Leking, Geoffrey R, EMNRD

SVG sump

From: James C. Hunter, RG [jch@geolex.com]
Sent: Wednesday, August 17, 2011 4:34 PM
To: Leking, Geoffrey R, EMNRD
Cc: 'Slade, Rose'; aag@geolex.com
Subject: West Sump Remediation at Jal #3
Attachments: ConceptualRemediation.pdf

HOBBS OCD

AUG 17 2011

RECEIVED

Dear Mr. Leking:

Thank you for discussion with me regarding the proposed remediation at the Jal #3 West Sump area.

In today's meeting with Glenn von Gonten at the Santa Fe NMOCD office, we outlined the *in situ* remediation approach described in the attached Conceptual Remedial Design document.

Mr. von Gonten agreed that the approach was acceptable, and we will provide him with a more detailed proposal early next week. Mr. von Gonten suggested that we contact you and provide you with the conceptual design, and ask if you had any thoughts on soil amendments (fertilizers, etc.) and geotextile membranes to isolate the impacted soils.

Please contact me or Mr. Alberto Gutierrez at our office at 505-842-8000, or by replying to my email address (jch@geolex.com) if you have any questions or comments.

Thank you,

James C. Hunter, RG

Conceptual Remedial Design
West Sump Below Ground Tank, Jal #3 Gas Plant
Section 33, T24S, R37E, Lea County, New Mexico

August 17, 2011

On Behalf of:
Southern Union Gas Services, Ltd.
301 Commerce Street, Suite 700
Forth Worth, Texas 76102
Telephone: (817) 302-9400

Prepared By:
Geolex, Inc.
500 Marquette Avenue NE, Suite 1350
Albuquerque, New Mexico 87102
Telephone: (505) 842-8000

Southern Union Gas Services

GEOLEX INCORPORATED

1.0 BACKGROUND

In March 2011, pursuant to NMOCD approval of a workplan dated March 25, 2011, Southern Union Gas Services (SUGS) began to remove and retrofit several below grade wastewater sumps (BGWS) at their Jal #3 gas plant, located in Section 33, T24S, R37E in Lea County, New Mexico. The locations of those sumps are shown in Plate 1.

In June 2011, during the removal of the West Sump (Area 3 in Plate 1), staining was observed in soils adjacent to, and beneath the, removed, former BGWS. After removal, soil sampling and analyses confirmed the presence of hydrocarbon compounds in the soils. Corrective action was initiated, and the release was reported to NMOCD (Form C-141) on July 11, 2011 (Appendix A).

2.0 INVESTIGATIONS AND INITIAL REMEDIATION AT WEST SUMP AREA

The initial excavation to remove the former sump resulted in an excavation approximately 7 to 11 feet deep, and 10 by 15 feet in area. On June 7, 2011 soil samples were collected from areas where stained soils were observed. The results are included in Appendix B, and summarized in Table 1. These samples indicated elevated levels of total petroleum hydrocarbons (TPH) up to 18,200 mg/kg (sample 41-9095-002).

After review of the analytical data, SUGS excavated and removed approximately 50 cubic yards of contaminated soils from this area, and transported the soils to the Sundance Services' Parabo Facility in Eunice, New Mexico on July 11, 2011 (Appendix C).

Following the removal of contaminated soils, SUGS collected 5 additional samples from the bottom of the excavation. The results are summarized in Table 2 and the laboratory reports are attached in Appendix D. The post-excavation samples show significantly lower levels of TPH (average of 3060 mg/kg), indicating that the bulk of the hydrocarbon-contaminated soils were removed by the excavation. The vast majority (92.7%) of the average hydrocarbons are $C_{12} - C_{28}$ Diesel Range. Materials in this molecular weight range are significantly less mobile than hydrocarbons in the $C_6 - C_{12}$ Gasoline Range, which only represented 5.4% of the total.

As seen in Figure 1, the location of the former BGWS is tightly constrained by the Turbine Building (background), a scrubber (right of the excavation), and a 30-inch natural gas pipeline (foreground of the excavation). Figure 2 shows the extent of the excavation on June 7, prior to the remedial excavation.

Figure 3 shows the excavation after the removal of approximately 50 cubic yards of soils. The final excavation had an extent of approximately 20 by 11 feet, and a depth of 13 feet at its deepest point. Due the close proximity of the adjacent, active equipment and the instability of the soils, no further excavation is feasible or safe in this area.

3.0 PROPOSED FINAL REMEDIATION AND CLOSURE

3.1 Site Geology and Hydrogeology

The Jal #3 site is almost entirely covered by man-made or disturbed natural material overlying Holocene reddish brown dune sand, underlain by a hard caliche surface or calcareous silts which may be found in buried valleys or internally drained Quaternary playas. These Quaternary and Holocene deposits are

underlain by the discontinuous Ogallala Formation and the underlying Triassic redbeds of the Dockum Group (Nicholson & Clebsch, 1961).

The Ogallala aquifer is the principal source of potable water in the area. The depth to groundwater is approximately 200 feet below ground surface (Figure 4). The background total dissolved solids (TDS) concentration for groundwater in the area is approximately 2,200 mg/l.

A search of the New Mexico State Engineer's data base shows that there are no recorded groundwater wells within one mile of the Jal #3 plant.

3.2 Regulatory Issues

The BGWS in question was being retrofit (per 19.15.17.11 I(1-6) NMAC) and was operated under 19.15.17.12 (D) NMAC. This status was acknowledged by NMOCD in the approved plan provided to NMOCD on March 25, 2011. As described in that letter, if visual evidence of a release is detected, representative soil samples would be collected and analyzed according to 19.15.17.13 E (1-6) NMAC to determine if any impacts to the soils have been caused by previous operations, followed by documentation on Form C-141 if needed. As discussed in Section 2.0 above, sampling was conducted and the release was reported to NMOCD (Appendix A).

In the approved March 25 workplan, SUGS agreed to develop appropriate remediation plans for any released discovered during the BGWS retrofitting. Due to the site conditions documented in Section 2.0, SUGS believes that more extensive excavation in unsafe and is physically and technically infeasible (see 19.15.30.9 (E) NMAC). Therefore, no additional removal of residually impacted soils is possible.

3.3 Proposed Remediation

SUGS requests NMOCD approval to treat the remaining residual impacted soils *in situ*, using selected fertilizers and/or soil amendments to facilitate biological degradation of the hydrocarbons, and isolating the affected soils by means of an overlying impermeable barrier to prevent any downward infiltration of surface precipitation. Following the emplacement of the barrier, the replacement pre-fabricated double-wall sump/tank will be placed above the moisture barrier and the remaining excavation will be backfilled with compacted, clean fill. The location will be marked with permanent monuments to prevent any potential, unintentional future damage to the new sump or the moisture barrier.

This approach will be effective in preventing any further downward migration of the hydrocarbons, and will prevent the movement of any hydrocarbons to the underlying aquifer. This request is based on the following primary considerations:

- The bulk of the hydrocarbon-contaminated soils were removed by the excavation,
- The depth to groundwater is approximately 200 feet (see Figure 4),
- Very low soil moisture (5.1 to 19 percent; average 8.28 in deeper samples; Table 2),
- The relatively high molecular weight of the hydrocarbons (92.7% Diesel range; Table 2), which indicates low mobility, and
- The lack of groundwater receptors within one mile of the release.

If this approach is acceptable to NMOCD, SUGS will prepare a formal, detailed proposal for the remediation based on these concepts for NMOCD approval. SUGS will promptly implement the remediation following NMOCD's final approval.

TABLES

Table 1: Results of Soil Samples Collected on June 7, 2011			
ANALYSES	Sample 41-9095-001 (11 ft)	Sample 419095-002 (7 ft)	**NMOCD Standard**
Chloride (mg/Kg)	401	210	**250**
Percent Moisture (%)	19.1	7.88	**na**
C6-C12 Gasoline Range Hydrocarbons (mg/kg)	ND	2930	**na**
C12-C28 Diesel Range Hydrocarbons (mg/kg)	1390	14,700	**na**
C28-C35 Oil Range Hydrocarbons (mg/kg)	163	591	**na**
Total TPH (mg/kg)*	1550	18,200	**100**
Reporting Limit for Hydrocarbons (mg/kg)	17.4	163	**na**

			Table 2: Results of Soil Samples Collected on June 16, 2011				
ANALYSES	Sample 42095-001 (NW @ 12 ft)	Sample 42095-002 (EW @ 12 ft)	Sample 42095-003 (SW @ 12 ft)	Sample 42095-004 (WW @ 12 ft)	Sample 42095-005 (Floor @ 13 ft)	Average (Using Reporting Limit for ND's)	**NMOCD Standard**
Chloride (mg/Kg)	87	1440	1710	1270	68.2	914	**250**
Percent Moisture (%)	13.6	8.66	5.21	7.65	6.27	8.28	**na**
C6-C12 Gasoline Range Hydrocarbons (mg/kg)	ND	134	367	ND	156	167 (5.4% TPH)	**na**
C12-C28 Diesel Range Hydrocarbons (mg/kg)	344	2550	7100	1350	2850	2839 (92.7% TPH)	**na**
C28-C35 Oil Range Hydrocarbons (mg/kg)	38.3	164	125	ND	124	123 (4% TPH)	**na**
Total TPH (mg/kg)*	382	2850	7590	1350	3130	3060	**100**
Reporting Limit for Hydrocarbons (mg/kg)	17.4	81.7	78.7	162	80.2	na	**na**

* Total Petroleum Hydrocarbons (TPH) values rounded by Laboratory

FIGURES

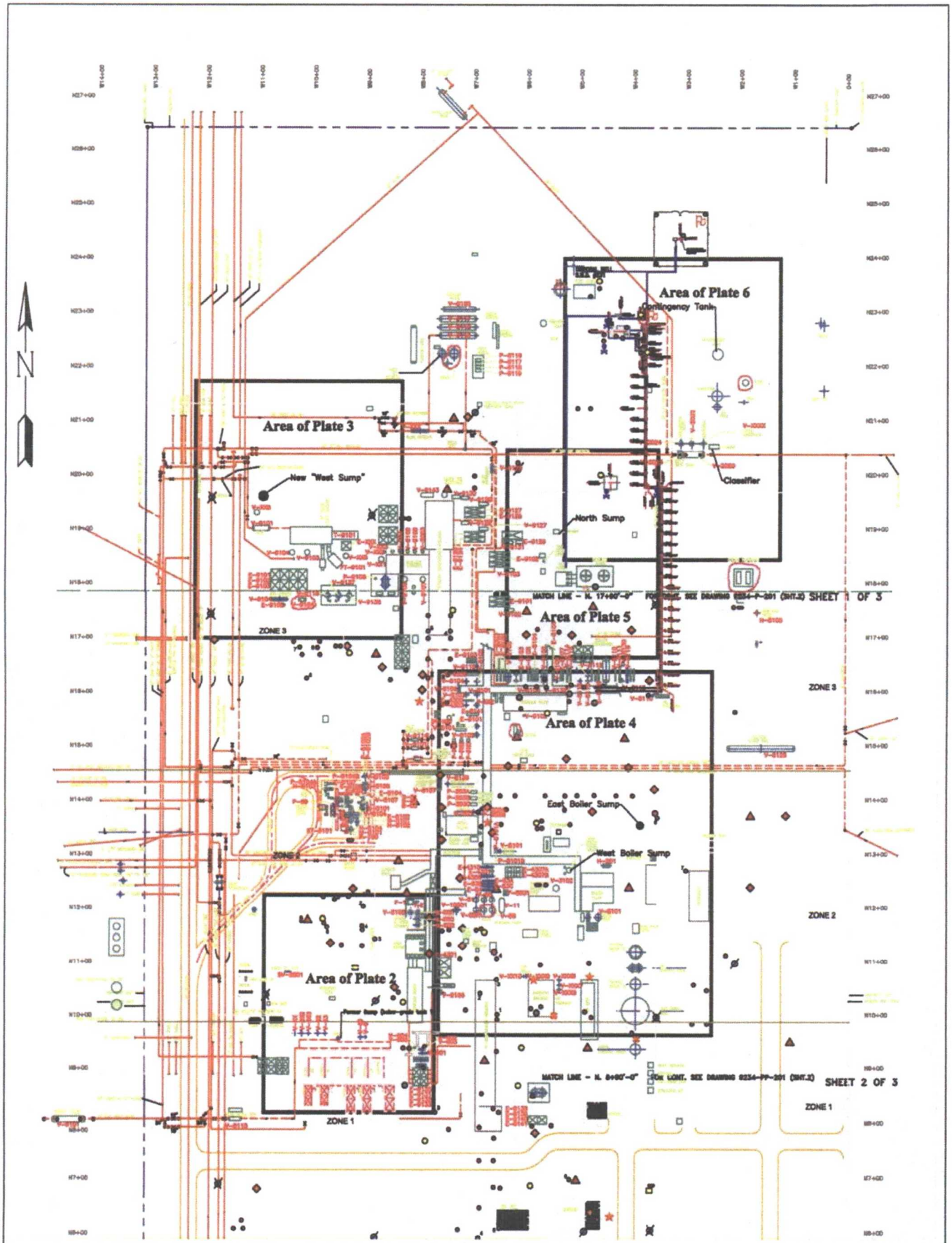

Plate 1:
General Facility Map and Locations of Plates 2-6

GEOLEX INCORPORATED

Southern Union Gas Services

Figure 1:
Jal #3 BGWS Removal of #1 Tank

Figure 2: Original Excavation on 7/7/2011

Figure 3: Final Excavation Extents, July 11, 2011
(Dimensions of the excavation
are: 20' wide x 21' length and 13 ' in depth)

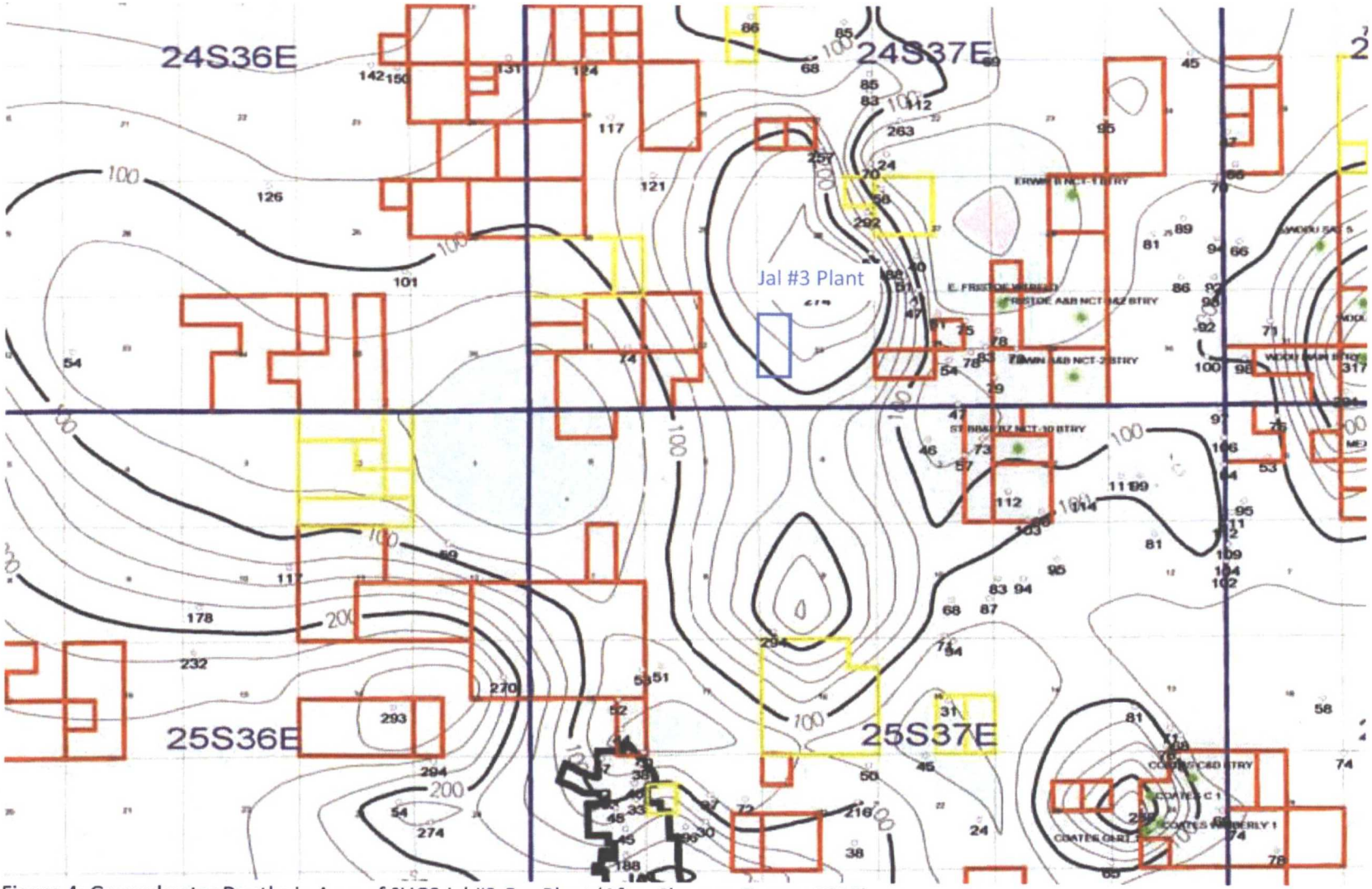

Figure 4: Groundwater Depths in Area of SUGS Jal #3 Gas Plant (After Chevron-Texaco 2005)

APPENDIX A:

Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Southern Union Gas Services	Contact: Rose Slade
Address : 801 South Loop 464 Monahans, TX 79756	Telephone No. 817-302-9716
Facility Name: Jal #3 Plant	Facility Type : Natural Gas Plant

Surface Owner: Lea Partners Ltd.	Mineral Owner:	Lease No. API #30-025-28822

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	33	24S	37E					Lea County

Latitude 32 10'27"N **Longitude** 103 10'27"W

NATURE OF RELEASE

Type of Release : Produced water/hydrocarbons	Volume of Release: Unknown	Volume Recovered: 0
Source of Release : Below ground tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: 6/13/2011 at 11:00 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
While removing a below ground tank at the Jal #3 plant corrosion around the bottom of the BGT was discovered. It appeared that leakage had occurred from the tank due to internal corrosion.

Describe Area Affected and Cleanup Action Taken.*
Approximately 50 cy of impacted soil was removed from underneath and around the BGT. The soil was transported to Sundance services for disposal. A high pressure hydro-vac was used to excavate around and under the BGT. Due to safety concerns of piping in the area of the plant we had to use this type of method. Once we reached around 13ft in depth we no longer could use the hydro-vac due to the hard rock surface. There are several pieces of equipment and piping in the area that causes safety concerns of the excavation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Rose L Slade	OIL CONSERVATION DIVISION	
Printed Name: Rosa L. Slade	Approved by District Supervisor:	
Title: EHS Compliance Specialist	Approval Date:	Expiration Date:
E-mail Address: rose.slade@sug.com	Conditions of Approval:	Attached ☐
Date: 7/11/2011 Phone: 432-940-5147		

* Attach Additional Sheets If Necessary

APPENDIX B:

Soil Analyses for June 7, 2011

Analytical Report 419095

for

Southern Union Gas Services- Monahans

Project Manager: Rose Slade

Jal #3 Plant GE Sump Removal

10-JUN-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

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

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

10-JUN-11

Project Manager: **Rose Slade**
Southern Union Gas Services- Monahans
1507 W. 15th Street
Monahans, TX 79756

Reference: XENCO Report No: **419095**
Jal #3 Plant GE Sump Removal
Project Address: Jal, NM

Rose Slade:

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 419095. 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. 419095 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 419095

Southern Union Gas Services- Monahans, Monahans, TX

Jal #3 Plant GE Sump Removal

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor @ 11 Feet bgs	S	Jun-07-11 16:05		419095-001
Floor @ 7 Feet bgs	S	Jun-07-11 16:00		419095-002

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Jal #3 Plant GE Sump Removal

Project ID:
Work Order Number: 419095

Report Date: 10-JUN-11
Date Received: 06/08/2011

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-859265 TPH By SW8015 Mod
Batch 859265

RPD outside QC limits for C28-C35 between sample and sample duplicate. Samples affected are: 419095:001-002

Certificate of Analysis Summary 419095

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Jal #3 Plant GE Sump Removal

Project Id:
Contact: Rose Slade
Project Location: Jal, NM

Date Received in Lab: Wed Jun-08-11 08:05 am
Report Date: 10-JUN-11
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	419095-001		419095-002					
	Field Id:	Floor @ 11 Feet bgs		Floor @ 7 Feet bgs					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jun-07-11 16:05		Jun-07-11 16:00					
Anions by E300	*Extracted:*								
	Analyzed:	Jun-08-11 11:30		Jun-08-11 11:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		401	20.8	210	22.8				
Percent Moisture	*Extracted:*								
	Analyzed:	Jun-08-11 17:00		Jun-08-11 17:00					
	Units/RL:	%	RL	%	RL				
Percent Moisture		19.1	1.00	7.88	1.00				
TPH By SW8015 Mod	*Extracted:*	Jun-08-11 09:45		Jun-08-11 09:45					
	Analyzed:	Jun-08-11 13:31		Jun-08-11 13:59					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	92.7	2930	163				
C12-C28 Diesel Range Hydrocarbons		1390	92.7	14700	163				
C28-C35 Oil Range Hydrocarbons		163	92.7	591	163				
Total TPH		1550	92.7	18200	163				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

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

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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Form 2 - Surrogate Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Orders : 419095, **Project ID:**

Lab Batch #: 859265 **Sample:** 604688-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/08/11 12:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 859265 **Sample:** 604688-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/08/11 12:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	47.3	50.2	94	70-135	

Lab Batch #: 859265 **Sample:** 604688-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/08/11 13:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.7	50.1	101	70-135	

Lab Batch #: 859265 **Sample:** 419095-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/08/11 13:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	53.4	50.0	107	70-135	

Lab Batch #: 859265 **Sample:** 419095-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/08/11 13:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	36.3	50.1	72	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Orders : 419095,

Project ID:

Lab Batch #: 859265 **Sample:** 419095-001 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/08/11 14:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 419095 **Project ID:**

Analyst: LATCOR **Date Prepared:** 06/08/2011 **Date Analyzed:** 06/08/2011

Lab Batch ID: 859262 **Sample:** 859262-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	10.1	101	10.0	10.3	103	2	75-125	20	

Analyst: BEV **Date Prepared:** 06/08/2011 **Date Analyzed:** 06/08/2011

Lab Batch ID: 859265 **Sample:** 604688-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	771	77	1000	763	76	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	756	76	1000	777	78	3	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 419095
Lab Batch #: 859262
Project ID:
Date Analyzed: 06/08/2011
Date Prepared: 06/08/2011
Analyst: LATCOR
QC- Sample ID: 419095-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	401	494	943	110	75-125	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 419095

Lab Batch #: 859262 **Project ID:**
Date Analyzed: 06/08/2011 11:30 **Date Prepared:** 06/08/2011 **Analyst:** LATCOR
QC- Sample ID: 419095-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	401	357	12	20	

Lab Batch #: 859257
Date Analyzed: 06/08/2011 17:00 **Date Prepared:** 06/08/2011 **Analyst:** LATCOR
QC- Sample ID: 419095-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	19.1	20.7	8	20	

Lab Batch #: 859265
Date Analyzed: 06/08/2011 14:28 **Date Prepared:** 06/08/2011 **Analyst:** BEV
QC- Sample ID: 419095-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

TPH By SW8015 Mod Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<92.7	<92.7	0	35	
C12-C28 Diesel Range Hydrocarbons	1390	1360	2	35	
C28-C35 Oil Range Hydrocarbons	163	251	43	35	F

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

Final 1.000

Environmental Lab of Texas

A Xenco Laboratories Company

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: Rose Slade Page 1 of 1

Company Name: Southern Union Gas Services

Company Address: 801 Loop 464

City/State/Zip: Monahans, Texas 79756

Telephone No: 432-940-5147 Fax No:

Sampler Signature:

e-mail: rose.slade@sug.com

Project Name: Jal #3 Plant GE Sump Removal

Project #:

Project Loc: Jal, NM

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 419095

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride E.300		HOLD	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	Floor @ 11 feet bgs	-	-	6/7/2011	1605		1	X								Soil	X											X			X	
	Floor @ 7 feet bgs	-	-	6/7/2011	1600		1	X								Soil	X											X			X	

Special Instructions:

Please HOLD for BTEX analysis

Please Call with Verbal

Relinquished by:	Date	Time	Received by:	Date	Time
	6/8/11	0805			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jeanne Fitch	Date 06-08-11	Time 0805

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N as label
Custody seals on cooler(s)	Y	N N/A
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 4.6 °C

XENCO Laboratories

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

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Southern Union Gas
Date/Time: 06-08-11 @ 0805
Lab ID #: 419095
Initials: JMF

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	Cold
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	as label
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	4.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

APPENDIX C:

Excavated Soil Manifest

TRANSPORTER'S MANIFEST

MANIFEST# 1

Southern Union Gas, Jal #3

SHIPPING FACILITY NAME & ADDRESS: LOCATION OF MATERIAL:

MERRYman Const.
TRANSPORTER NAME & ADDRESS:

Oily DirT
DESCRIPTION OF WASTE:

QUANTITY:
50 yards

Johnny Ladone
Facility Contact:

Date: 7-1-11 Signature of Contact:

Harry Reeves
NAME OF TRANSPORTER: (Driver)

Date: 7-1-11 Signature of Driver: Harry Reeves

Sundance Services
DISPOSAL SITE:

SUNDANCE SERVICES, INC.
PARABO FACILITY
P.O. BOX 1737
EUNICE, NM 88231

Date: 7-1-2011 Signature of Representative: Connie Romero

APPENDIX D:

Soil Analyses for June 16, 2011

Analytical Report 420295

for

Southern Union Gas Services- Monahans

Project Manager: Rose Slade

Jal #3 Plant GE Sump Removal

20-JUN-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

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

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

XENCO Laboratories

20-JUN-11

Project Manager: **Rose Slade**
Southern Union Gas Services- Monahans
1507 W. 15th Street
Monahans, TX 79756

Reference: XENCO Report No: **420295**
Jal #3 Plant GE Sump Removal
Project Address: Jal, NM

Rose Slade:

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 420295. 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. 420295 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 420295

Southern Union Gas Services- Monahans, Monahans, TX

Jal #3 Plant GE Sump Removal

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NW @ 12' bgs	S	Jun-16-11 14:00		420295-001
EW @ 12' bgs	S	Jun-16-11 14:05		420295-002
SW @ 12' bgs	S	Jun-16-11 14:10		420295-003
WW @ 12' bgs	S	Jun-16-11 14:15		420295-004
Floor @ 13' bgs	S	Jun-16-11 14:20		420295-005

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Jal #3 Plant GE Sump Removal

Project ID:
Work Order Number: 420295

Report Date: 20-JUN-11
Date Received: 06/17/2011

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 420295

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Jal #3 Plant GE Sump Removal

Project Id:
Contact: Rose Slade
Project Location: Jal, NM

Date Received in Lab: Fri Jun-17-11 09:40 am
Report Date: 20-JUN-11
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	420295-001		420295-002		420295-003		420295-004		420295-005	
	Field Id:	NW @ 12' bgs		EW @ 12' bgs		SW @ 12' bgs		WW @ 12' bgs		Floor @ 13' bgs	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-16-11 14:00		Jun-16-11 14:05		Jun-16-11 14:10		Jun-16-11 14:15		Jun-16-11 14:20	
Anions by E300	*Extracted:*										
	Analyzed:	Jun-17-11 14:47		Jun-17-11 14:47		Jun-17-11 14:47		Jun-17-11 14:47		Jun-17-11 14:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		87.0	9.72	1440	46.0	1710	44.3	1270	22.7	68.2	8.96
Percent Moisture	*Extracted:*										
	Analyzed:	Jun-20-11 15:00		Jun-20-11 15:00		Jun-20-11 15:00		Jun-20-11 15:00		Jun-20-11 15:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		13.6	1.00	8.66	1.00	5.21	1.00	7.65	1.00	6.27	1.00
TPH By SW8015 Mod	*Extracted:*	Jun-17-11 12:00		Jun-17-11 12:00		Jun-17-11 12:00		Jun-17-11 12:00		Jun-17-11 12:00	
	Analyzed:	Jun-18-11 22:01		Jun-18-11 22:30		Jun-18-11 22:58		Jun-18-11 23:27		Jun-18-11 23:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.4	134	81.7	367	78.7	ND	162	156	80.2
C12-C28 Diesel Range Hydrocarbons		344	17.4	2550	81.7	7100	78.7	1350	162	2850	80.2
C28-C35 Oil Range Hydrocarbons		38.3	17.4	164	81.7	125	78.7	ND	162	124	80.2
Total TPH		382	17.4	2850	81.7	7590	78.7	1350	162	3130	80.2

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

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

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Orders : 420295,

Project ID:

Lab Batch #: 860694 **Sample:** 605508-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/18/11 20:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	48.6	50.2	97	70-135	

Lab Batch #: 860694 **Sample:** 605508-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/18/11 21:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.9	105	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

Lab Batch #: 860694 **Sample:** 605508-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/18/11 21:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.6	100	92	70-135	
o-Terphenyl	52.7	50.2	105	70-135	

Lab Batch #: 860694 **Sample:** 420295-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/18/11 22:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	51.2	50.2	102	70-135	

Lab Batch #: 860694 **Sample:** 420295-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/18/11 22:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.5	91	70-135	
o-Terphenyl	52.4	49.8	105	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Orders : 420295,

Project ID:

Lab Batch #: 860694 **Sample:** 420295-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/18/11 22:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	99.5	94	70-135	
o-Terphenyl	60.7	49.8	122	70-135	

Lab Batch #: 860694 **Sample:** 420295-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/18/11 23:27

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	99.8	98	70-135	
o-Terphenyl	56.0	49.9	112	70-135	

Lab Batch #: 860694 **Sample:** 420295-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/18/11 23:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	64.5	50.1	129	70-135	

Lab Batch #: 860694 **Sample:** 420033-003 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/19/11 08:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	56.8	49.9	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.

BS / BSD Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 420295 **Project ID:**

Analyst: LATCOR **Date Prepared:** 06/17/2011 **Date Analyzed:** 06/17/2011

Lab Batch ID: 860622 **Sample:** 860622-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Chloride	<0.420	10.0	9.72	97	10.0	10.8	108	11	75-125	20	

Analyst: BEV **Date Prepared:** 06/17/2011 **Date Analyzed:** 06/18/2011

Lab Batch ID: 860694 **Sample:** 605508-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	835	84	999	848	85	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	844	84	999	852	85	1	70-135	35	

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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 420295
Lab Batch #: 860622
Project ID:
Date Analyzed: 06/17/2011
Date Prepared: 06/17/2011
Analyst: LATCOR
QC- Sample ID: 420040-004 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	14.9	101	136	120	75-125	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Jal #3 Plant GE Sump Removal

Work Order #: 420295

Lab Batch #: 860622 **Project ID:**
Date Analyzed: 06/17/2011 14:47 **Date Prepared:** 06/17/2011 **Analyst:** LATCOR
QC- Sample ID: 420040-004 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	14.9	14.9	0	20	

Lab Batch #: 860694
Date Analyzed: 06/19/2011 08:17 **Date Prepared:** 06/17/2011 **Analyst:** BEV
QC- Sample ID: 420033-003 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

TPH By SW8015 Mod Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.1	<15.1	0	35	
C12-C28 Diesel Range Hydrocarbons	212	259	20	35	
C28-C35 Oil Range Hydrocarbons	25.5	22.8	11	35	

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

Final 1.000

Environmental Lab of Texas

A Xenco Laboratories Company

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: Rose Slade Page 1 of 1

Company Name: Southern Union Gas Services

Company Address: 801 Loop 464

City/State/Zip: Monahans, Texas 79756

Telephone No: 432-940-5147 Fax No:

Sampler Signature:

Project Name: Jal #3 Plant GE Sump Removal

Project #:

Project Loc: Jal, NM

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

e-mail: rose.slade@sug.com

(lab use only)

ORDER #: 420295

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 / 8015M	TOTAL: TPH: 8015B / TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride E.300	HOLD	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
001	NW @ 12' bgs	-	-	6/16/2011	1400		1	X								Soil	X											X		X	
002	EW @ 12' bgs	-	-	6/16/2011	1405		1	X								Soil	X											X		X	
003	SW @ 12' bgs	-	-	6/16/2011	1410		1	X								Soil	X											X		X	
004	WW @ 12' bgs	-	-	6/16/2011	1415		1	X								Soil	X											X		X	
005	Floor @ 13' bgs	-	-	6/16/2011	1420		1	X								Soil	X											X		X	

Special Instructions:

Please HOLD for BTEX analysis
Please Call with Verbal

Relinquished by:	Date	Time	Received by:	Date	Time
	6/17/11	0940			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Lisa Murdock	6-17-11	9:40

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	NA
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.0 c/c 3.6 °C

XENCO Laboratories

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

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Southern Union Gas
Date/Time: 6-17-11 9:40
Lab ID # : 420295
Initials: LM

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	(No)	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis