	1,111		7	Aes)	No		
14. Sufficient sample amount fo	r indicated test(s	1)?		(Fes	No	The state of the s	
15. All samples received within	sufficient hold ti	me?		(Yes)	No		-
16. Subcontract of sample(s)?				Yes	(No)	N/A	1
17. VOC sample have zero head space?				Yes	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.				Cooler 4 No.		Cooler 5 No.	
	lbs °C		°C		°C	Ibs	°C
Contact:Regarding:		conformance Doc	ume		Date/Time:_		
Corrective Action Taken:							
□ Initial a	condition accepta	egun shortly after sam able by NELAC 5.5.8.3 perature confirm out of I would like to proceed	.1.a.1. of tem	perature con		ature	

### **Analytical Report 394229**

for Endeavor Energy

Project Manager: Ronnie Nickell
Peterson "C" Well #1

21-OCT-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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Xenco-Atlanta (EPA Lab Code: GA00046):

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Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





21-OCT-10

Project Manager: Ronnie Nickell

**Endeavor Energy** 

110 N. Marienfeld, Suite 200

Midland, TX 79701

Reference: XENCO Report No: 394229

Peterson "C" Well #1

Project Address: Roosevelt Co, NM

### Ronnie Nickell:

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 394229. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 394229 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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### **Sample Cross Reference 394229**



### Endeavor Energy, Midland, TX

Peterson "C" Well #1

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
PWSE1-003	S	Oct-19-10 13:15	0 - 10 ft	394229-001
PWNE2-003	S	Oct-19-10 13:20	0 - 10 ft	394229-002
PWNW3-003	S	Oct-19-10 13:25	0 - 10 ft	394229-003

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson "C" Well #1



Project ID:

Work Order Number: 394229

Report Date: 21-OCT-10 Date Received: 10/20/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None



# Certificate of Analysis Summary 394229

Endeavor Energy, Midland, TX

Project Name: Peterson "C" Well #1

Date Received in Lab: Wed Oct-20-10 08:15 am

21-OCT-10

Report Date:

Project Id:
Contact: Ronnie Nickell
Project Location: Roosevelt Co, NM

Project Manager: Brent Barron, II 16.3 1.00 16.3 16.3 16.3 Z R Oct-20-10 13:00 Oct-20-10 09:50 Oct-20-10 09:35 Oct-19-10 13:25 PWNW3-003 394229-003 0-10 ft SOIL 7.86 2 2 R 2 mg/kg 15.3 15.3 1.00 15.3 15.3 RL R Oct-20-10 09:35 Oct-19-10 13:20 Oct-20-10 09:50 Oct-20-10 12:41 PWNE2-003 394229-002 0-10 ft SOIL R 332 S 332 mg/kg % 1.00 16.1 16.1 RL RL 16.1 16.1 Oct-20-10 09:35 Oct-20-10 09:50 Oct-20-10 12:21 Oct-19-10 13:15 PWSE1-003 394229-001 0-10 ft SOIL 7.11 2 R S 2 mg/kg Depth: Lab Id: Field Id: Sampled: Extracted: Analyzed: Extracted: Analyzed: Matrix: Units/RL: Units/RL: TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons Percent Moisture C12-C28 Diesel Range Hydrocarbons Analysis Requested C28-C35 Oil Range Hydrocarbons Percent Moisture Total TPH

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

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Brent Barron, II Odessa Laboratory Manager



### **Flagging Criteria**

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit

**POL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Peterson "C" Well #1

Work Orders: 394229,

**Project ID:** 

Lab Batch #: 828395

Sample: 576599-1-BKS / BKS

Batch: 1

Matrix: Solid

Units: mg/kg Date Analyzed: 10/20/10 11:23	1:23 SURROGATE RECOVERY STUDY							
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	75.5	100	76	70-135				
o-Terphenyl	54.1	50.1	108	70-135				

Lab Batch #: 828395

Sample: 576599-1-BSD / BSD

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 10/20/10 11:43	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	74.9	99.7	75	70-135	4 m		
o-Terphenyl	42.8	49.9	86	70-135	igal III I		

Lab Batch #: 828395

Sample: 576599-1-BLK / BLK

Batch:

Matrix: Solid

SURROGATE RECOVERY STUDY						
Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
79.7	100	80	70-135			
43.2	50.1	86	70-135	E E W		
	Found [A] 79.7	Found Amount [B] 79.7 100	Found   Amount   Recovery   %R   [D]	Found   Amount   Recovery   Limits   %R   %R   [D]		

Lab Batch #: 828395

Sample: 394229-001 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 10/20/10 12:21	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	99.6	77	70-135	The Re
o-Terphenyl	40.5	49.8	81	70-135	22.05

Lab Batch #: 828395

Sample: 394229-002 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 10/20/10 12:41	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
1-Chlorooctane	73.2	100	73	70-135			
o-Terphenyl	40.9	50.1	82	70-135			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson "C" Well #1

Work Orders: 394229,

Project ID:

Lab Batch #: 828395

Sample: 394229-003 / SMP

Matrix: Soil Batch:

Units: mg/kg Date Analyzed: 10/20/10 13:00	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.9	100	74	70-135	1
o-Terphenyl	39.4	50.1	79	70-135	The Law

Lab Batch #: 828395

Sample: 394229-003 S / MS

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 10/20/10 16:53	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	46.4	50.2	92	70-135	

Lab Batch #: 828395

Sample: 394229-003 SD / MSD

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 10/20/10 17:13	SU	RROGATE R	ECOVERY	STUDY	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chlorooctane	76.6	100	77	70-135	714						
o-Terphenyl	39.1	50.1	78	70-135	U. A. C.						

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

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## BS / BSD Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 394229

Analyst: BEV

Date Prepared: 10/20/2010

Batch #: 1

Project ID: Date Analyzed: 10/20/2010

Date Analyzed: 10/20/2 Matrix: Solid

ab Batch ID: 828395 Sample: 576599-1-BKS

Units: mg/kg		BLAN	K /BLANK S	PIKE / F	LANKS	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE I	RECOVE	RY STUD	Y	- 1
TPH By SW8015 Mod	Blank Sample Result [A]	Spike	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD	Control Limits	Control Limits	Flag
Analytes		[8]	[0]	<u>a</u>	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	Q.	1000	586	66	166	949	95	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	S S	1000	887	68	266	864	87	3	70-135	35	

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

Final 1.000



# Form 3 - Mis / Misib Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 394229

Lab Batch ID: 828395

Date Analyzed: 10/20/2010

Project ID:

Matrix: Soil

Batch #: QC-Sample ID: 394229-003 S

Date Prepared: 10/20/2010

Analyst: BEV

%RPD Limits 35 35 Control Limits 70-135 70-135 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 12 7 Dup. 87 95 Duplicate Spiked Sample Result [F] 1040 951 Added Spike 1090 1090 E Spiked Sample Spiked Result Sample %R 102 86 11110 1070 Spike Added [B] 1090 1090 Parent Sample Result [A] R S TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes Reporting Units: mg/kg

Flag

rix Spike Percent Recovery [D] = 100\*(C-A)/Btive Percent Difference RPD = 200\*(C-F)/(C+F)

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

Final 1.000



### **Sample Duplicate Recovery**



Project Name: Peterson "C" Well #1

Work Order #: 394229

Lab Batch #: 828255

Date Analyzed: 10/20/2010

**Project ID:** 

Date Prepared: 10/20/2010

Analyst: WRU

QC-Sample ID: 394227-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Reporting Units. 70	SAIVII LE	SAWII LE	DUILIC	AIE REC	OVERI
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.15	2.09	3	20	

### TAT-brebnet? □ NPDES 24 MS, 72 hrs AT HSUS Phone: 432-563-1800 Fax: 432-563-1713 TRRP M.A.O.M. CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST RCI BTEX 8021B/5030 or BTEX 8260 Analyze For: Laboratory Comments: Project Name: Lek (20) Semivolatiles Project Loc: (1) Standard Metals: As Ag Ba Cd Cr Pb Hg Se TCLP: TOTAL: Anions (CI, SO4, Alkalinity) # Od Project #: Cations (Ca, Mg, Na, K) Report Format: 9001 XI 2001 XT ime 80158 M2108 1.814 :HdI Koepila esuthenvicom PON NULL SOUTHERNICAM 0 Date Date Other (Specify) Preservation & # of Containers HON Odessa, Texas 79765 12600 West I-20 East EOSSSEN HOBN OSZH HCI HNO 901 Total #. of Containers Filtered e-mail: 30 pm 150W Som Fax No: Time Sampled Received by: Received by: Date Sampled Endenwar Engen Kannie Michal Ending Depth 2 Beginning Depth Midland 171.1/VE Date Xenco Laboratories FIELD CODE The Environmental Lab of Texas Sampler Signature: Company Address: Project Manager: Company Name Telephone No: City/State/Zip: Special Instructions Relinquished by: lab use only) ORDER #: (Vino seu del) # 8A.



### **XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

client: End	eave	or	Energy							
Date/Time:					9					
Lab ID#: 39	1423	19							19.	
Initials: XM		,								
				S	ample Receip	ot Check	list			
1. Samples on	ice?						Blue	Water	No	
2. Shipping co	ntaine	r in g	ood condition?		de a de		Yes	No com	None	
3. Custody sea	els inta	ct or	shipping cont	ainer (co	ooler) and bottles	3?	Yes	No	(N/A)	
4. Chain of Cus	stody	prese	ent?	2 - 19		7	Yes	No		
5. Sample inst	ruction	s co	mplete on chair	n of cus	tody?		Tes	No		
6. Any missing	/ extra	a san	nples?		the second		Yes	No		
7. Chain of cus	stody s	igne	d when relinqui	ished / r	eceived?		Yes	No		
8. Chain of cus	tody a	gree	s with sample !	abel(s)?			Yes	No		
9. Container labels legible and intact?							Yes	No		
10. Sample matrix / properties agree with chain of custody?						Yes	No			
11. Samples in proper container / bottle?						y Area	Tes	No		Sea.
12. Samples properly preserved?							Yes	No	N/A	
13. Sample cor	ntainer	inta	ct?				Yes	No		
14. Sufficient s	ample	amo	unt for indicate	ed test(s	)?		Yes	No	A 2 2 7 7 8 6 5	
15. All samples	recei	ved v	within sufficient	hold tir	ne?		Yes	No		
16. Subcontrac	et of sa	mple	e(s)?	5. 1.4			Yes	No	N/A	
17. VOC sample	e have	zero	head space?				Yes	No	NA	
18. Cooler 1 No	o	0	Cooler 2 No.		Cooler 3 No.	The second	Cooler 4 No		Cooler 5 No.	
lbs	4	°C	Ibs	°c	lbs	°C	Ibs	°c	Ibs	°C
Contact:			Cont	Nonc	onformance	Docume		Date/Time:_		
Regarding: _										
Corrective Acti	ion Tak	cen:								
						1				
Check all that a	apply:		Cooling process	has be	gun shortly after	sampling	event and o	ut of temper	ature	

condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Client understands and would like to proceed with analysis

□ Initial and Backup Temperature confirm out of temperature conditions

### **Analytical Report 403457**

for Endeavor Energy

Project Manager: Ronnie Nickell

Peterson "C" Well # 1

14-JAN-11



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917) North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





14-JAN-11

Project Manager: Ronnie Nickell **Endeavor Energy** 

110 N. Marienfeld, Suite 200

Midland, TX 79701

Reference: XENCO Report No: 403457

Peterson "C" Well # 1

Project Address: Roosevelt Co., NM

### Ronnie Nickell:

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 403457. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 403457 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II** 

Odessa Laboratory Manager

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### **Sample Cross Reference 403457**



### Endeavor Energy, Midland, TX

Peterson "C" Well # 1

 Sample Id
 Matrix
 Date Collected
 Sample Depth
 Lab Sample Id

 PWN1-001
 S
 Jan-12-11 10:10
 0 - 10 ft
 403457-001

### CASE NARRATIVE



Client Name: Endeavor Energy Project Name: Peterson "C" Well # 1



Project ID: Report Date: 14-JAN-11
Work Order Number: 403457 Date Received: 01/12/2011

### Sample receipt non conformances and Comments:

None

### Sample receipt Non Conformances and Comments per Sample:

None

### Analytical Non Conformances and Comments:

Batch: LBA-839679 BTEX by EPA 8021B

SW8021BM

Batch 839679, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 403457-001.

### SW8021BM

Batch 839679, Benzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Ethylbenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 403457-001.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes, o-Xylene is within laboratory Control Limits



### **Flagging Criteria**

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

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit

**POL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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	I HOHE	Ian
4143 Greenbriar Dr. Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Project Name: Peterson "C" Well #1

Work Orders: 403457,

Project ID:

Lab Batch #: 839679

Sample: 593374-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 01/13/11 22:37	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0303	0.0300	101	80-120		
4-Bromofluorobenzene	0.0317	0.0300	106	80-120		

Lab Batch #: 839679

Sample: 593374-1-BSD / BSD

Batch: 1

Matrix: Solid

Units: mg/kg Date Analyzed: 01/13/11 22:59	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	(8)		
4-Bromofluorobenzene	0.0297	0.0300	99	80-120			

Lab Batch #: 839679

Sample: 593374-1-BLK / BLK

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 01/14/11 00:08	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0265	0.0300	- 88	80-120		
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	William	

Lab Batch #: 839679

Sample: 403367-002 S / MS

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 01/14/11 04:16	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0273	0.0300	91	80-120		
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	The state of	

Lab Batch #: 839679

Sample: 403367-002 SD / MSD

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 01/14/11 04:39	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0274	0.0300	91	80-120		
4-Bromofluorobenzene	0.0287	0.0300	96	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Peterson "C" Well #1

Work Orders: 403457,

Project ID:

Lab Batch #: 839679

Sample: 403457-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 01/14/11 08:02	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
1,4-Difluorobenzene	0.0242	0.0300	81	80-120		
4-Bromofluorobenzene	0.0426	0.0300	142	80-120	**	

Lab Batch #: 839642

Sample: 593361-1-BKS/BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 01/13/11 11:12 SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	100	88	70-135	10.
o-Terphenyl	40.3	50.1	80	70-135	

Lab Batch #: 839642

Sample: 593361-1-BSD / BSD

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 01/13/11 11:32	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	85.9	100	86	70-135		
o-Terphenyl	40.0	50.1	80	70-135	12774	

Lab Batch #: 839642

Sample: 593361-1-BLK / BLK

Batch:

Matrix: Solid

Units: mg/kg Date Analyzed: 01/13/11 11:51	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	72.1	99.9	72	70-135	N. A. III	
o-Terphenyl	36.5	50.0	73	70-135		

Lab Batch #: 839642

Sample: 403457-001 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg Date Analyzed: 01/13/11 16:04	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	83.5	100	84	70-135		
o-Terphenyl	42.5	50.2	85	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution

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



Project Name: Peterson "C" Well # 1

Work Orders: 403457,

Project ID:

Lab Batch #: 839642

Sample: 403434-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 01/13/11 17:40	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
1-Chlorooctane	87.9	99.9	88	70-135		
o-Terphenyl	37.9	50.0	76	70-135	G. L. T.	

Lab Batch #: 839642

Sample: 403434-001 SD / MSD

Batch: 1 M

1 Matrix: Soil

Units: mg/kg Date Analyzed: 01/13/11 18:00	SU	RROGATE R	RECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.1	100	87	70-135	
o-Terphenyl	37.6	50.0	75	70-135	7772

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

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## BS / BSD Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 403457

Analyst: ASA

ab Batch ID: 839679

Project ID: Date Analyzed: 01/13/2011

Sample: 593374-1-BKS

Date Prepared: 01/13/2011 Batch #: 1

Matrix: Solid

Units: mg/kg		BLAN	K /BLANK S	PIKE / E	STANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	LICATE F	RECOVE	RY STUD	Y.	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	BIK. Spk Dup. %R [G]	RPD	Control Limits	Control Limits %RPD	Flag
Benzene	<0.0010	0.1000	0.0983	86	0.1	0.0945	95	4	70-130	35	
Toluene	<0.0020	0.1000	0.0952	95	0.1	0.0908	91	5	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0961	96	0.1	0.0917	92	5	71-129	35	
m_p-Xylenes	<0.0020	0.2000	0.1963	86	0.2	0.1880	94	4	70-135	35	
o-Xylene	<0.0010	0.1000	0.0985	66	0.1	0.0923	92	9	71-133	35	
Analyst: LATCOR	Da	te Prepar	Date Prepared: 01/13/2011	1			Date Ar	alyzed: 0	Date Analyzed: 01/13/2011		

Matrix: Solid

ab Batch ID: 839550	Sample: 839550-1-BKS	KS	Batch #:	1#: 1					Matrix: S	Solid		
Units: mg/kg			BLAN	K/BLANK	PIKE / E	LANKS	BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE 1	RECOVE	RY STUD	Y	
Anions by E300	E300	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike	Spike	Blank Spike Dunlicate	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		2	[B]	[C]	[0]	E	Result [F]	[6]				
Chloride		< 4.20	10.0	9:39	94	10	9.05	16	4	75-125	20	

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

Final 1.000



## BS / BSD Recoveries



Project Name: Peterson "C" Well #1

Work Order #: 403457

Analyst: BEV

Sample: 593361-1-BKS

Date Prepared: 01/13/2011

Project ID:

Date Analyzed: 01/13/2011 Matrix: Solid

Batch #: 1 ab Batch ID: 839642

Units: mg/kg		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	PIKE / E	LANKS	PIKE DUPL	1000	RECOVE	RECOVERY STUDY	X.	1 10
TPH By SW8015 Mod	Blank Sample Result [A]	Spike	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD	Control Limits	Control Limits	Flag
Analytes		[8]	[0]	[0]	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	<50.0	1000	882	88	1000	881	88	0	- 70-135	35	
C12-C28 Diesel Range Hydrocarbons	<50.0	1000	792	62	1000	845	85	9	70-135	35	

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

Final 1,000



### Form 3 - MS Recoveries

Project Name: Peterson "C" Well #1



Work Order #: 403457

Lab Batch #: 839550

Date Analyzed: 01/13/2011

Project ID:

**Date Prepared:** 01/13/2011

**Analyst: LATCOR** 

QC- Sample ID: 403434-001 S

Batch #:

Matrix: Soil

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	260	1020	1220	94	75-125	

atrix Spike Percent Recovery [D] = 100\*(C-A)/B lative Percent Difference [E] = 200\*(C-A)/(C+B) Results are based on MDL and Validated for QC Purposes

L - Below Reporting Limit



# KENGO FORM 3- MS/ MSD Recoveries



Project Name: Peterson "C" Well # 1

Work Order #: 403457

Lab Batch ID: 839679

Date Analyzed: 01/14/2011

Project ID:

Batch #: Analyst:

QC- Sample ID: 403367-002 S Date Prepared: 01/13/2011

Matrix: Soil ASA

× × × × × Limits %RPD Control 35 35 35 35 35 70-130 71-129 71-133 Control Limits %R 70-130 70-135 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 20 18 19 17 15 Dup. Matrix: Soil 70 20 17 19 71 Duplicate Spiked Sample Result [F] 0.0733 0.0787 0.1777 0.0817 0.0737 Spike Added 0.1040 0.1040 0.2080 0.1040 0.1040  $\Xi$ Batch #: Analyst: Sample Spiked 99 55 28 57 57 Spiked Sample Result 0.0610 0.1506 0.0703 0.0597 0.0660 QC-Sample ID: 403434-001 S Date Prepared: 01/13/2011 0.1040 Spike Added 0.1040 0.1040 0.1040 0.2080 Sample Result 0.0013 <0.0010 0.0296 Parent 0.0063 0.0041 [A] BTEX by EPA 8021B Analytes Lab Batch ID: 839642 Reporting Units: mg/kg Ethylbenzene m p-Xylenes o-Xylene Benzene Toluene

Date Analyzed: 01/13/2011

Flag Limits %RPD Control 35 35 70-135 70-135 Limits %R Control MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 5 Dup. 88 71 Spiked Sample Result [F] Duplicate 868 721 Spike Added 1020 1020 E Sample Spiked %R [D] 89 75 Spiked Sample Result [C] 760 911 Spike Added [B] 1020 1020 Parent Sample Result <25.6 <25.6 [A] TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes Reporting Units: mg/kg

rix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$  utive Percent Difference  $[RPD = 200^{\circ}](C-F)/(C+F)$ 

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

Final 1.000



### Sample Duplicate Recovery



Project Name: Peterson "C" Well #1

Work Order #: 403457

Lab Batch #: 839550

Date Prepared: 01/13/2011

Project ID:

Date Analyzed: 01/13/2011 09:01

o i repairedi o i i i i

Analyst: LATCOR

QC- Sample ID: 403434-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	260	260	0	20	2.0

Lab Batch #: 839545

Date Analyzed: 01/13/2011 09:00

Date Prepared: 01/13/2011

Analyst: WRU

QC-Sample ID: 403434-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

reporting children	DIAMETER .	011111111111111111111111111111111111111	201210		0 , 2222
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte	[A]	[B]		,,,,,,	
Percent Moisture	2.25	2.31	3	20	

### Phone: 432-563-1800 Fax: 432-563-1713 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST おおらられず Labels on container(s) Custody seals on container(s) Time 7 14 SS 14:53 Temperature Upon Receipt: Project Loc: PM SUR 14 VOCs Free of Headspace? Sample Containers Intact? Custody seals on cooler(s Analyze For: Laboratory Comments Report Format: X Standard ate: As Ag Ba Cd Cr Pb Hg Se TOTAL: TCLP: SAR / ESP / CEC Anio (CL) SO4, Alkalinity) Project Name: Project #: Cations (Ca, Hal 3001 XT 3001 XT Time 8015M) HeT 1.814 a couther's con Date 1.21.1 Date Other (Specify) Preservation & # of Containers Mone Odessa, Texas 79765 12600 West I-20 East Na<sub>z</sub>S<sub>2</sub>O<sub>3</sub> Kass HOEN OSEH HCI CONNLO. \*ONH (CS Total #. of Containers benetiir blei Fax No: e-mail: Time Sampled 123ml Received by: Received by: Date Sampled 0 Ending Depth ō Beginning Depth Shakwar Sorr Date A dust Xenco Laboratories d FIELD CODE 001 The Environmental Lab of Texas 40345 Sampler Signature: Company Address: Project Manager: Company Name City/State/Zip: Telephone No: Special Instructions: Relinquished by: (lab use only) ORDER #: Relinquist (kino esu dal) # BAL 5

TAT bisbrists

M.A.O.N

RCI

RUSH TAT (Pre-Schedule) 24 48, 72 hrs

BTEX 8021B/6030 or BTEX 8260

NPDES

TRRP

z z **z 20**0 z z



### **XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

		onconformance Re	port - Sampi	e Log-In		
client: Endlavo	111.5	39.7			the Market	
Date/Time:   12						
	3457					
Initials:	The					
		Sample Receipt Ch	ecklist			
1. Samples on ice?		The Line of the	Blue	Water	No	E PEL
2. Shipping container in goo	d condition?		(Yès)	No	None	
3. Custody seals intact on s	hipping containe	er (cooler) and bottles?	Yes	No	( N/A)	4
4. Chain of Custody present	?		(Yes)	No		
5. Sample instructions com	plete on chain of	custody?	(Yes	No		
6. Any missing / extra samp	les?		Yes	(No)	SW TO B	
7. Chain of custody signed	when relinquishe	ed / received?	Yes	No		
8. Chain of custody agrees	with sample labe	el(s)?	Yes	No	7 2 3	11 4
9. Container labels legible a	nd intact?	•	(Yes)	No		
10. Sample matrix / properti	es agree with ch	ain of custody?	( Yes)	No -		200
11. Samples in proper conta	Yes	No				
12. Samples properly preser	Yes	No	N/A			
13. Sample container intact?			( Yes)	No		
14. Sufficient sample amoun	nt for indicated t	est(s)?	Yes	No		
15. All samples received with	hin sufficient ho	old time?	(Yes)	No		
16. Subcontract of sample(s	:)?		Yes	No	(N/A)	10-12-5
17. VOC sample have zero h	ead space?		Yes	No	N/A	
18. Cooler 1 No. Co	oler 2 No.	Cooler 3 No.	Cooler 4 N	0.	Cooler 5 No.	
1bs 3.6 °C	Ibs	°C lbs	°C lbs	°c	lbs	°C
Contact:Regarding:	N Contacts	onconformance Docu	umentation	Date/Time:_		
Corrective Action Taken:						
						-1.44

Check all that apply: □ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis