SOUTH ENVIRONMENTAL SERVICES, INC.

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

30 · 041 · 30414

September 9, 2010

Mr. Geoffrey Leking
Oil Conservations Division, District 1
1625 N. French Dr.
Hobbs, New Mexico 88240

Re: Remediation Work Plan
Peterson Penn Storage System Leak Site,
Excavation and Remediation of Crude Impacted Soil
Roosevelt County, New Mexico

Mr. Leking,

South Environmental Services, Inc. (SES), on behalf of Endeavor Energy, Inc. (Endeavor Energy), is please to submit this Remediation Work Plan to the Oil Conservation Division of New Mexico (OCD) for the remediation of crude oil impacted soil at the above reference site.

Scope of Work

SES proposes that the following activities be completed to achieve compliance with Oil Conservation Division of New Mexico Statewide Rule for Total Petroleum Hydrocarbons (TPH) (<1,000 mg/kg), Chlorides (<500ppm), and Benzene (<50.0 mg/kg), as set out below:

- Mobilized SES personnel and equipment to the site,
- Excavate approximately 1,200 cubic yards of impacted soil down to clean bottom,
- Blend and treat with bio-enhancement nutrients and surfactants in onsite land farm stockpile on plastic app: 2' depth,
- Perform excavation bottom hole confirmation sampling event to verify remedial levels, TPH <1,000 mg/kg (ppm), Chlorides <500 mg/kg (ppm), and Benzene < 50 mg/kg (ppm),
- Backfill excavation areas with clean remediated soil, based on analytical verification meeting OCD requirements,
- Perform stockpile Characterization sampling event to verify attainment of remedial levels of TPH (<1,000 ppm), Chlorides (<500 ppm), and Benzene (<50 mg/kg),
- 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.

Distribution of Hydrocarbons in Soil

The distribution of hydrocarbons in the unsaturated zone will be determined b utilizing the following techniques:

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

Following excavation of impacted soil, conformation soil samples will be collected from the base of the excavation, based on a minimum of one (1) discrete sample for each 500 square feet of surface feet of surface area. Following conformation sampling, any area still exhibiting TPH concentrations >1,000 mg/kg will be over-excavated and resample to confirm attainment of remedial goals. All samples will be submitted for laboratory analysis for TPH and/or BTEX, and Chlorides as referenced above.

QA/QC Procedures-Soil Sampling

Samples of subsurface and treated soils 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 sample will then be placed in a sterile glass container equipped with a Teflon-lined lid furnished b the analytical laboratory. The container will be filled to capacity to limit the amount of head-space present. 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, The Environmental Lab of Odessa, Texas for TPH, Chlorides, and BTEX analysis using the methods described below. Soil samples will be analyzed for BTEX, TPH, and Chlorides within fourteen days following the collection date.

The soil samples were analyzed as follows:

1. BTEX concentrations in accordance with EPA Method 8021B.
2. TPH concentrations in accordance with modified SW-846. ~~8015~~ OR 415
3. Chlorides concentrations in accordance with EPA 300.1

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.

Regulatory Reporting

Following completion of the remedial actions, in compliance with the criteria set forth in Oil Conservation Division of New Mexico, South Environmental will develop and submit a Site Remediation and Closure Report to the OCD's office in Hobbs, New Mexico.

Upon OCD approval, the sire will be restored as near as possible to the original site conditions.

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

Sincerely,
SOUTH ENVIRONMENTAL SERVICES, INC

Ronnie W. Nickell
Sr. Project Manager

Cc: Endeavor Energy, Inc., Midland, Texas

Analytical Report 387390

for

Endeavor Energy

Project Manager: Ronnie Nickell

Midland Odessa Standard List of prices

Peterson Penn Storage System

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)
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), 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: **387390**
Midland Odessa Standard List of prices
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 387390. 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. 387390 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

Sample Cross Reference 387390

Endeavor Energy, Midland, TX

Midland Odessa Standard List of prices

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TB1-001	S	Aug-26-10 13:00	0 - 12 In	387390-001
TB2-001	S	Aug-26-10 13:03	0 - 12 In	387390-002
TB3-001	S	Aug-26-10 13:05	0 - 12 In	387390-003

CASE NARRATIVE

XENCO Laboratories

Client Name: Endeavor Energy
Project Name: Midland Odessa Standard List of prices

ACCREDITED IN ACCORDANCE WITH nelac

Project ID:	*Peterson Penn Storage Sys*	*Report Date:*	*01-SEP-10*
Work Order Number:	*387390*	*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 RPD was outside QC limits.
Samples affected are: 387390-003

SW8021BM

Batch 821086, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 387020-001 S.

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: 387390-003.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-821168 BTEX by EPA 8021B
SW8021BM

Batch 821168, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 387390-002, -001.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 821168, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; Sample data confirmed by re-analysis
Samples affected are: 387390-001.
1,4-Difluorobenzene recovered above QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis
Samples affected are: 387390-002 SD.

SW8021BM

Batch 821168, Benzene, Toluene RPD was outside QC limits.
Samples affected are: 387390-002, -001

Certificate of Analysis Summary 387390

Endeavor Energy, Midland, TX

Project Name: Midland Odessa Standard List of prices

Project Id: Peterson Penn Storage System
Contact: Ronnie Nickell
Project Location: Roosevelt County, NM

Date Received in Lab: Fri Aug-27-10 08:18 am
Report Date: 01-SEP-10
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	387390-001		387390-002		387390-003					
	Field Id:	TB1-001		TB2-001		TB3-001					
	Depth:	0-12 In		0-12 In		0-12 In					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Aug-26-10 13:00		Aug-26-10 13:03		Aug-26-10 13:05					
BTEX by EPA 8021B	*Extracted:*	Aug-31-10 13:00		Aug-31-10 13:00		Aug-30-10 08:00					
	Analyzed:	Aug-31-10 17:58		Aug-31-10 19:30		Aug-31-10 13:17					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		0.1194	0.0241	ND	0.0014	ND	0.0013				
Toluene		0.3889	0.0482	ND	0.0028	ND	0.0027				
Ethylbenzene		0.2974	0.0241	ND	0.0014	ND	0.0013				
m,p-Xylenes		1.767	0.0482	ND	0.0028	ND	0.0027				
o-Xylene		1.499	0.0241	ND	0.0014	ND	0.0013				
Total Xylenes		3.266	0.0241	ND	0.0014	ND	0.0013				
Total BTEX		4.072	0.0241	ND	0.0014	ND	0.0013				
Inorganic Anions by EPA 300/300.1	*Extracted:*										
	Analyzed:	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				
Chloride		296	12.1	51.2	6.96	57.8	6.69				
Percent Moisture	*Extracted:*										
	Analyzed:	Aug-28-10 09:09		Aug-28-10 09:09		Aug-28-10 09:09					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		17.6	1.00	28.2	1.00	25.3	1.00				
Soil pH by EPA 9045C	*Extracted:*										
	Analyzed:	Aug-27-10 11:11		Aug-27-10 11:11		Aug-27-10 11:11					
	Units/RL:	SU	RL	SU	RL	SU	RL				
pH		7.80		8.67		8.87					

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 387390

Endeavor Energy, Midland, TX

Project Name: Midland Odessa Standard List of prices

Project Id: Peterson Penn Storage System
Contact: Ronnie Nickell
Project Location: Roosevelt County, NM

Date Received in Lab: Fri Aug-27-10 08:18 am
Report Date: 01-SEP-10
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	387390-001		387390-002		387390-003			
	Field Id:	TB1-001		TB2-001		TB3-001			
	Depth:	0-12 In		0-12 In		0-12 In			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Aug-26-10 13:00		Aug-26-10 13:03		Aug-26-10 13:05			
TPH By SW8015 Mod	***Extracted:***	Aug-27-10 11:00		Aug-27-10 11:00		Aug-27-10 11:00			
	Analyzed:	Aug-27-10 15:42		Aug-27-10 16:01		Aug-27-10 16:21			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		1160	182	40.5	21.0	ND	20.1		
C12-C28 Diesel Range Hydrocarbons		16000	182	2400	21.0	ND	20.1		
C28-C35 Oil Range Hydrocarbons		647	182	116	21.0	ND	20.1		
Total TPH		17807	182	2557	21.0	ND	20.1		

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Midland Odessa Standard List of prices

Work Orders : 387390,

Project ID: Peterson Penn Storage System

Lab Batch #: 821086 **Sample:** 572124-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/31/10 01:41

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

Lab Batch #: 821086 **Sample:** 572124-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/31/10 02:50

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 821086 **Sample:** 387020-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 03:36

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 04:00

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 821086 **Sample:** 387390-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 13:17

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Final 1.000

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Midland Odessa Standard List of prices

Work Orders : 387390,

Project ID: Peterson Penn Storage System

Lab Batch #: 821168 **Sample:** 572172-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/31/10 14:51

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

Lab Batch #: 821168 **Sample:** 572172-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/31/10 16:00

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0361	0.0300	120	80-120	

Lab Batch #: 821168 **Sample:** 387390-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 17:58

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0397	0.0300	132	80-120	**

Lab Batch #: 821168 **Sample:** 387390-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 19:30

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0241	0.0300	80	80-120	

Lab Batch #: 821168 **Sample:** 387390-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 19:54

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Midland Odessa Standard List of prices

Work Orders : 387390,

Project ID: Peterson Penn Storage System

Lab Batch #: 821168 **Sample:** 387390-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/31/10 20:17

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0411	0.0300	137	80-120	*
4-Bromofluorobenzene	0.0242	0.0300	81	80-120	

Lab Batch #: 820781 **Sample:** 571907-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/27/10 12:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/27/10 13:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.6	97	70-135	
o-Terphenyl	62.1	49.8	125	70-135	

Lab Batch #: 820781 **Sample:** 571907-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/27/10 13:24

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	54.2	50.1	108	70-135	

Lab Batch #: 820781 **Sample:** 387390-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/27/10 15:42

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	99.8	87	70-135	
o-Terphenyl	50.4	49.9	101	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Midland Odessa Standard List of prices

Work Orders : 387390,

Project ID: Peterson Penn Storage System

Lab Batch #: 820781 **Sample:** 387390-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/27/10 16:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	100	100	70-135	
o-Terphenyl	57.3	50.2	114	70-135	

Lab Batch #: 820781 **Sample:** 387390-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/27/10 16:21

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	100	100	70-135	
o-Terphenyl	54.3	50.1	108	70-135	

Lab Batch #: 820781 **Sample:** 387390-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/27/10 19:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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	

Lab Batch #: 820781 **Sample:** 387390-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/27/10 19:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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 outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Blank Spike Recovery

Project Name: Midland Odessa Standard List of prices

Work Order #: 387390 **Project ID:** Peterson Penn Storage System

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

BTEX by EPA 8021B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
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	
o-Xylene	ND	0.0996	0.0918	92	71-133	

Lab Batch #: 821168 **Sample:** 572172-1-BKS **Matrix:** Solid

Date Analyzed: 08/31/2010 **Date Prepared:** 08/31/2010 **Analyst:** ASA

Reporting Units: mg/kg **Batch #:** 1

BTEX by EPA 8021B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Benzene	ND	0.1000	0.0939	94	70-130	
Toluene	ND	0.1000	0.0934	93	70-130	
Ethylbenzene	ND	0.1000	0.0966	97	71-129	
m,p-Xylenes	ND	0.2000	0.1883	94	70-135	
o-Xylene	ND	0.1000	0.0961	96	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: Midland Odessa Standard List of prices

Work Order #: 387390 **Project ID:** Peterson Penn Storage System

Analyst: LATCOR **Date Prepared:** 08/27/2010 **Date Analyzed:** 08/27/2010

Lab Batch ID: 820841 **Sample:** 820841-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	ND	10.0	9.98	100	10	10.3	103	3	80-120	20	

Analyst: BEV **Date Prepared:** 08/27/2010 **Date Analyzed:** 08/27/2010

Lab Batch ID: 820781 **Sample:** 571907-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	998	1030	103	996	1040	104	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1000	100	996	1010	101	1	70-135	35	

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

Form 3 - MS Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 387390
Lab Batch #: 820841
Project ID: Peterson Penn Storage System
Date Analyzed: 08/27/2010
Date Prepared: 08/27/2010
Analyst: LATCOR
QC- Sample ID: 387262-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
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	

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

BRL - Below Reporting Limit

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Midland Odessa Standard List of prices

ACCREDITED IN ACCORDANCE WITH nelac

Work Order # 387390 **Project ID:** Peterson Penn Storage System

Lab Batch ID: 821086 **QC- Sample ID:** 387020-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/31/2010 **Date Prepared:** 08/30/2010 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	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	56	70-130	35	XF
Ethylbenzene	ND	0.1114	0.0305	27	0.1125	0.0547	49	57	71-129	35	XF
m,p-Xylenes	ND	0.2227	0.0681	31	0.2250	0.1150	51	51	70-135	35	XF
o-Xylene	ND	0.1114	0.0355	32	0.1125	0.0569	51	46	71-133	35	XF

Lab Batch ID: 821168 **QC- Sample ID:** 387390-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/31/2010 **Date Prepared:** 08/31/2010 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1390	0.0510	37	0.1384	0.0944	68	60	70-130	35	XF
Toluene	ND	0.1390	0.0464	33	0.1384	0.0702	51	41	70-130	35	XF
Ethylbenzene	ND	0.1390	0.0434	31	0.1384	0.0486	35	11	71-129	35	X
m,p-Xylenes	ND	0.2780	0.0787	28	0.2769	0.0784	28	0	70-135	35	X
o-Xylene	ND	0.1390	0.0378	27	0.1384	0.0394	28	4	71-133	35	X

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

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

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Midland Odessa Standard List of prices

ACCREDITED IN ACCORDANCE WITH nelac

Work Order # 387390 **Project ID:** Peterson Penn Storage System

Lab Batch ID: 820781 **QC- Sample ID:** 387390-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/27/2010 **Date Prepared:** 08/27/2010 **Analyst:** BEV

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
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	

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

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

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

Final 1.000

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: Midland Odessa Standard List of prices

Work Order #: 387390

Lab Batch #: 820841 **Project ID:** Peterson Penn Storage System

Date Analyzed: 08/27/2010 **Date Prepared:** 08/27/2010 **Analyst:** LATCOR

QC- Sample ID: 387262-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1	SAMPLE / SAMPLE DUPLICATE RECOVERY				
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: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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 #:** 1 **Matrix:** Soil

Reporting Units: SU

Soil pH by EPA 9045C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	8.12	8.13	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Final 1.000

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ronnie Nickell

Company Name: Endeavor

Company Address:

City/State/Zip: Midland, Tx

Telephone No:

Sampler Signature: Kassi Love Cypert

Fax No:

e-mail: ronnie@southenv.com
Kassi@southenv.com

Project Name: Peterson Penn Storage system

Project #:

Project Loc: roosevelt county, NM

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 387390

KSC I.D. corrected, sept 10

Preservation & # of Containers: 4oz glass

Analyze For: TCLP: / TOTAL:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 (8015M) 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX (8021B/5030) or BTEX 8260	RCI	N.O.R.M.	pH 9045	RUSH TAT (Pre-Schedule) 24, (48), 72 hrs	Standard TAT
	TB1-001	0"	12"	8-26-10	1:00 pm		1	↓								Soil	↓			↓					↓			↓	↓	
	~~FB1-002~~ TB2-001	↓	↓	↓	1:03 pm		1	↓								↓	↓			↓					↓			↓	↓	
	~~FB1-003~~ TB3-001	↓	↓	↓	1:05 pm		1	↓								↓	↓			↓					↓			↓	↓	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Kassi Love Cypert	8-27-10	8:18			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanne Fitch	08-27-10	0818

Laboratory Comments:
[redacted]
VOCs Free of Headspace? (Y) N
[redacted]
Custody seals on container(s) Y (N)
[redacted]
Sample Hand Delivered (Y) N
by (Sampler)/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 5.1 °C

Final 1.001

XENCO Laboratories	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: Endeavor

Date/Time: 08-27-10 @ 0818

Lab ID #: 387390

Initials: JMF

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		Idaolic
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?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	(No)	N/A	
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	5.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

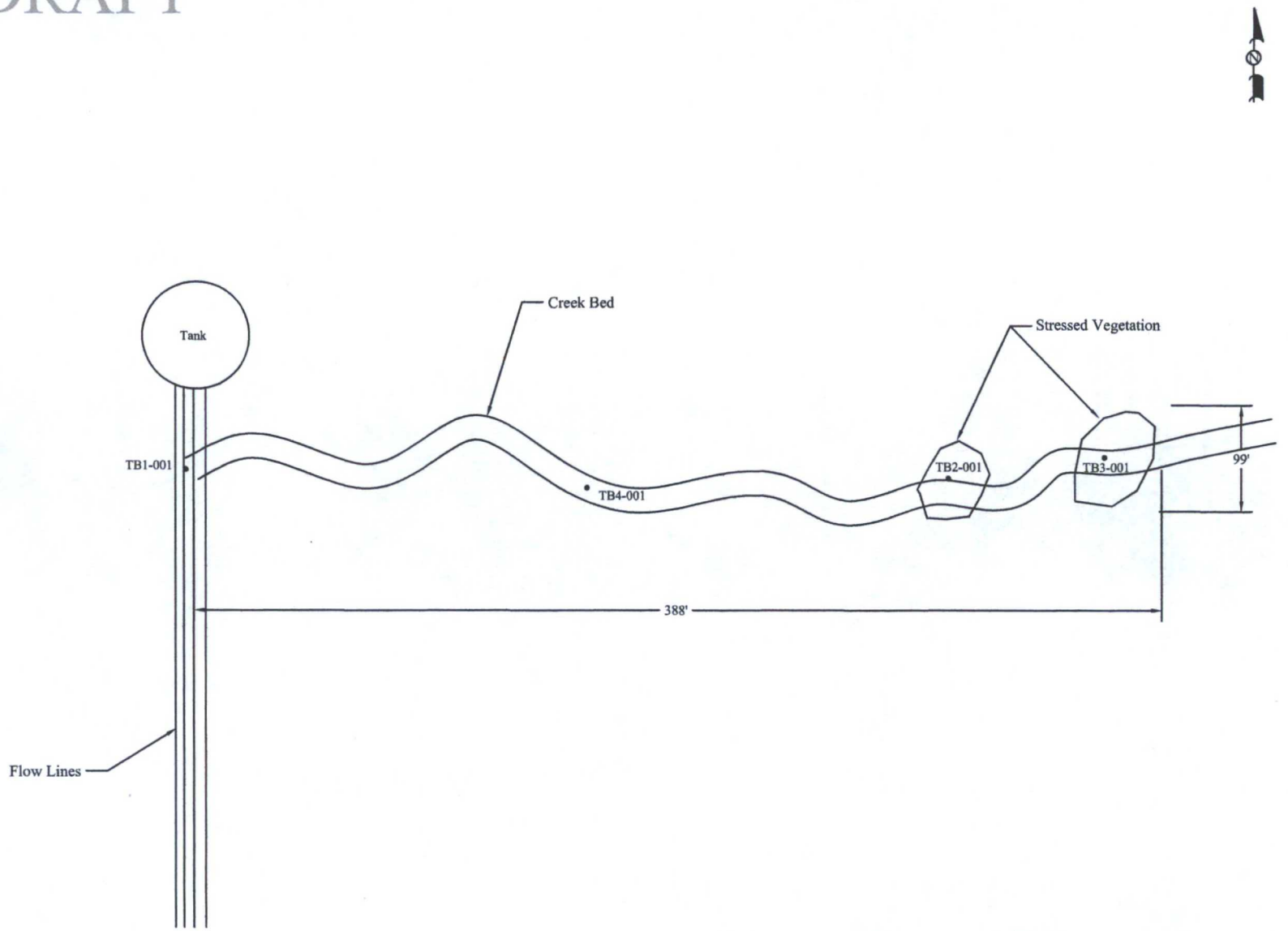
Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

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

DRAFT



60 30 0 30 60
Distance in Feet

Peterson Penn Storage System	Endeavor Energy	Figure 3 Site Map
Roosevelt County, New Mexico		
		South Environmental Services, Inc.
Drawn By: JDJ	Rev: A-2	
August 20, 2010	Scale: 1" = 60'	