

MARTIN YATES, III

1912-1985

FRANK W. YATES

1936-1986

S.P. YATES

1914-2008



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ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (575) 748-1471

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January 4, 2009

Mr. Leonard Lowe  
NMOCD  
1220 St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Penasco Compressor Station  
GW-125  
Eddy County, New Mexico  
Supplemental Work Plan

Mr. Lowe,

Agave Energy Company and Yates Petroleum Corporation are submitting this information to update you as to the status of the below-grade tank/sump removal at the Penasco Compressor Station.

Agave Energy Company is the operator of the Penasco Compressor Station and Yates Petroleum Corporation is the owner. Agave has been the operator since 1997. Agave personnel did not install any of the below-grade sumps referenced in this project.

Agave acknowledges that there were five below-grade containers acting as sumps at the Penasco Compressor Station. By sump, Agave means a collection device incorporated within a secondary containment system, which remains predominantly empty and serves as a receptacle for de minimis releases on an intermittent basis and is not used to store, treat, dispose of or evaporate products or wastes. However, these devices were over 500 gallons.

Approximately three years ago, Agave inquired with OCD as to the feasibility of removing those tanks. OCD personnel told us that we would have to submit a modification to the discharge permit in order to remove the sumps. During an inspection of the facility in April 2009, the inspector informed Agave that OCD's policy had changed and that the discharge plan would not have to be modified in order to proceed with removing the sumps.

During the April 2009 inspection, OCD advised Agave personnel to remove the below-grade sumps. In November 2009, Agave personnel proceeded with a major remediation project to remove all five below grade sumps and the removal of the south tank battery due to potential concerns regarding the secondary containment. Rather than rebuilding the containment, Agave decided to remove the tank battery and to re-route the liquids to the northeast tank battery all ready on site. The northern tank battery has adequate concrete secondary containment.

In its Work Plan, submitted in November, 2009, Agave committed to excavating to five feet below the sumps and equipment. If soil levels for chlorides, BTEX and TPH could not be met after further excavation, Agave agreed to contact the OCD. Agave has excavated below the former equipment and has even excavated an additional 3 to 5 feet. The excavations resulted in the results below. (For convenience, Agave has identified the below-grade sumps with the Unit numbers that they served. The fifth sump is included in the removal of the south tank battery.)

BGT 005 and BGT 025 were removed first. The soil sample results were as follows (all units in ppm):

Unit	RRAL	Unit 025		Unit 005	
		Sample 1	Sample 2	Sample 1	Sample 2
Chlorides	50	33.3	12.4	15.5	20.4
BTEX	10	ND	ND	ND	ND
TPH	100	ND	ND	ND	ND

As can be seen from the above samples, the soil meets the RRALs for the appropriate constituents. These sample results were conveyed to you via email on November 12 and again on November 18. With no objections presented to Agave, these pits were backfilled. (Agave was uncomfortable having large holes on-site with the long holiday weekend forthcoming.)

Agave proceeded removing BGT 002 and BGT 023. The final results are summarized below:

Unit	RRAL	Unit 002		Unit 023		
		Sample 1	Sample 2	Sample 1	Sample 2	Sample 3
Chlorides	50	76.8	103	BRL	22.4	11.2
BTEX	10	0.008	BRL	23.35	0.0184	9.891
TPH	100	194	21	1482	51.2	2233

The samples indicate that chlorides and TPH may be above the recommended levels in certain areas at Unit 002 and BTEX and TPH may be above the recommended levels in certain areas at Unit 023.

The tanks and piping were also removed from the south tank battery. Samples were taken at 1 foot and 4 foot depths. The composite samples represented one of four quadrants from the resulting area.

Unit	RRAL	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8
Chlorides	50	119	97.3	103	103	118	53.4	87.3	85.5
BTEX	10	1.41	5.84	0.10	0.46	5.59	5.11	0.62	2.14
TPH	100	605	881	791	771	762	593	701	405

Agave has excavated these areas twice in an attempt to ensure that the soil meets the RRALs. However, Agave cannot continue to enlarge these excavations for several reasons.

- The location of the excavations is potentially compromising existing equipment, especially the former BGT 023 location. There is a meter housing on one side of the excavation and ambitrol and lube oil storage tanks on the other.
- Any further downward excavation of any of the three would subject the excavation to confined space entry requirements. (Due to their locations, they cannot reasonably be widened at this time.) This will make forthcoming work more difficult if not impossible to complete.
- The excavations for Unit 002 and the former tank battery are at the edge of our lease. We cannot evacuate soil off of our lease without permission.

In light of the above, Agave does not believe that further excavation is possible. Hence, Agave proposes to backfill the excavations. We acknowledge that there may potentially be contamination on site. Agave proposes to continue excavation and removal, if necessary, when the facility under goes final closure. At that time, all of the surface equipment will be removed and any necessary further remedial activity can proceed.

Agave has removed the potential sources of the contamination and, hence, the nature and extent of any contamination has been contained. The sumps were replaced with above ground blowcases. The south tank battery was removed and all liquids re-routed to the north tank battery.

Agave has made a good faith effort to remediate impacts at Units 002 and 023 as well as the former tank battery. In this vein, Agave has spent over \$200,000 and a large number of man hours on this project to date and additional work must be completed (i.e., backfill and surface leveling still need to occur).

As the open excavations present a potential unnecessary safety hazard, despite steps we have taken to ensure the safety of our workers, we request that the OCD respond within 10 business days of receipt of this letter. Please contact me at your earliest convenience to discuss this revised closure plan.

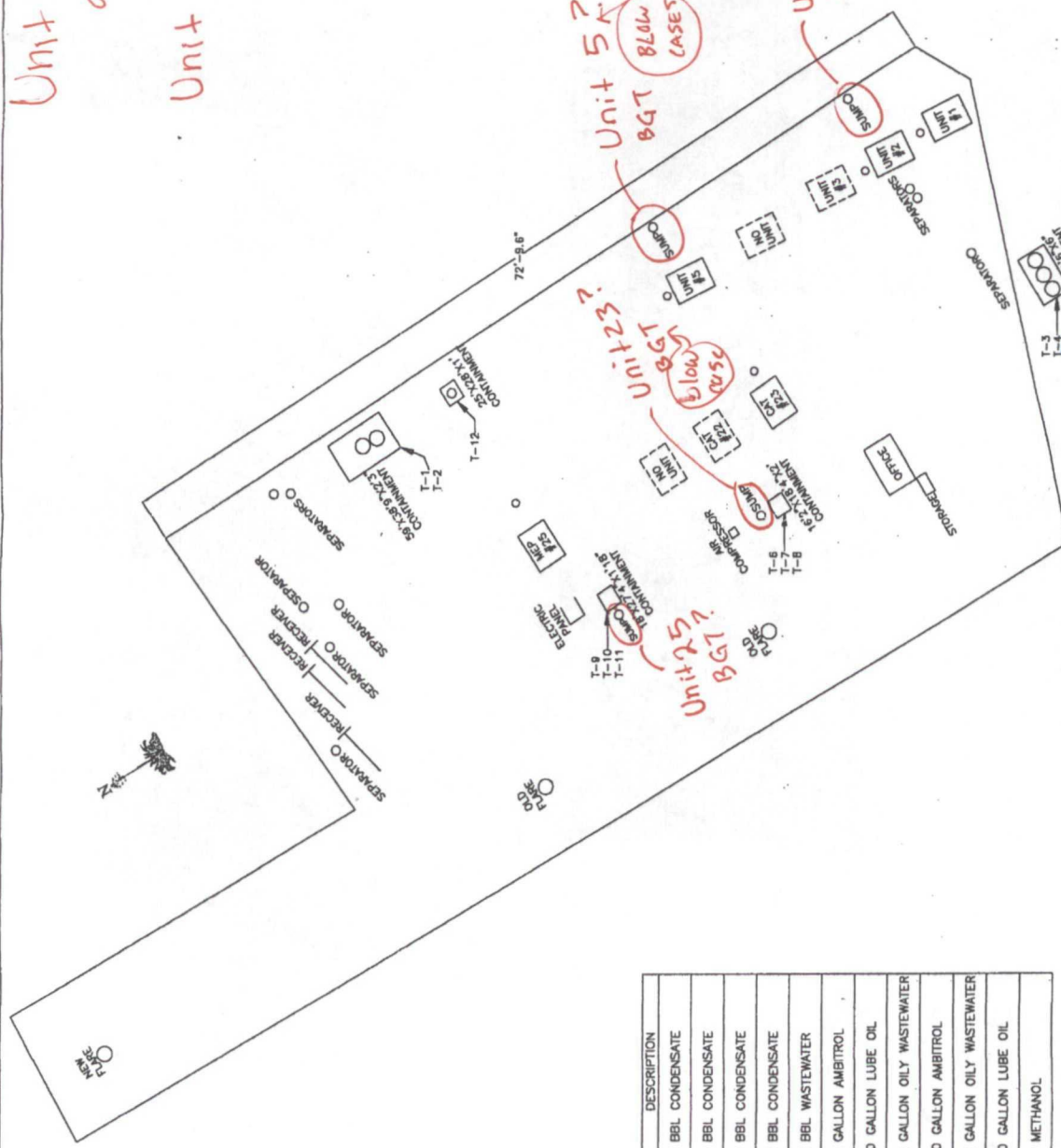
Sincerely,



Jennifer Knowlton  
Environmental Engineer

Unit 5 & 25 first remove  
all good back-filled.

Unit 2 & 23  
↳ chlorides  
↳ TPH



ITEM	QTY	OBJECT	DESCRIPTION
TK 1	1	TANK	500 BBL CONDENSATE
TK 2	1	TANK	500 BBL CONDENSATE
TK 3	1	TANK	250 BBL CONDENSATE
TK 4	1	TANK	250 BBL CONDENSATE
TK 5	1	TANK	210 BBL WASTEWATER
TK 6	1	TANK	750 GALLON AMBITROL
TK 7	1	TANK	1500 GALLON LUBE OIL
TK 8	1	TANK	750 GALLON OILY WASTEWATER
TK 9	1	TANK	1500 GALLON AMBITROL
TK 10	1	TANK	750 GALLON OILY WASTEWATER
TK 11	1	TANK	1500 GALLON LUBE OIL
TK 12	1	TANK	210 METHANOL

AGAVE ENERGY COMPANY  
105 South Fourth Street, Artesia, New Mexico 88210

PENASCO  
PLOT PLAN

CHIC JK	COUNTY: EDDY	SECTION:
DRAFTING: TWH	STATE: NEW MEXICO	TOWNSHIP:
DATE: 7/18/03	SCALE: 1"=40'	REVISION:
PRINTED: 7/10/03	REV:	SHEET 1 OF 1

South tank  
Battery?

Penasco Compressor Station  
December 30, 2009  
Unit 005  
Unit 025



Unit 025



Penasco Compressor Station  
December 30, 2009  
Unit 005  
Unit 025



Unit 005

# Analytical Report 351048

for

**Agave Energy**

**Project Manager: Jennifer Knowlton**

**Penasco Compressor Station**

**11-NOV-09**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

South Carolina(96031001), Louisiana(04154), Georgia(917)



11-NOV-09

Project Manager: **Jennifer Knowlton**  
**Agave Energy**  
105 S. Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **351048**  
**Penasco Compressor Station**  
Project Address: Eddy County

**Jennifer Knowlton:**

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 351048. 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. 351048 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 351048



**Agave Energy, Artesia, NM**

**Penasco Compressor Station**

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GS/Comp-001	S	Nov-02-09 11:04	6 - 6 ft	351048-001
GS/Comp-002	S	Nov-02-09 11:28	7 - 7 ft	351048-002
GS/Comp-003	S	Nov-02-09 12:02	7 - 7 ft	351048-003
GS/Comp-004	S	Nov-02-09 12:02	8 - 8 ft	351048-004



## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 351048*

*Report Date: 11-NOV-09*

*Date Received: 11/05/2009*

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**Sample receipt non conformances and Comments:**

*None*

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-780678 Percent Moisture*

*None*

*Batch: LBA-780716 Anions in Soil By EPA 300.0*

*None*

*Batch: LBA-781088 TPH by SW 8015B*

*None*

*Batch: LBA-781159 BTEX by EPA 8021*

*SW8021BM*

*Batch 781159, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 351048-002, -003, -001, -004.*


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

Analysis Requested	Lab Id:		351048-001		351048-002		351048-003		351048-004	
	Field Id:	Depth:	GS/Comp-001	6-6 ft	GS/Comp-002	7-7 ft	GS/Comp-003	7-7 ft	GS/Comp-004	8-8 ft
	Matrix:		SOIL		SOIL		SOIL		SOIL	
	Sampled:		Nov-02-09 11:04		Nov-02-09 11:28		Nov-02-09 12:02		Nov-02-09 12:02	
Anions in Soil By EPA 300.0	Extracted:									
	Analyzed:		Nov-06-09 17:24		Nov-06-09 17:24		Nov-06-09 17:24		Nov-06-09 17:24	
	Units/RL:		mg/kg RL	33.3 4.20	mg/kg RL	12.4 4.20	mg/kg RL	15.5 4.20	mg/kg RL	20.4 4.20
BTX by EPA 8021	Extracted:		Nov-10-09 15:30		Nov-10-09 15:30		Nov-10-09 15:30		Nov-10-09 15:30	
	Analyzed:		Nov-10-09 17:30		Nov-10-09 17:51		Nov-10-09 18:12		Nov-10-09 18:34	
	Units/RL:		mg/kg RL	ND 0.0011	mg/kg RL	ND 0.0011	mg/kg RL	ND 0.0011	mg/kg RL	ND 0.0011
Benzene				ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0011
Toluene				ND 0.0022		ND 0.0021		ND 0.0021		ND 0.0023
Ethylbenzene				ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0011
m,p-Xylenes				ND 0.0022		ND 0.0021		ND 0.0021		ND 0.0023
o-Xylene				ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0011
Xylenes, Total				ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0011
Total BTX				ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0011
Percent Moisture	Extracted:									
	Analyzed:		Nov-05-09 17:00		Nov-05-09 17:00		Nov-05-09 17:00		Nov-05-09 17:00	
	Units/RL:		% RL	9.66 1.00	% RL	6.68 1.00	% RL	6.03 1.00	% RL	12.0 1.00
TPH by SW 8015B	Extracted:		Nov-09-09 12:00		Nov-09-09 12:00		Nov-09-09 12:00		Nov-09-09 12:00	
	Analyzed:		Nov-10-09 02:28		Nov-10-09 02:55		Nov-10-09 03:21		Nov-10-09 03:47	
	Units/RL:		mg/kg RL	ND 16.6	mg/kg RL	ND 16.1	mg/kg RL	ND 16.0	mg/kg RL	ND 17.0
C6-C10 Gasoline Range Hydrocarbons				ND 16.6		ND 16.1		ND 16.0		ND 17.0
C10-C28 Diesel Range Hydrocarbons				ND 16.6		ND 16.1		ND 16.0		ND 17.0
Total TPH 8015B				ND 16.6		ND 16.1		ND 16.0		ND 17.0

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

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Version: 1.008

  
Breff Barron, II  
Odessa Laboratory Manager

- 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

\* Outside XENCO's scope of NELAC Accreditation.

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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



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 351048,

Project ID:

Lab Batch #: 781159

Sample: 542848-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 16:06

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 781159

Sample: 542848-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 16:27

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 781159

Sample: 542848-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 17:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 781159

Sample: 351048-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 17:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 781159

Sample: 351048-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 17:51

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	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.





## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 351048,

Project ID:

Lab Batch #: 781159

Sample: 351048-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 18:12

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 781159

Sample: 351048-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 18:34

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 781159

Sample: 351048-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/09 00:34

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 781159

Sample: 351048-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/09 00:55

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Lab Batch #: 781088

Sample: 542708-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 01:11

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 351048,

Project ID:

Lab Batch #: 781088

Sample: 542708-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 01:37

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 781088

Sample: 542708-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 02:03

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 781088

Sample: 351048-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 02:28

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.0	100	91	70-135	
o-Terphenyl	57.9	50.0	116	70-135	

Lab Batch #: 781088

Sample: 351048-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 02:55

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.7	100	88	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 781088

Sample: 351048-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 03:21

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	55.2	50.0	110	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 351048,

Project ID:

Lab Batch #: 781088

Sample: 351048-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 03:47

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.9	100	87	70-135	
o-Terphenyl	54.0	50.0	108	70-135	

Lab Batch #: 781088

Sample: 351048-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 05:30

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 781088

Sample: 351048-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 05:56

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	53.8	50.0	108	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: Penasco Compressor Station

Work Order #: 351048

Project ID:

Lab Batch #: 780716

Sample: 780716-1-BKS

Matrix: Solid

Date Analyzed: 11/06/2009

Date Prepared: 11/06/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK/BLANK SPIKE RECOVERY STUDY

Anions in Soil By EPA 300.0  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	11.0	110	75-125	

Blank Spike Recovery  $[D] = 100 * [C] / [B]$

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

BRL - Below Reporting Limit

## Project Name: Penasco Compressor Station

Work Order #: 351048

Analyst: ASA

Lab Batch ID: 781159

Sample: 542848-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/10/2009

Matrix: Solid

Date Prepared: 11/10/2009

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by EPA 8021											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1000	0.0969	97	0.1	0.0989	99	2	70-130	35	
	Toluene	ND	0.1000	0.0971	97	0.1	0.0989	99	2	70-130	35	
	Ethylbenzene	ND	0.1000	0.0962	96	0.1	0.0991	99	3	71-129	35	
	m,p-Xylenes	ND	0.2000	0.2098	105	0.2	0.2164	108	3	70-135	35	
	o-Xylene	ND	0.1000	0.1015	102	0.1	0.1049	105	3	71-133	35	

Analyst: ASA

Lab Batch ID: 781088

Sample: 542708-1-BKS

Date Prepared: 11/09/2009

Batch #: 1

Date Analyzed: 11/10/2009

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	TPH by SW 8015B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C10 Gasoline Range Hydrocarbons		ND	1000	949	95	1000	940	94	1	70-135	35	
	C10-C28 Diesel Range Hydrocarbons		ND	1000	729	73	1000	951	95	26	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: Penasco Compressor Station



Work Order #: 351048

Lab Batch #: 780716

Date Analyzed: 11/06/2009

Date Prepared: 11/06/2009

Project ID:

Analyst: LATCOR

QC- Sample ID: 351048-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	15.5	122	148	109	75-125	

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

BRL - Below Reporting Limit



# Certificate of Analysis Summary 355624

## Agave Energy, Artesia, NM

Project Name: Penasco Compressor Station

Project Id:   
Contact: Jennifer Knowlton   
Project Location: Eddy County


Date Received in Lab: Tue Dec-15-09 10:30 am   
Report Date: 21-DEC-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	355624-001	355624-002	355624-003	355624-004	355624-005	355624-006
	Field Id: Depth: Matrix: Sampled:	GS/Comp-Surface NW 4-4 In SOIL Dec-10-09 13:35	GS/Comp-001 NW 1-1 ft SOIL Dec-10-09 13:45	GS/Comp-Surface NE 4-4 In SOIL Dec-10-09 14:03	GS/Comp-001 NE 1-1 ft SOIL Dec-10-09 14:11	GS/Comp-Surface SW 4-4 In SOIL Dec-10-09 14:28	GS/Comp-001 SW 1-1 ft SOIL Dec-10-09 14:34
Anions in Soil By EPA 300.0	Extracted:						
	Analyzed:	Dec-16-09 08:38	Dec-16-09 08:38	Dec-16-09 08:38	Dec-16-09 08:38	Dec-16-09 08:38	Dec-16-09 08:38
Chloride	Units/RL:	mg/kg RL 119 8.40	mg/kg RL 97.3 8.40	mg/kg RL 103 8.40	mg/kg RL 103 8.40	mg/kg RL 118 8.40	mg/kg RL 53.4 4.20
BTEX by EPA 8021	Extracted:	Dec-19-09 12:00	Dec-19-09 12:00	Dec-19-09 12:00	Dec-19-09 12:00	Dec-19-09 12:00	Dec-19-09 12:00
	Analyzed:	Dec-19-09 21:27	Dec-19-09 21:50	Dec-19-09 17:55	Dec-19-09 19:06	Dec-19-09 22:14	Dec-19-09 22:38
Benzene	Units/RL:	mg/kg RL 0.0075 0.0057	mg/kg RL 0.1979 0.0058	mg/kg RL 0.0011	mg/kg RL 0.0011	mg/kg RL 0.0058	mg/kg RL 0.0114
Toluene	Units/RL:	mg/kg RL 0.2035 0.0114	mg/kg RL 0.1979 0.0115	mg/kg RL 0.0023	mg/kg RL 0.0124 0.0023	mg/kg RL 0.3387 0.0117	mg/kg RL 0.1405 0.0228
Ethylbenzene	Units/RL:	mg/kg RL 0.1651 0.0057	mg/kg RL 0.4970 0.0058	mg/kg RL 0.0085 0.0011	mg/kg RL 0.0394 0.0011	mg/kg RL 0.6881 0.0058	mg/kg RL 0.3408 0.0114
m,p-Xylenes	Units/RL:	mg/kg RL 0.7673 0.0114	mg/kg RL 2.962 0.0115	mg/kg RL 0.0453 0.0023	mg/kg RL 0.2084 0.0023	mg/kg RL 2.539 0.0117	mg/kg RL 2.064 0.0228
o-Xylene	Units/RL:	mg/kg RL 0.2700 0.0057	mg/kg RL 2.181 0.0058	mg/kg RL 0.0470 0.0011	mg/kg RL 0.1984 0.0011	mg/kg RL 2.020 0.0058	mg/kg RL 2.568 0.0114
Xylenes, Total	Units/RL:	mg/kg RL 1.0373 0.0057	mg/kg RL 5.143 0.0058	mg/kg RL 0.0923 0.0011	mg/kg RL 0.4068 0.0011	mg/kg RL 4.559 0.0058	mg/kg RL 4.632 0.0114
Total BTEX	Units/RL:	mg/kg RL 1.4134 0.0057	mg/kg RL 5.838 0.0058	mg/kg RL 0.1008 0.0011	mg/kg RL 0.4586 0.0011	mg/kg RL 5.586 0.0058	mg/kg RL 5.113 0.0114
Percent Moisture	Extracted:						
	Analyzed:	Dec-15-09 17:00	Dec-15-09 17:00	Dec-15-09 17:00	Dec-15-09 17:00	Dec-15-09 17:00	Dec-15-09 17:00
TPH by SW 8015B	Units/RL:	% RL 12.2 1.00	% RL 13.1 1.00	% RL 11.2 1.00	% RL 12.8 1.00	% RL 14.4 1.00	% RL 12.4 1.00
C6-C10 Gasoline Range Hydrocarbons	Extracted:	Dec-15-09 14:00	Dec-15-09 14:00	Dec-15-09 14:00	Dec-15-09 14:00	Dec-15-09 14:00	Dec-15-09 14:00
	Analyzed:	Dec-18-09 07:09	Dec-18-09 07:36	Dec-18-09 08:02	Dec-18-09 08:29	Dec-18-09 08:56	Dec-18-09 09:23
C10-C28 Diesel Range Hydrocarbons	Units/RL:	mg/kg RL 280 17.1	mg/kg RL 374 17.3	mg/kg RL 219 16.9	mg/kg RL 360 17.1	mg/kg RL 331 17.5	mg/kg RL 336 17.1
Total TPH	Units/RL:	mg/kg RL 325 17.1	mg/kg RL 507 17.3	mg/kg RL 572 16.9	mg/kg RL 411 17.1	mg/kg RL 431 17.5	mg/kg RL 257 17.1
Total TPH	Units/RL:	mg/kg RL 605 17.1	mg/kg RL 881 17.3	mg/kg RL 791 16.9	mg/kg RL 771 17.1	mg/kg RL 762 17.5	mg/kg RL 593 17.1

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

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

  
Brent Barron, II  
Odessa Laboratory Manager

**Project Name: Penasco Compressor Station**

Work Order #: 351048

Lab Batch ID: 781159

Date Analyzed: 11/11/2009

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 351048-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/10/2009 Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1107	0.0517	47	0.1107	0.0586	53	12	70-130	35	X
	Toluene	ND	0.1107	0.0544	49	0.1107	0.0619	56	13	70-130	35	X
	Ethylbenzene	ND	0.1107	0.0540	49	0.1107	0.0619	56	13	71-129	35	X
	m,p-Xylenes	ND	0.2214	0.1161	52	0.2214	0.1340	61	16	70-135	35	X
	o-Xylene	ND	0.1107	0.0562	51	0.1107	0.0647	58	13	71-133	35	X

Lab Batch ID: 781088

Date Analyzed: 11/10/2009

Reporting Units: mg/kg

QC-Sample ID: 351048-001 S

Date Prepared: 11/09/2009

Batch #: 1 Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW 8015B	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
Analytes											
C6-C10 Gasoline Range Hydrocarbons	ND	1110	1070	96	1110	1090	98	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	ND	1110	999	90	1110	913	82	9	70-135	35	

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

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

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



## Sample Duplicate Recovery



**Project Name: Penasco Compressor Station**

**Work Order #: 351048**

**Lab Batch #: 780716**

**Date Analyzed: 11/06/2009**

**Date Prepared: 11/06/2009**

**Project ID:**

**Analyst: LATCOR**

**QC- Sample ID: 351048-003 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions in Soil By EPA 300.0	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	15.5	16.4	6	20	

**Lab Batch #: 780678**

**Date Analyzed: 11/05/2009**

**Date Prepared: 11/05/2009**

**Analyst: WRU**

**QC- Sample ID: 350993-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.40	5.24	3	20	

Spike Relative Difference RPD  $200 * \left\{ \frac{(B-A)}{(B+A)} \right\}$   
All Results are based on MDL and validated for QC purposes.  
BRL - Below Reporting Limit





# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Agave Energy  
 Date/ Time: 11.5.09 9.45  
 Lab ID #: 35104B  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	5.6 °C
#2	Shipping container in good condition?	(Yes)	No	
#3	Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present
#5	Chain of Custody present?	(Yes)	No	
#6	Sample instructions complete of Chain of Custody?	(Yes)	No	
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No	
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No	
#11	Containers supplied by ELOT?	(Yes)	No	
#12	Samples in proper container/ bottle?	(Yes)	No	See Below
#13	Samples properly preserved?	(Yes)	No	See Below
#14	Sample bottles intact?	(Yes)	No	
#15	Preservations documented on Chain of Custody?	(Yes)	No	
#16	Containers documented on Chain of Custody?	(Yes)	No	
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below
#18	All samples received within sufficient hold time?	(Yes)	No	See Below
#19	Subcontract of sample(s)?	Yes	No	Not Applicable
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable

### Variance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken:

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

PROJECT NAME	Pennsco Compressor Station		
FIELD CODE	GS/Comp-001	GS/Comp-002	GS/Comp-003
DATE	11/21/2009		
TIME	1:40 PM	1:55 PM	2:12 PM
SOIL TYPE			
SOIL COLOR			
SOIL ODOR			
SAMPLE TYPE	Grab/Auger		
SAMPLE DEPTH	6'	6-7'	12'
LATITUDE			
LONGITUDE			
TEST TYPE			
COMMENTS	Excavation #1		Excavation #2
	West Side of		East Side of
	Station		Station
	Sidewalk	Bottom	Sidewalk
	Unit 25		Unit 008
FIELD CODE	GS/Comp-004		
DATE	11/21/2009		
TIME	2:17 PM		
SOIL TYPE			
SOIL COLOR			
SOIL ODOR			
SAMPLE TYPE	Grab/SHovel		
SAMPLE DEPTH	13-14'		
LATITUDE			
LONGITUDE			
TEST TYPE			
COMMENTS	Excavation #2		
	East Side of		
	Station		
	Bottom		

Penasco Compressor Station  
December 30, 2009  
South Tank Battery



Penasco Compressor Station  
December 30, 2009  
South Tank Battery



# **Analytical Report 355624**

**for**

**Agave Energy**

**Project Manager: Jennifer Knowlton**

**Penasco Compressor Station**

**21-DEC-09**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

South Carolina(96031001), Louisiana(04154), Georgia(917)





21-DEC-09

Project Manager: **Jennifer Knowlton**  
**Agave Energy**  
105 S. Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **355624**  
**Penasco Compressor Station**  
Project Address: Eddy County

**Jennifer Knowlton:**

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 355624. 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. 355624 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.*

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## Sample Cross Reference 355624

### Agave Energy, Artesia, NM Penasco Compressor Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GS/Comp-Surface NW	S	Dec-10-09 13:35	4 - 4 In	355624-001
GS/Comp-001 NW	S	Dec-10-09 13:45	1 - 1 ft	355624-002
GS/Comp-Surface NE	S	Dec-10-09 14:03	4 - 4 In	355624-003
GS/Comp-001 NE	S	Dec-10-09 14:11	1 - 1 ft	355624-004
GS/Comp-Surface SW	S	Dec-10-09 14:28	4 - 4 In	355624-005
GS/Comp-001 SW	S	Dec-10-09 14:34	1 - 1 ft	355624-006
GS/Comp-Surface SE	S	Dec-10-09 14:51	4 - 4 In	355624-007
GS/Comp-001 SE	S	Dec-10-09 14:57	1 - 1 ft	355624-008



## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 355624*

*Report Date: 21-DEC-09*

*Date Received: 12/15/2009*

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**Sample receipt non conformances and Comments:**

*None*

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-785886 Percent Moisture*

*None*

*Batch: LBA-785951 Inorganic Anions by EPA 300*

*None*

*Batch: LBA-786289 TPH by SW 8015B*

*SW8015B\_NM*

*Batch 786289, C10-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 355624-007, -004, -003, -005, -008, -002, -001, -006.*

*The Laboratory Control Sample for C10-C28 Diesel Range Hydrocarbons is within laboratory Control Limits*



## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 355624*

*Report Date: 21-DEC-09*

*Date Received: 12/15/2009*

---

*Batch: LBA-786459 BTEX by EPA 8021  
SW8021BM*

*Batch 786459, m,p-Xylenes recovered below QC limits in the Matrix Spike. Benzene, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 355624-004, -003, -005, -002, -001, -006.*

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

*SW8021BM*

*Batch 786459, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 355624-005, 355624-006, 355624-002.*

*4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 355624-003, 355624-004, 355624-001, 355624-006, 355624-002, 355624-005.*

*1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 355624-001.*



## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 355624*

*Report Date: 21-DEC-09*

*Date Received: 12/15/2009*

---

*Batch: LBA-786535 BTEX by EPA 8021  
SW8021BM*

*Batch 786535, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Benzene, Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 355624-007, -008.*

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

*SW8021BM*

*Batch 786535, Benzene, Ethylbenzene, m,p-Xylenes RPD was outside QC limits.  
Samples affected are: 355624-007, -008*

*SW8021BM*

*Batch 786535, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 355624-008.*

*4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 355624-008, 355624-007.*

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

*Samples affected are: 355920-001 SD*



# Certificate of Analysis Summary 355624

Agave Energy, Artesia, NM

Project Id:

Contact: Jennifer Knowlton

Project Location: Eddy County

Project Name: Penasco Compressor Station

Date Received in Lab: Tue Dec-15-09 10:30 am


Report Date: 21-DEC-09

Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	Field Id:	GS/Comp-Surface SE	GS/Comp-001 SE		
			Depth:	4-4 In	1-1 ft		
			Matrix:	SOIL	SOIL		
			Sampled:	Dec-10-09 14:51	Dec-10-09 14:57		
Anions in Soil By EPA 300.0		Extracted:	Dec-16-09 08:38	Dec-16-09 08:38			
		Analyzed:	mg/kg	mg/kg			
		Units/RL:	87.3 8.40	85.5 8.40			
Chloride							
BTEX by EPA 8021		Extracted:	Dec-19-09 12:30	Dec-19-09 12:30			
		Analyzed:	Dec-20-09 04:54	Dec-20-09 05:17			
		Units/RL:	mg/kg RL	mg/kg RL			
Benzene		BRL	0.0117	BRL	0.0058		
Toluene		0.0528	0.0234	0.0377	0.0117		
Ethylbenzene		0.0343	0.0117	0.1643	0.0058		
m,p-Xylenes		0.2712	0.0234	0.9237	0.0117		
o-Xylene		0.2630	0.0117	1.015	0.0058		
Xylenes, Total		0.5342	0.0117	1.939	0.0058		
Total BTEX		0.6213	0.0117	2.141	0.0058		
Percent Moisture		Extracted:	Dec-15-09 17:00	Dec-15-09 17:00			
		Analyzed:	%	%			
		Units/RL:	RL	RL			
Percent Moisture			14.5 1.00	14.2 1.00			
TPH by SW 8015B		Extracted:	Dec-15-09 14:00	Dec-15-09 14:00			
		Analyzed:	Dec-18-09 09:50	Dec-18-09 10:18			
		Units/RL:	mg/kg RL	mg/kg RL			
C6-C10 Gasoline Range Hydrocarbons			316 17.5	310 17.5			
C10-C28 Diesel Range Hydrocarbons			385 17.5	95.0 17.5			
Total TPH			701 17.5	405 17.5			

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

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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
- \* Outside XENCO's scope of NELAC Accreditation.

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(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786459

Sample: 545940-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/19/09 12:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 786459

Sample: 545940-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/19/09 12:47

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 786459

Sample: 545940-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/19/09 13:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 786459

Sample: 355624-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 17:55

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0258	0.0300	86	80-120	
4-Bromofluorobenzene	0.0735	0.0300	245	80-120	**

Lab Batch #: 786459

Sample: 355624-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 19:06

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.1628	0.0300	543	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.





## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786459

Sample: 355624-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 21:27

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0619	0.0300	206	80-120	**
4-Bromofluorobenzene	0.0769	0.0300	256	80-120	**

Lab Batch #: 786459

Sample: 355624-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 21:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0160	0.0300	53	80-120	**
4-Bromofluorobenzene	0.4778	0.0300	1593	80-120	**

Lab Batch #: 786459

Sample: 355624-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 22:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0177	0.0300	59	80-120	**
4-Bromofluorobenzene	0.4304	0.0300	1435	80-120	**

Lab Batch #: 786459

Sample: 355624-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 22:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0192	0.0300	64	80-120	**
4-Bromofluorobenzene	0.1494	0.0300	498	80-120	**

Lab Batch #: 786459

Sample: 355585-014 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 23:01

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786459

Sample: 355585-014 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/19/09 23:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 786535

Sample: 545988-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 00:12

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 786535

Sample: 545988-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 00:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 786535

Sample: 545988-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 01:46

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 786535

Sample: 355624-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 04:54

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0588	0.0300	196	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786535

Sample: 355624-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 05:17

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0222	0.0300	74	80-120	**
4-Bromofluorobenzene	0.1981	0.0300	660	80-120	**

Lab Batch #: 786535

Sample: 355920-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 06:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 786535

Sample: 355920-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 06:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0382	0.0300	127	80-120	*

Lab Batch #: 786289

Sample: 545850-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/18/09 05:21

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	118	99.6	118	70-135	
o-Terphenyl	61.8	49.8	124	70-135	

Lab Batch #: 786289

Sample: 545850-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/18/09 05:48

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	120	99.5	121	70-135	
o-Terphenyl	57.7	49.8	116	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786289

Sample: 545850-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 12/18/09 06:15		SURROGATE RECOVERY STUDY			
TPH by SW 8015B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		130	99.6	131	70-135
o-Terphenyl		56.7	49.8	114	70-135

Lab Batch #: 786289

Sample: 355624-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 12/18/09 07:09		SURROGATE RECOVERY STUDY			
TPH by SW 8015B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		109	100	109	70-135
o-Terphenyl		55.8	50.0	112	70-135

Lab Batch #: 786289

Sample: 355624-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 12/18/09 07:36		SURROGATE RECOVERY STUDY			
TPH by SW 8015B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		118	100	118	70-135
o-Terphenyl		57.1	50.0	114	70-135

Lab Batch #: 786289

Sample: 355624-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 12/18/09 08:02		SURROGATE RECOVERY STUDY			
TPH by SW 8015B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		110	100	110	70-135
o-Terphenyl		55.5	50.0	111	70-135

Lab Batch #: 786289

Sample: 355624-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 12/18/09 08:29		SURROGATE RECOVERY STUDY			
TPH by SW 8015B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		114	99.5	115	70-135
o-Terphenyl		56.7	49.8	114	70-135

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786289

Sample: 355624-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 08:56

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	53.6	50.0	107	70-135	

Lab Batch #: 786289

Sample: 355624-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 09:23

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	116	99.9	116	70-135	
o-Terphenyl	57.2	50.0	114	70-135	

Lab Batch #: 786289

Sample: 355624-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 09:50

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	99.8	115	70-135	
o-Terphenyl	57.8	49.9	116	70-135	

Lab Batch #: 786289

Sample: 355624-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 10:18

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	56.4	50.0	113	70-135	

Lab Batch #: 786289

Sample: 355624-007 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 10:45

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	99.8	127	70-135	
o-Terphenyl	55.3	49.9	111	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 355624,

Project ID:

Lab Batch #: 786289

Sample: 355624-007 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/18/09 11:12

### SURROGATE RECOVERY STUDY

TPH by SW 8015B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	55.4	49.9	111	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: Penasco Compressor Station**

**Work Order #: 355624**

**Project ID:**

**Lab Batch #: 785951**

**Sample: 785951-1-BKS**

**Matrix: Solid**

**Date Analyzed: 12/16/2009**

**Date Prepared: 12/16/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions in Soil By EPA 300.0 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	10.6	106	75-125	

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: Penasco Compressor Station

Work Order #: 355624

Analyst: ASA

Date Prepared: 12/19/2009

Project ID:  
Date Analyzed: 12/19/2009

Lab Batch ID: 786459

Sample: 545988-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
BTEx by EPA 8021										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD
Benzene	<0.0010	0.1000	0.1063	106	0.1	0.1014	101	5	70-130	35
Toluene	<0.0020	0.1000	0.1084	108	0.1	0.1041	104	4	70-130	35
Ethylbenzene	<0.0010	0.1000	0.1050	105	0.1	0.1022	102	3	71-129	35
m,p-Xylenes	<0.0020	0.2000	0.2366	118	0.2	0.2283	114	4	70-135	35
o-Xylene	<0.0010	0.1000	0.1164	116	0.1	0.1128	113	3	71-133	35

Analyst: ASA

Date Prepared: 12/19/2009

Date Analyzed: 12/20/2009

Lab Batch ID: 786535

Sample: 545988-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
BTEx by EPA 8021										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD
Benzene	<0.0010	0.1000	0.1068	107	0.1	0.1146	115	7	70-130	35
Toluene	<0.0020	0.1000	0.1101	110	0.1	0.1180	118	7	70-130	35
Ethylbenzene	<0.0010	0.1000	0.1083	108	0.1	0.1168	117	8	71-129	35
m,p-Xylenes	<0.0020	0.2000	0.2405	120	0.2	0.2596	130	8	70-135	35
o-Xylene	<0.0010	0.1000	0.1173	117	0.1	0.1282	128	9	71-133	35

Relative Percent Difference RPD =  $200 \times (C-F) / (C+F)$

Blank Spike Recovery [D] =  $100 \times (C) / [B]$

Blank Spike Duplicate Recovery [G] =  $100 \times (F) / [E]$

All results are based on MDL and Validated for QC Purposes





## BS / BSD Recoveries



Project Name: Penasco Compressor Station

Work Order #: 355624

Analyst: BEV

Lab Batch ID: 786289

Sample: 545850-1-BKS

Date Prepared: 12/15/2009

Batch #: 1

Project ID:

Date Analyzed: 12/18/2009

Matrix: Solid

Units: mg/kg

Units: mg/kg												
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH by SW 8015B		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
Analytes												
C6-C10 Gasoline Range Hydrocarbons		<14.9	995	950	95	996	999	100	5	70-135	35	
C10-C28 Diesel Range Hydrocarbons		<14.9	995	710	71	996	875	88	21	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: Penasco Compressor Station



Work Order #: 355624

Lab Batch #: 785951

Date Analyzed: 12/16/2009

Date Prepared: 12/16/2009

Project ID:

Analyst: LATCOR

QC- Sample ID: 355590-008 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	55.5	112	172	104	75-125	

Matrix Spike Percent Recovery [D] =  $100 \times (C-A)/B$

Relative Percent Difference [E] =  $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Penasco Compressor Station

Work Order #: 355624

Lab Batch ID: 786459

Date Analyzed: 12/19/2009

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 355585-014 S

Date Prepared: 12/19/2009

Batch #: 1 Matrix: Soil  
Analyst: ASA

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0012	0.1231	0.0624	51	0.1231	0.0800	65	25	70-130	35	X
Toluene	<0.0025	0.1231	0.0663	54	0.1231	0.0834	68	23	70-130	35	X
Ethylbenzene	<0.0012	0.1231	0.0651	53	0.1231	0.0798	65	20	71-129	35	X
m,p-Xylenes	<0.0025	0.2461	0.1468	60	0.2461	0.1770	72	19	70-135	35	X
o-Xylene	<0.0012	0.1231	0.0670	54	0.1231	0.0831	68	21	71-133	35	X

Lab Batch ID: 786535

Date Analyzed: 12/20/2009

Reporting Units: mg/kg

QC-Sample ID: 355920-001 S

Date Prepared: 12/19/2009

Batch #: 1 Matrix: Soil  
Analyst: ASA

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0011	0.1082	0.0242	22	0.1082	0.0565	52	80	70-130	35	XF
Toluene	<0.0011	0.1082	0.0337	31	0.1082	0.0298	28	12	70-130	35	X
Ethylbenzene	<0.0011	0.1082	0.0066	6	0.1082	<0.0011	0	200	71-129	35	XF
m,p-Xylenes	<0.0022	0.2164	0.1049	48	0.2164	0.1614	75	42	70-135	35	XF
o-Xylene	<0.0011	0.1082	0.0593	55	0.1082	0.0812	75	31	71-133	35	X

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

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

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



# Form 3 - MS / MSD Recoveries

Project Name: Penasco Compressor Station



Work Order #: 355624

Project ID:

Lab Batch ID: 786289

QC- Sample ID: 355624-007 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/18/2009

Date Prepared: 12/15/2009

Analyst: BEV

Reporting Units: mg/kg

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW 8015B  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-C10 Gasoline Range Hydrocarbons	316	1170	1340	88	1170	1180	74	13	70-135	35		
C10-C28 Diesel Range Hydrocarbons	385	1170	1120	63	1170	1130	64	1	70-135	35	X	

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

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

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



## Sample Duplicate Recovery

Project Name: Penasco Compressor Station

Work Order #: 355624

Lab Batch #: 785951

Date Analyzed: 12/16/2009

QC- Sample ID: 355590-008 D

Reporting Units: mg/kg

Project ID:

Date Prepared: 12/16/2009

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions in Soil By EPA 300.0	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	55.5	56.7	2	20	

Lab Batch #: 785886

Date Analyzed: 12/15/2009

QC- Sample ID: 355590-007 D

Reporting Units: %

Date Prepared: 12/15/2009

Analyst: WRU

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	10.5	11.4	9	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

# XENCO-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: Jennifer Knowlton  
Company Name: Agave Energy Company  
Company Address: 105 South 4th Street  
City/State/Zip: Artesia, NM 88210  
Telephone No: 505-748-1471  
Fax No:   
Project Name: Penasco Compressor Station  
Project #:   
Project Loc: Eddy County  
PO #:   
Report Format: ☒ Standard ☐ TRRP ☐ NPDES  
Sampler Signature: [Signature] e-mail: boba@yatespetroleum.com & jknowlton@yatespetroleum.com

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Preservation & # of Containers										Matrix	Analyze For:											
							Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Portable Specify Other	TPH: 418.1 8015M 8015B		TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , 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.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs
01	GS/Comp-Surface NW	4"	4"	12/10/2009	1:35 PM		1 X								S		X							X				X	
02	GS/Comp-001 NW	1'	1'	12/10/2009	1:45 PM		1 X								S		X							X				X	
03	GS/Comp-Surface NE	4"	4"	12/10/2009	2:03 PM		1 X								S		X							X				X	
04	GS/Comp-001 NE	1'	1'	12/10/2009	2:11 PM		1 X								S		X							X				X	
05	GS/Comp-Surface SW	4"	4"	12/10/2009	2:28 PM		1 X								S		X							X				X	
06	GS/Comp-001 SW	1'	1'	12/10/2009	2:34 PM		1 X								S		X							X				X	
07	GS/Comp-Surface SE	4"	4"	12/10/2009	2:51 PM		1 X								S		X							X				X	
08	GS/Comp-001 SE	1'	1'	12/10/2009	2:57 PM		1 X								S		X							X				X	

Special Instructions: TPH: 8015B, BTEX: 8021B & Chlorides. BTEX results in mg/kg. Thank you.

Relinquished by: Robert Asher Date: 12/14/09 Time: 2:36 PM  
Relinquished by: Robert Asher Date:  Time:   
Relinquished by: Fedex Date: 12-15-09 Time: 10:30

Received by: Robert Asher Date: 12/14/09 Time: 2:36 PM  
Received by: Robert Asher Date:  Time:   
Received by: Robert Asher Date: 12-15-09 Time: 10:30

Laboratory Comments: Sample Containers Intact? ☒  
VOCs Free of Headspace? ☒  
Labels on container(s)? ☒  
Custody seals on container(s)? ☒  
Custody seals on cooler(s)? ☒  
Sample Hand Delivered ☒  
by Courier? ☒ UPS DHL  
Temperature Upon Receipt: 40.9 Class 2.0 °C

# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Agave Energy  
 Date/ Time: 12-15-09 10:30  
 Lab ID #: 355624  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	2.6 °C
#2	Shipping container in good condition?	<u>Yes</u>	No	
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present
#5	Chain of Custody present?	<u>Yes</u>	No	
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No	
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No	
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No	
#11	Containers supplied by ELOT?	<u>Yes</u>	No	
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below
#13	Samples properly preserved?	<u>Yes</u>	No	See Below
#14	Sample bottles intact?	<u>Yes</u>	No	
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No	
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No	
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below
#19	Subcontract of sample(s)?	<u>Yes</u>	No	Not Applicable
#20	VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable

### Variance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

Penasco Compressor Station  
December 30, 2009  
Unit 023





Penasco Compressor Station  
December 30, 2009  
Unit 023



Penasco Compressor Station  
December 30, 2009  
Unit 023





Penasco Compressor Station  
December 30, 2009  
Unit 002



Penasco Compressor Station  
December 30, 2009  
Unit 002





Penasco Compressor Station  
December 30, 2009  
Unit 002



# Analytical Report 356167

for

**Agave Energy**

**Project Manager: Jennifer Knowlton**

**Penasco Compressor Station**

**29-DEC-09**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

South Carolina (96031001), Louisiana (04154), Georgia (917)



29-DEC-09

Project Manager: **Jennifer Knowlton**  
**Agave Energy**  
105 S. Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **356167**  
**Penasco Compressor Station**  
Project Address: Eddy County

**Jennifer Knowlton:**

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 356167. 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. 356167 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 356167



**Agave Energy, Artesia, NM**

Penasco Compressor Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GS/ Unit # 2 - Bottom	S	Dec-17-09 10:05	20 - 20 ft	356167-001
GS/ Unit # 2 - Sidewall	S	Dec-17-09 10:10	15 - 15 ft	356167-002
GS/ Unit # 23 - Bottom	S	Dec-17-09 10:15	15 - 15 ft	356167-003
GS/ Unit # 23 -010 Sidewall	S	Dec-17-09 10:20	10 - 10 ft	356167-004
GS/ Unit # 23 - 012 Sidewall	S	Dec-17-09 10:25	12 - 12 ft	356167-005





## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 356167*

*Report Date: 29-DEC-09*

*Date Received: 12/18/2009*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-786482 Percent Moisture

None

Batch: LBA-786535 BTEX by EPA 8021  
SW8021BM

Batch 786535, Benzene, Ethylbenzene, m,p-Xylenes RPD was outside QC limits.  
Samples affected are: 356167-002, -004, -001

SW8021BM

Batch 786535, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis  
Samples affected are: 355920-001 SD.

SW8021BM

Batch 786535, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Benzene, Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 356167-002, -004, -001.

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

Batch: LBA-786560 Inorganic Anions by EPA 300

None



## CASE NARRATIVE

*Client Name: Agave Energy*

*Project Name: Penasco Compressor Station*

*Project ID:*

*Work Order Number: 356167*

*Report Date: 29-DEC-09*

*Date Received: 12/18/2009*

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*Batch: LBA-786873 BTEX by EPA 8021  
SW8021BM*

*Batch 786873, Benzene, Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 356167-005, -003.*

*The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene is within laboratory Control Limits*

*SW8021BM*

*Batch 786873, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 356167-005,356167-003.*

*Batch: LBA-787268 TPH by SW 8015B  
SW8015B\_NM*

*Batch 787268, C10-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike.*


*Samples affected are: 356167-005, -002, -004, -001, -003.*

*The Laboratory Control Sample for C10-C28 Diesel Range Hydrocarbons is within laboratory Control Limits*

Analysis Requested		Lab Id:	356167-001	356167-002	356167-003	356167-004	356167-005	
Field Id:	GS/ Unit # 2 - Bottom	20-20 ft	15-15 ft	15-15 ft	10-10 ft	12-12 ft		
Depth:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
Matrix:	Dec-17-09 10:05	Dec-17-09 10:10	Dec-17-09 10:15	Dec-17-09 10:20	Dec-17-09 10:25			
Sampled:								
Anions in Soil By EPA 300.0		Extracted:	Dec-21-09 10:06	Dec-21-09 10:06	Dec-21-09 10:06	Dec-21-09 10:06		
Analyzed:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Units/RL:	76.8	8.40	103	4.20	22.4	4.20	11.2	4.20
Chloride								
BTEX by EPA 8021		Extracted:	Dec-19-09 12:30	Dec-19-09 12:30	Dec-22-09 08:00	Dec-19-09 12:30	Dec-22-09 08:00	
Analyzed:	Dec-20-09 02:56	Dec-20-09 03:20	Dec-22-09 14:52	Dec-20-09 03:43	Dec-22-09 21:33			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene	BRL 0.0011	BRL 0.0011	0.1865 0.1166	BRL 0.0011	BRL 0.0011	BRL 0.2765		
Toluene	BRL 0.0022	BRL 0.0022	5.368 0.2331	BRL 0.0022	0.6911 0.5529			
Ethylbenzene	BRL 0.0011	BRL 0.0011	2.397 0.1166	BRL 0.0011	0.4949 0.2765			
m,p-Xylenes	0.0033 0.0022	BRL 0.0022	12.15 0.2331	0.0125 0.0022	6.781 0.5529			
o-Xylene	0.0049 0.0011	BRL 0.0011	3.246 0.1166	0.0059 0.0011	1.924 0.2765			
Xylenes, Total	0.0082 0.0011	BRL 0.0011	15.40 0.1166	0.0184 0.0011	8.705 0.2765			
Total BTEX	0.0082 0.0011	BRL 0.0011	23.35 0.1166	0.0184 0.0011	9.891 0.2765			
Percent Moisture		Extracted:	Dec-19-09 09:15	Dec-19-09 09:15	Dec-19-09 09:15	Dec-19-09 09:15		
Analyzed:	%	RL	%	RL	%	RL		
Units/RL:	8.10	1.00	9.52	1.00	7.14	1.00	9.57	1.00
Percent Moisture								
TPH by SW 8015B		Extracted:	Dec-21-09 16:00	Dec-21-09 16:00	Dec-21-09 16:00	Dec-21-09 16:00		
Analyzed:	Dec-24-09 05:31	Dec-24-09 05:58	Dec-24-09 06:24	Dec-24-09 06:50	Dec-24-09 07:17			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons	31.0	16.3	BRL	16.6	422	87.4	BRL	16.2
C10-C28 Diesel Range Hydrocarbons	163	16.3	21.0	16.6	1060	87.4	51.2	16.2
Total TPH	194	16.3	21.0	16.6	1482	87.4	51.2	16.2
							2233	166

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

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 Brent Barron, II  
 Odessa Laboratory Manager

- 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

\* Outside XENCO's scope of NELAC Accreditation.

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## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 356167,

Project ID:

Lab Batch #: 786535

Sample: 545988-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 00:12

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 786535

Sample: 545988-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 00:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 786535

Sample: 545988-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/20/09 01:46

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 786535

Sample: 356167-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 02:56

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 786535

Sample: 356167-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 03:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 356167,

Project ID:

Lab Batch #: 786535

Sample: 356167-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 03:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 786535

Sample: 355920-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 06:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 786535

Sample: 355920-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/20/09 06:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0382	0.0300	127	80-120	*

Lab Batch #: 786873

Sample: 546198-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/22/09 10:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 786873

Sample: 546198-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/22/09 10:49

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0284	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 356167,

Project ID:

Lab Batch #: 786873

Sample: 546198-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/22/09 12:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 786873

Sample: 356167-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/22/09 14:52

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0167	0.0300	56	80-120	**
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 786873

Sample: 356167-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/22/09 21:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0179	0.0300	60	80-120	**
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 786873

Sample: 356372-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/22/09 21:56

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 786873

Sample: 356372-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/22/09 22:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 356167,

Project ID:

Lab Batch #: 787268

Sample: 546403-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/24/09 03:45

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	54.4	50.2	108	70-135	

Lab Batch #: 787268

Sample: 546403-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/24/09 04:12

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.8	130	70-135	
o-Terphenyl	58.9	49.9	118	70-135	

Lab Batch #: 787268

Sample: 546403-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/24/09 04:38

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	101	119	70-135	
o-Terphenyl	67.3	50.3	134	70-135	

Lab Batch #: 787268

Sample: 356167-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 05:31

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.7	101	70-135	
o-Terphenyl	56.7	49.9	114	70-135	

Lab Batch #: 787268

Sample: 356167-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 05:58

### SURROGATE RECOVERY STUDY

TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	59.9	50.0	120	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.



## Form 2 - Surrogate Recoveries

Project Name: Penasco Compressor Station

Work Orders : 356167,

Project ID:

Lab Batch #: 787268

Sample: 356167-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 06:24

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	60.8	50.0	122	70-135	

Lab Batch #: 787268

Sample: 356167-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 06:50

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	65.1	50.0	130	70-135	

Lab Batch #: 787268

Sample: 356167-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 07:17

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	63.8	50.0	128	70-135	

Lab Batch #: 787268

Sample: 356167-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 09:29

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	49.8	49.9	100	70-135	

Lab Batch #: 787268

Sample: 356167-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/24/09 09:55

### SURROGATE RECOVERY STUDY

TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	47.9	50.0	96	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: Penasco Compressor Station**

**Work Order #: 356167**

**Project ID:**

**Lab Batch #: 786560**

**Sample: 786560-1-BKS**

**Matrix: Solid**

**Date Analyzed: 12/21/2009**

**Date Prepared: 12/21/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions in Soil By EPA 300.0  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	10.0	100	75-125	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

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

BRL - Below Reporting Limit

**Project Name: Penasco Compressor Station**
**Work Order #: 356167**
**Analyst: ASA**
**Lab Batch ID: 786535**
**Sample: 545988-1-BKS**
**Units: mg/kg**
**Date Prepared: 12/19/2009**  
**Date Analyzed: 12/20/2009**
**Batch #: 1**
**Matrix: Solid**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by EPA 8021	Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	<0.0010	0.1000	0.1068	107	0.1	0.1146	115	7	70-130	35		
		Toluene	<0.0020	0.1000	0.1101	110	0.1	0.1180	118	7	70-130	35		
		Ethylbenzene	<0.0010	0.1000	0.1083	108	0.1	0.1168	117	8	71-129	35		
		m,p-Xylenes	<0.0020	0.2000	0.2405	120	0.2	0.2596	130	8	70-135	35		
		o-Xylene	<0.0010	0.1000	0.1173	117	0.1	0.1282	128	9	71-133	35		

**Analyst: ASA**
**Lab Batch ID: 786873**
**Sample: 546198-1-BKS**
**Date Prepared: 12/22/2009**  
**Date Analyzed: 12/22/2009**
**Batch #: 1**
**Matrix: Solid**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg  BTEX by EPA 8021  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.0010	0.1000	0.1090	109	0.1	0.1002	100	8	70-130	35
	Toluene	<0.0020	0.1000	0.1123	112	0.1	0.1035	104	8	70-130	35
	Ethylbenzene	<0.0010	0.1000	0.1121	112	0.1	0.1029	103	9	71-129	35
	m,p-Xylenes	<0.0020	0.2000	0.2442	122	0.2	0.2240	112	9	70-135	35
	o-Xylene	<0.0010	0.1000	0.1220	122	0.1	0.1116	112	9	71-133	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: Penasco Compressor Station

Work Order #: 356167

Lab Batch #: 786560

Date Analyzed: 12/21/2009

Date Prepared: 12/21/2009

Project ID:

Analyst: LATCOR

QC- Sample ID: 356111-035 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
Chloride		10.0	151	156	97	75-125

Matrix Spike Percent Recovery [D] =  $100 \times (C-A)/B$

Relative Percent Difference [E] =  $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

**Project Name: Penasco Compressor Station**

**Work Order # : 356167**

**Lab Batch ID: 786535**

**Date Analyzed: 12/20/2009**

**Reporting Units: mg/kg**

**Project ID:**

**QC- Sample ID: 355920-001 S**

**Batch #: 1 Matrix: Soil**

**Date Prepared: 12/19/2009**

**Analyst: ASA**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	
BTEX by EPA 8021  Analytes												
	Benzene	<0.0011	0.1082	0.0242	22	0.1082	0.0565	52	80	70-130	35	XF
	Toluene	<0.0011	0.1082	0.0337	31	0.1082	0.0298	28	12	70-130	35	X
	Ethylbenzene	<0.0011	0.1082	0.0066	6	0.1082	<0.0011	0	200	71-129	35	XF
	m,p-Xylenes	<0.0022	0.2164	0.1049	48	0.2164	0.1614	75	42	70-135	35	XF
o-Xylene	<0.0011	0.1082	0.0593	55	0.1082	0.0812	75	31	71-133	35	X	

**Lab Batch ID: 786873**

**Date Analyzed: 12/22/2009**

**Reporting Units: mg/kg**

**QC- Sample ID: 356372-001 S**

**Batch #: 1 Matrix: Soil**

**Date Prepared: 12/22/2009**

**Analyst: ASA**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.0011	0.1057	0.0664	63	0.1057	0.0689	65	4	70-130	35	X
	Toluene	<0.0021	0.1057	0.0693	66	0.1057	0.0721	68	4	70-130	35	X
	Ethylbenzene	<0.0011	0.1057	0.0684	65	0.1057	0.0724	68	6	71-129	35	X
	m,p-Xylenes	<0.0021	0.2115	0.1500	71	0.2115	0.1575	74	5	70-135	35	
	o-Xylene	<0.0011	0.1057	0.0746	71	0.1057	0.0772	73	3	71-133	35	

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

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

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

**Project Name: Penasco Compressor Station**

**Work Order # :** 356167

**Lab Batch ID:** 787268

**Date Analyzed:** 12/24/2009

**Reporting Units:** mg/kg

**Project ID:**

**QC- Sample ID:** 356167-001 S

**Batch #:** 1

**Matrix:** Soil

**Date Prepared:** 12/21/2009

**Analyst:** BEV

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW 8015B  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-C10 Gasoline Range Hydrocarbons	31.0	1080	1050	94	1090	1020	91	3	70-135	35
	C10-C28 Diesel Range Hydrocarbons	163	1080	777	57	1090	983	75	23	70-135	35

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

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

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



## Sample Duplicate Recovery



Project Name: Penasco Compressor Station

Work Order #: 356167

Lab Batch #: 786560

Date Analyzed: 12/21/2009

QC- Sample ID: 356111-035 D

Reporting Units: mg/kg

Project ID:

Date Prepared: 12/21/2009

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions in Soil By EPA 300.0	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	10.0	10.1	1	20	

Lab Batch #: 786482

Date Analyzed: 12/19/2009

QC- Sample ID: 356164-001 D

Reporting Units: %

Date Prepared: 12/19/2009

Analyst: JLG

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.80	8.84	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

# XENCO-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: Jennifer Knowlton Project Name: Penasco Compressor Station

Company Name: Agave Energy Company Project #: \_\_\_\_\_

Company Address: 105 South 4th Street Project Loc: Eddy County

City/State/Zip: Artesia, NM 88210 PO #: \_\_\_\_\_

Telephone No: 505-748-1471 Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: [Signature] e-mail: boba@yatespetroleum.com & jknowlton@yatespetroleum.com

(lab use only)		ORDER #:	FIELD CODE										Preservation & # of Containers										Matrix										Analyze For:										TCLP:		TOTAL:		Standard TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
LAB # (lab use only)			Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Portable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8280	RCI	N.O.R.M.	Chlorides																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</

Special Instructions: **TPH: 8015B, BTEX: 8021B & Chlorides. BTEX results in mg/kg. Thank you.**

Relinquished by: Robert Asher Date: 12/17/09 Time: 3:26 PM Received by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: Fedex Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: [Signature] Date: 12-18-09 Time: 10:30

Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s)? Custody seals on container(s)? Custody seals on cooler(s)? Sample Hand Delivered by Sampler/Client Rep.? by Courier? UPS DHL FedEx Lone Star Temperature Upon Receipt: 4.0 °C



# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Agave Energy  
 Date/ Time: 12-18-09 10:30  
 Lab ID #: 356167  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	4.6 °C
#2	Shipping container in good condition?	<u>Yes</u>	No	
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present
#5	Chain of Custody present?	<u>Yes</u>	No	
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No	
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No	
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No	
#11	Containers supplied by EL0T?	<u>Yes</u>	No	
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below
#13	Samples properly preserved?	<u>Yes</u>	No	See Below
#14	Sample bottles intact?	<u>Yes</u>	No	
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No	
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No	
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<del>Not Applicable</del>
#20	VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable

### Variance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Check all that Apply:

☐  
☐  
☐

See attached e-mail/ fax

Client understands and would like to proceed with analysis

Cooling process had begun shortly after sampling event