

### **REMEDIATION SUMMARY**

### AND SITE

### **CLOSURE REQUEST**

DCP Midstream, L.P. Loco Hills Gathering Release Eddy County, New Mexico UNIT LTRS "F" and "L", Section 3, Township 17 South, Range 29 East Latitude 32.86394° North, Longitude 104.06673° West



Prepared For:

**DCP MIDSTREAM, L.P.** 10 Desta Drive Suite 400 West

Midland, Texas 79705



Prepared By:

NOVA Safety & Environmental 2057 Commerce Midland, Texas 79703

Camille L Bryan Project Manager

October 2011

Brittan K. Byerly, P.G President

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#### **1.0 INTRODUCTION**

Nova Safety & Environmental (NOVA), on behalf of DCP Midstream, L.P. (DCP), has prepared this Remediation Summary and Site Closure Request for the release site known as the Loco Hills Gathering. The legal description of the release site is Unit Letters "F" and "L", Section 3, Township 17 South, Range 29 East, in Eddy County, New Mexico. The property affected by the release is owned by United States Department of the Interior Bureau of Land Management (BLM) and the State of New Mexico and is administered by the New Mexico State Land Office (ROE permit #2052). An Archaeological Survey was conducted by Boone Arch Services of New Mexico, LLC, located at 506 E. Chapman, Carlsbad, New Mexico. The survey indicated an existing archaeological site is located outside the release site boundary. Due to the site being located in close proximity to an archaeological site, a Boone Arch Services representative was present during excavation and backfilling activities to ensure no encroachment was made. A copy of the Archaeological Survey is provided as Appendix A. The site latitude is 32.86394° North, and the longitude is 104.06673° West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site Details Schematic and Confirmation Soil Sample Locations Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix D.

On June 3, 2011, DCP discovered a crude oil release had occurred from an eight (8) inch DCP pipeline. The cause of the release was attributed to internal/external corrosion and was reported to the New Mexico Oil Conservation Division (NMOCD) on June 6, 2011. The release was also reported to the BLM and NMSLO. DCP submitted a Release Notification and Corrective Action (Form C-141) to the NMOCD Artesia District Office on June 8, 2011. The C-141 indicated approximately sixteen (16) barrels of crude oil was released and approximately eleven (11) barrels were recovered.

#### 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database did not identify the average depth to groundwater information for Section 3, Township 17 South, Range 29 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately 100 feet below ground surface (bgs). The depth to groundwater at the Loco Hills Gathering Release Site results in a score of ten (10) points being assigned to the site based on the NMOCD depth to groundwater criteria.

The water well database, maintained by the NMOSE, indicated there are no water wells less than 1,000 feet from the release, resulting in zero (0) points being assigned to this site as a result of this criteria.

There are no surface water bodies located within 1,000 feet of the site. Based on the NMOCD ranking system zero (0) points will be assigned to the site as a result of the criteria.

The NMOCD guidelines indicate the Loco Hills Gathering Release Site has a ranking score of ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

• Benzene – 10 milligrams per kilogram (mg/Kg) aka parts per million (ppm)

- BTEX 50 mg/Kg (ppm)
- TPH 1,000 mg/Kg (ppm)

#### 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On June 15, 2011, NOVA, at the request of DCP, commenced excavation activities at the site. Impacted soil was excavated from the release point and continued along the flow path for approximately five hundred (500) feet to the south southwest. Excavated soil was stockpiled onsite on a plastic liner to mitigate the leaching potential of contaminants. The final dimensions of the excavation were approximately five hundred thirty-nine (539) feet in length, ranging in width from approximately two (2) feet to approximately fifty-two (52) feet, and ranging in depth from approximately one (1) foot to approximately eight (8) feet bgs. Please reference Figure 2, for site details and soil sample locations.

On June 22, 2011, approximately forty (40) cubic yards of heavily impacted soil was transported to Controlled Recovery, Inc. (NMOCD permit # R9166) for disposal. Manifests documenting soil disposal are provided as Appendix C.

On June 22, 2011, seventeen (17) soil samples (South S/W-1 @ 1', South S/W-2 @ 4', Floor-1 @ 1', Floor-2 @ 2', East S/W-1 @ 1.5', West S/W-1 @ 1.5', Floor-3 @ 1', Floor-4 @ 1', Floor-5 @ 7', North S/W-1 @ 6', West S/W-2 @ 6', South S/W-3 @ 6', Floor-6 @ 2', West S/W-3 @ 1.5', East S/W-3 @ 1.5', and Floor-7 @ 1') were collected from the excavation. Please reference Figure 2 for sample locations. The soil samples were submitted to the laboratory for determination of concentrations of total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl-benzene, and xylene (BTEX) using EPA method SW8015M and SW 846-8021b, respectively. Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory method detection limit (MDL) of 0.001 mg/Kg for soil samples Floor-1 @ 1', Floor-2 @ 2', East S/W-1 @ 1.5', West S/W-1 @ 1.5', Floor-3 @ 1', Floor-4 @ 1', Floor-5 @ 7', North S/W-1 @ 6', West S/W-2 @ 6', West S/W-3 @ 1.5', East S/W-3 @ 1.5', and Floor-7 @ 1' to 0.0119 mg/Kg for soil sample South S/W-3 @ 6'. BTEX concentrations ranged from less than the laboratory MDL of 0.0021 mg/Kg for soil samples West S/W-2 @ 6' and Floor-7 @ 1' to 1.67 mg/Kg for soil sample South S/W-2 @ 4'. TPH concentrations ranged from less than the appropriate laboratory MDL for soil samples North S/W-1 @ 6', West S/W-2 @ 6', South S/W-3 @ 6', and Floor-7 @ 1' to 584 mg/Kg for soil sample Floor-4 @ 1'. A review of the analytical results indicated benzene, BTEX and TPH concentrations were less than the NMOCD regulatory guidelines for all submitted soil samples. Table 1 summarizes the Concentrations of Benzene, BTEX and TPH in Soil. Laboratory analytical reports are provided as Appendix B.

On June 24, 2011 six (6) soil samples (North S/W-2 @ 3', North S/W-3 @ 8', West S/W-4 @ 8', East S/W-4 @ 8', South S/W-4 @ 6', and R.P. Floor @ 8') were collected from the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples South S/W-4 @ 6' and R.P. Floor @ 8' to 0.0171 mg/Kg for soil sample North S/W-3 @ 8'. BTEX concentrations ranged from less than the laboratory MDL of 0.0021 mg/Kg for soil sample South S/W-4 @ 6' to 0.578 mg/Kg for soil sample West S/W-4 @ 8'. TPH concentrations ranged from 18.5 mg/Kg for soil sample R.P. Floor @ 8' to 1,160 mg/Kg for soil sample West S/W-4 @ 8'.

A review of analytical results indicated benzene and BTEX concentrations were less than NMOCD regulatory guidelines for all submitted soil samples. TPH concentrations were less than NMOCD regulatory standards in all submitted soil samples with the exception of soil samples West S/W-4 @ 8' and East S/W-4 @ 8', which exhibited TPH concentrations of 1,160 mg/Kg and 1,090 mg/Kg, respectively. Please reference Figure 2 for soil sample locations.

On July 1, 2011, three (3) soil samples (SP-1, SP-2, and SP-3) were collected from the stockpiled soil and submitted to the laboratory for TPH analysis. Laboratory analytical results indicated TPH concentrations ranged from 1,750 mg/Kg for soil sample SP-1 to 1,860 mg/Kg for soil sample SP-2. Based on the laboratory analytical results the stockpiled soil required additional blending and mixing. Non-impacted soil excavated during remediation activities was utilized to blend with the stockpiled soil.

On July 5, 2011, additional excavation was conducted in the areas of soil samples East S/W-4A @ 8' and West S/W-4A @ 8'. The excavated soil was stockpiled and blended with the previously excavated soil.

On July 7, 2011, two (2) soil samples (East S/W-4A @ 8' and West S/W-4A @ 8') were collected from the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene concentrations of less than the laboratory MDL of 0.001 mg/Kg for soil sample West S/W-4A @ 8' and 0.00136 mg/Kg for soil sample East S/W-4A @ 8'. Analytical results indicated BTEX concentrations of less than the laboratory MDL of 0.0021 mg/Kg for soil sample West S/W-4A @ 8' and 0.150 mg/Kg for soil sample East S/W-4A @ 8'. TPH concentrations were 198 mg/Kg for soil sample East S/W-4A @ 8' and 139 mg/Kg for soil sample West S/W-4A @ 8'. A review of laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than NMOCD regulatory guidelines for both soil samples (Table 1).

On July 7, 2011, the stockpiled soil was subdivided into seven (7) discreet stockpiles. One (1) composite soil sample was collected from each stockpile, resulting in seven (7) composite soil samples, identified as SP-1 through SP-7. Each sample represented approximately 250 cubic yards of remediated soil. The soil samples were submitted to the laboratory for TPH and BTEX analysis. Laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory MDL for all the submitted soil samples with the exception of soil sample SP-2A, which exhibited a benzene concentration of 0.00115 mg/Kg. BTEX concentrations ranged from 0.0621 mg/Kg for soil sample SP-7 to 0.201 mg/Kg for soil sample SP-1A. A review of laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than NMOCD regulatory guidelines for all the submitted soil samples with the exception of 1,590 mg/Kg (Table 1).

On July 21, 2011, a NOVA representative met with an NMOCD Artesia District Office representative to present the results of the soil sampling event and request permission to backfill the excavation. The NMOCD representative requested DCP blend the stockpiled soil represented by soil sample SP-1A and resample the soil. Upon receipt of laboratory analytical results indicating the soil sample exhibited TPH concentrations less than NMOCD guidelines of 1,000 mg/Kg, the stockpiled soil could be utilized as backfill material.

On September 6, 2011, Nova resumed activities at the Loco Hill Gathering Release Site. Based on analytical results of the soil sample collected on July 7, 2011, the soil contained in the stockpile represented by soil sample SP-1A required additional blending and resampling. After additional mixing and blending activities were conducted on the stockpiled material represented by soil sample SP-1A, a composite soil sample SP-1B was collected from the remediated soil on September 7, 2011, and submitted to the laboratory for TPH analysis. Laboratory analytical results indicated a TPH concentration of 1,730 mg/Kg for soil sample SP-1B (Table 1).

The analytical results of the soil sample collected on September 7, 2011, indicated the soil contained in the stockpile represented by soil sample SP-1B required additional blending and resampling. After additional mixing and blending activities were conducted on the stockpiled material represented by soil sample SP-1B, a composite soil sample SP-1C was collected from the remediated soil on September 9, 2011, and submitted to the laboratory for TPH analysis. Laboratory analytical results indicated a TPH concentration of 49.2 mg/Kg for soil sample SP-1C (Table 1).

Based on laboratory analytical results and NMOCD approval, the excavation was backfilled and water compacted with the remediated stockpiled soil. On completion of backfilling activities the impacted area was contoured to fit the surrounding topography. On September 19, 2011, the site was reseeded with BLM #2 and BLM #3 seed mixture.

#### 4.0 QA/QC PROCEDURES

#### 4.1 Soil Sampling

Soil Samples were delivered to Xenco Laboratories, Inc., of Odessa, Texas for BTEX and/or TPH analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

#### 4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

#### 4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-ofcustody (COC) form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

#### 5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples, NOVA recommends DCP provide the NMOCD a copy of this Remediation Summary and Site Closure Request and request the NMOCD grant closure to the Loco Hills Gathering Release Site.

#### 6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

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

This report has been prepared for the benefit of DCP Midstream, L.P. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA Safety and Environmental and/or DCP Midstream, L.P.

#### 7.0 **DISTRIBUTION:**

- Copy 1: Mike Bratcher New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 2) 811 South 1<sup>St</sup> Street Artesia, New Mexico 88210
- Copy 2-4: Jon Bebbington DCP Midstream, L.P. 10 Desta Drive, Suite 400 West Midland, Texas 79705
- Copy 5: Paul Evans United States Department of the Interior Bureau of Land Management 620 E. Greene Street Carlsbad, New Mexico 88220
- Copy 6: Andrew Kraemer New Mexico State Land Office 602 North Canal, Suite B Carlsbad, New Mexico 88220
- Copy 7: Nova Safety & Environmental 2057 Commerce Street Midland, Texas 79703

# FIGURES





## TABLES

#### TABLE 1

#### CONCENTRATIONS OF BENZENE, BTEX ANDTPH IN SOIL

#### DCP MIDSTREAM, L.P. LOCO HILLS GATHERING SYSTEM EDDY COUNTY, NEW MEXICO

METHODS: SW 846-8021b		METHOD: SW 8015M									
SAMPLE LOCATION	SAMPLE DATE	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o- Xylene	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>28</sub>	TPH ORO C <sub>28</sub> -C <sub>35</sub>	TOTAL TPH C6-C35
South S/W-1 @ 1'	06/22/11	0.00243	0.0779	0.141	0.216	0.0928	0.530	41.4	350	<15.2	391
South S/W-2 @ 4'	06/22/11	0.00798	0.175	0.696	0.566	0.222	1.67	28.4	<15.1	<15.1	28.4
Floor-1 @ 1'	06/22/11	< 0.001	0.00425	0.00328	0.00360	0.00393	0.0151	<15.1	482	46.1	528
Floor-2 @ 2'	06/22/11	< 0.001	< 0.002	0.00212	0.00285	0.00123	0.00620	<u>&lt;15.2</u>	379	18.1	397
East S/W-1 @ 1.5'	06/22/11	< 0.001	< 0.002	0.00136	0.00249	0.00187	0.00572	<15.3	25.1	<15.3	25.1
West S/W-1 @ 1.5'	06/22/11	< 0.001	< 0.002	< 0.001	< 0.002	0.00171	0.00171	<15.0	130	<15.0	130
Floor-3 @ 1'	06/22/11	< 0.001	< 0.002	0.00105	0.00805	0.00933	0.0184	<75.3	228	<75.3	228
Floor-4 @ 1'	06/22/11	< 0.001	0.00895	0.0189	0.0256	0.0164	0.0699	<75.5	584	<75.5	584
Floor-5 @ 7'	06/22/11	< 0.001	<0.0021	0.0013	< 0.021	< 0.001	0.0013	<15.6	28.1	<15.6	28.1
North S/W-1 @ 6'	06/22/11	< 0.001	0.00315	0.00375	0.00502	0.00350	0.0154	<15.2	<15.2	<15.2	<15.2
West S/W-2 @, 6'	06/22/11	< 0.001	< 0.0021	< 0.001	< 0.0021	< 0.001	< 0.0021	<15.6	<15.6	<15.6	<15.6
East S/W-2 @ 6'	06/22/11	0.00188	0.0152	0.0162	0.0208	0.00769	0.0618	<15.6	16.2	<15.6	16.2
South S/W-3 @, 6'	06/22/11	0.0119	0.0849	0.0706	0.116	0.044	0.327	<15.1	<15.1	<15.1	<15.1
Floor-6 @ 2'	06/22/11	0.00136	< 0.0021	< 0.001	< 0.0021	< 0.001	0.00136	<15.2	192	<15.2	192
West S/W-3 @ 1.5'	06/22/11	<0.001	0.00311	0.00492	0.0085	0.00418	0.0207	<15.4	26.5	<15.4	26.5
East S/W-3 @ 1.5'	06/22/11	< 0.001	< 0.0021	0.00171	0.00368	< 0.001	0.00539	<15.5	19.3	<15.5	19.3
Floor-7 @ 1'	06/22/11	<0.001	< 0.0021	< 0.001	< 0.0021	< 0.001	< 0.0021	<15.7	<15.7	<15.7	<15.7
North S/W-2 @ 3'	06/24/11	0.00114	0.0105	0.0119	0.0200	0.00829	0.0518	<15.8	21.6	<15.8	21.6
North S/W-3 @ 8'	06/24/11	0.0171	0.0807	0.0643	0.0775	0.0259	0.266	<15.5	36.1	<15.5	36.1
West S/W-4 @ 8'	06/24/11	0.0111	0.12	0.125	0.228	0.094	0.578	64.8	1.100	<15.7	1.160
East S/W-4 @ 8'	06/24/11	0.0016	0.0135	0.0144	0.0206	0.00946	0.0596	36.8	1.020	34.4	1.090
South S/W-4 @ 6'	06/24/11	< 0.0011	< 0.0021	< 0.0011	< 0.0021	< 0.0011	<0.0021	<15.9	51.3	<15.9	51.3
R.P. Floor @ 8'	06/24/11	< 0.001	0.00393	0.00864	0.0147	0.00555	0.0328	<15.7	18.5	<15.7	18.5
	07/01/11	-	-		-	-	-	169	1,560	20.6	1.750
SP-2	07/01/11		-	-	-	-		219	1,640	<15.4	1.860
SP-3	07/01/11	-				-		213	1.610	20.8	1.840
East S/W-4A @ 8'	07/07/11	0.00136	0.00927	0.0270	0.0695	0.0428	0.150	34.7	163	<15.0	198
West S/W-4A @ 8'	07/07/11	< 0.001	< 0.0021	< 0.001	< 0.0021	< 0.001	< 0.0021	<15.5	139	<15.5	139
SP-1A	07/07/11	< 0.001	0.0126	0.0435	0.0830	0.0497	0.189	115	1,470	<15.1	1.590
SP-2A	07/07/11	0.00115	0.00731	0.0294	0.0568	0.0350	0.130	55.1	651	<15.1	706
SP-3A	07/07/11	< 0.001	0.00648	0.0269	0.0529	0.0324	0.119	72.5	777	22.6	872 Page 1 o

All concentrations are reported in mg/Kg

#### TABLE 1

#### CONCENTRATIONS OF BENZENE, BTEX ANDTPH IN SOIL

#### DCP MIDSTREAM, L.P. LOCO HILLS GATHERING SYSTEM EDDY COUNTY, NEW MEXICO

	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M			
SAMPLE LOCATION		BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - Xylene	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>28</sub>	TPH ORO C <sub>28</sub> -C <sub>35</sub> _	TOTAL TPH C6-C35
SP-4	07/07/11	< 0.001	0.0101	0.0341	0.0619	0.0352	0.141	54.6	719	23	797
SP-5	07/07/11	< 0.001	0.0145	0.0491	0.0868	0.0508	0.201	59	705	20.6	785
SP-6	07/07/11	< 0.001	0.00566	0.0168	0.0315	0.0202	0.0742	36.5	409	19.8	465
SP-7	07/07/11	< 0.00099	0.00549	0.0144	0.0265	0.0157	0.0621	25.9	300	<15.1	326
SP-1B	09/07/11	-	-	-	-	-	-	115	1470	147	1,730
SP-1C	09/09/11	-	-	-	-	-	-	<15.2	29.1	20.1	49.2

#### All concentrations are reported in mg/Kg

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APPENDICES

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## APPENDIX A: Archaeological Survey

## NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.:	2a. Lead Agency:	2b. Other Agency(ie	:s):	3. Lead A	gency R	eport No.:
122034	US Bureau of Land Management Carlsbad Field Office	New Mexico State T	rust Lands			
4. Title of Report	• •				5. Туре с	of Report
Monitoring of a D	CP Midstream Oil Spill Clean-up in T*	17S R29E Section 3.		1	Negati	ve
				Ĭ	Positiv	'e
Author(s)					area	
Rebecca L. Hill						
6. Investigation 1	Гуре	in an				
Research Desi	gnArchaeological Survey/Invent	tory Architectural Surv	ey/Inventory	Test Exca	vation	Excavation
Collections/Nor	n-Field Study	on Based on Previous In	ventory	verview/Lit F	Review	Monitoring
Ethnographic S	Study Site/Property Specific Visit	Historic Structure	s Report	Other		1>tura €
7. Description of	Undertaking (what does the project	ct entail?):				
total of 8 days fini dunes on the easi Removal of the du of the contaminate stockpiled the pro sufficient distance which was comple	shing on September 8, 2011. NOVA tern side of the spill. LA 170166 is to unes allowed room for the equipment ed soil began at the southern most po cess of mixing the soil began. Monit from the LA 170166. Monitoring re- ted on September 8, 2011. No dam	A, an environmental firm fi pocated on the western sid to work and it also provide bint of the spill and worke toring was not continued commenced on Septemb nages to LA 170166 were	rom Midland, T e of the spill w led soil to mix d north. After during the mixi er 6, 2011 duri encountered.	X, began th ithin 100 fee with the con the soil was ing as the w ng the back	te clean-Let of the s taminate remove ork space	p by removing pill itself. d soil. Removal d and e was a ge of the project
					[]	Continuation
8. Dates of Inves	tigation: from: 15-Jun-2011 to	o: 08-Sep-2011 9.	Report Date:	05-Oct-20	11	
10. Performing A	gency/Consultant: Boone Arch Svc	s of NM	<u></u>			
Principal Invest	igator: Rebecca L. Hill					
Field Superviso	r: Rebecca L. Hill					
Field Personnel	Names: Rebecca L. Hill					
Historian / Othe	r:					
11. Performing A	gency/Consultant Report No.:					1 8 - 92 - 93 - 14 - 14 - 14 - 14 - 14 - 14 - 14 - 1
BASNM 06-11-27	M					

12. Applicable Cultural Resource Permit No(s):

BLM Permit # 190-2920-11-P State Permit #NM-11-157-M

13. Client/Customer (project proponent):		
DCP Midstream		
Contact: Jon Bebbington		
Address: 10 Desta Drive, Suite 400 West, Midland, TX 79705	Phone: 432-620-4207	
14. Client/Customer Project No.:		

#### 15. Land Ownership Status (must be indicated on project map):

Land Owner (By Agency)	Acres Surveye	d Acres in APE
· · ·	TOTALS	

#### 16. Records Search(es):

Date(s) of HPD/ARMS File Review: 7Jun2011	Name of Reviewer(s): Rebecca L. Hill	
Date(s) of Other Agency File Review: 7Jun2011	Name of Reviewer(s): Rebecca L. Hill	Agency: BLM-Carlsbad

17. Survey Data:	•
a. Source Graphics [ ] NAD 27 [ ] NAD 83 N ote: NAD 83 i	s the NMCRIS standard.
USGS 7.5' (1:24,000) topo map Cother topo map, Scale:	
GPS Unit A ccuracy <1.0m 1-10m 10-100m >100m	Aerial Photo(s)
Other Source Graphic(s):	<b>Landa</b> rd
b. USGS 7.5' Topographic Map Name	USGS Quad Code
Red Lake SE, NM	32104-G1

c. County(ies): Eddy

#### d. Nearest City or Town: Loco Hills, NM

e. Legal Description:

Township (N/S)	Range (E/W)	Section
17S	29E	3
Projected legal description?	[ ] Yes	x ] No [] Unplatted

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):

			]	]	Continuation
18. Survey Field	I Methods:			***********************	
Intensity:	100% coverage	<100% coverage			
Configuration:	block survey units	linear survey units (I x w):			

,

i other survey units (specify):			
Scope: Innon-selective (all sites/properties recorded)	s reco	ordeo	(it
Coverage Method: systematic pedestrian coverage			
other method (describe):			
Survey Interval (m): Crew Size: 1 Fieldwork Dates: from: 15-Jun-2011 to:	08-S	ep-2	2011
Monitoring Person 50 Recording Person Hours: Total Hours: Total Hours:	0.00	)	
Additional Narrative:			
	[	]	Continuation
19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):			and a second
	]	]	Continuation
	ſ	1	Continuation
21 CULTURAL RESOURCE FINDINGS	No	- di	ecuse why.
LA 170166 was updated for this project. No damages to the site were encountered during the clean-up.	N	, ui	scuss wity.
	[	]	Continuation
22. Attachments (check all appropriate boxes):			
[ x ] USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn (required)			
[ x ] Copy of NMCRIS Map Check (required)			
[ ] LA Site Forms - new sites (with sketch map & topographic map) if applicable			
[x ] LA Site Forms (update) - previously recorded & un-relocated sites (first 2 pages minimum)			
[ ] Historic Cultural Property Inventory Forms, if applicable			
[ ] List and Description of Isolates, if applicable			
[ ] List and Description of Collections, if applicable			
23. Other Attachments:			

[ ] Photographs and Log

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Qualified Supervisor:	Printed Name:	Rebecca L. Hill
--	---------------	-----------------

Rebecca	Digitally signed by Rebecca Häl DN: cn=Rebecca Hill, o=BooneArchServicesofNM, ou=ReSNM		
Signature: Hill	email=boonearch@yahoo.com,c=US Date: 2011.10.05 04:47:25 -06'00' Date: 5 Octo	ber 2011 Title:	Principal Investigator
25. Reviewing Agency		26. SHPO	
Reviewer's Name/Date:		Reviewer's Name/Date	
Accepted [ ]	R ejected [ ]	HPD Log #: Date sent to ARMS:	
	CULTURAL RE SOUR	CE FINDINGS (s)]	
SURVEY RESULTS:			
Archaeological Sites discove	red and registered: ()		
Previously recorded archaeo	lonical sites revisited (site undate	form required): 1	
Previously recorded archaeo	logical sites not relocated (site up SITES (visited & recorded): 1	odate form required): 0	
Total isolates recorded: 0	· · · ·	N	Ion-selective isolate recording?
HCPI properties discovered a	Ind registered: ()	leure i	
HCPI properties discovered a	and NOT registered: 0		
Previously recorded HCPI pro	operties revisited: 0		
Previously recorded HCPI pro	operties not relocated: 0		
TOTAL HCPI PROPERTIES (V	isited & recorded, including aceq	uias): 0	

MANAGEMENT SUMMARY:

[ ] Continuation

#### IF REPORT IS NEGATIVE, YOU ARE DONE AT THIS POINT.

SURVEY LA/HCPI NUMBER LOG

Sites/Properties Discovered:

LA/HCPI No. Field/Agency No.

Eligible? (Y/N/U, applicable criteria)

Previously recorded revisited sites/HCPI properties:									
LA/HCPI No. 170166	Field/Agency No.	Eligible?( Y/D	Y/N/U, applicable criteria)						
	IONITORING LA NUMBER LOG (site form required)								
Sites Discovere	ed (site form required);	Previously recorded sites (site update form required):							
LA No.	Field/Agency No.	LA No.	Field/Agency No.						
Areas outside I	known nearby site boundaries monitored?	[ ] Yes	[] No, Explain why						

TESTING & EXCAVATION LA NUMBER LOG (site form required)

Tested LA number(s)

Excavated LA number(s)



Monitoring hours for the DCP Oil Spill

Archaeologist	Day	Hours
Rebecca Hill	15Jun2011	8
Rebecca Hill	16Jun2011	9
Christine Mavrick	17Jun2011	4
Rebecca Hill	20Jun2011	5
Rebecca Hill	21Jun2011	9.5
Rebecca Hill	6Sep2011	9.5
Rebecca Hill	7Sep2011	1
Rebecca Hill	8Sep2011	4.5

## APPENDIX B: Laboratory Analytical Reports

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## Analytical Report 420862

for

Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

#### 29-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 (AZ0765), 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 (AAL11), 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)



29-JUN-11



Reference: XENCO Report No: **420862** Loco Hills Gathering Project Address: Eddy County, New Mexico

#### Camille Bryant:

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 420862. 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. 420862 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 420862



### Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South S/W-1 @ 1'	S	Jun-22-11 13:00		420862-001
South S/W-2 @ 4'	S	Jun-22-11 13:05		420862-002
Floor-1 @ 1'	S	Jun-22-11 13:10		420862-003
Floor-2 @ 2'	S	Jun-22-11 13:15		420862-004
East S/W-1 @ 1.5'	S	Jun-22-11 13:20		420862-005
West \$/W-1 @ 1.5'	S	Jun-22-11 13:25		420862-006
Floor-3 @ 1'	S	Jun-22-11 13:30		420862-007
Floor -4 @ 1'	S	Jun-22-11 13:35		420862-008
Floor-5 @ 7'	S	Jun-22-11 13:40		420862-009
North S/W-1 @ 6'	S	Jun-22-11 13:45		420862-010
West S/W-2 @ 6'	S	Jun-22-11 13:50		420862-011
East S/W-2 @ 6'	S	Jun-22-11 13:55		420862-012
South S/W-3 @ 6'	S	Jun-22-11 14:00		420862-013
Floor-6 @ 2'	S	Jun-22-11 14:05		420862-014
West S/W-3 @ 1.5'	S	Jun-22-11 14:10		420862-015
East S/W-3 @ 1.5'	S	Jun-22-11 14:15		420862-016
Floor-7 @ 1'	S	Jun-22-11 14:20		420862-017
East S/W-3 @ 1.5' Floor-7 @ 1'	S S	Jun-22-11 14:15 Jun-22-11 14:20		420862-016 420862-017





Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 420862 Report Date: 29-JUN-11 Date Received: 06/23/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

#### Analytical non nonformances and comments:

Batch: LBA-861584 BTEX by EPA 8021B SW8021BM

Batch 861584, Benzene recovered below QC limits in the Matrix Spike. Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 420862-009, -011, -016, -002, -008, -013, -017, -001, -005, -006, -014, -007, -010, -015, -004, -012. The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 861584, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 420862-013,420862-008.

Batch: LBA-861924 BTEX by EPA 8021B SW8021BM

Batch 861924, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 420862-003, -002. The Laboratory Control Sample for Toluene, Ethylbenzene, m, p-Xylenes, o-Xylene is within

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



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 420862

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Thu Jun-23-11 09:30 am

Report Date: 29-JUN-11

								Project Ma	nager:	Brent Barron,	П		
	Lab Id:	420862-	001	420862-0	002	420862-	003	420862-004		420862-0	05	420862-006	
Anglusis Descreted	Field Id:	South S/W-	1@1'	South S/W-2	2@4'	Floor-1 (	@ 1'	Floor-2 @	ā) 2'	East S/W-1 (	@ 1.5'	West S/W-1	@ 1.5'
Analysis Kequesiea	Depth:												
	Matrix:	SOIL	SOIL			SOIL	.	SOIL		SOIL		SOIL	
	Sampled:	Jun-22-11	13:00	Jun-22-11 13:05		Jun-22-11	13:10	Jun-22-11	13:15	Jun-22-11	13:20	Jun-22-11 13:25	
BTEX by EPA 8021B	Extracted:	Jun-24-11	Jun-24-11 11:30 Ju		11:30	Jun-28-11	08:20	Jun-24-11	11:30	Jun-24-11	11:30	Jun-24-11	11:30
	Analyzed:	Jun-24-11	15:37	Jun-24-11	16:00	Jun-28-11	12:33	Jun-24-11	16:46	Jun-24-11	17:08	Jun-24-11	17:31
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.00243	0.0010	0.00798	0.0010	ND	0.00100	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		0.0779	0.0020	0.175	0.0020	0.00425	0.0020	ND	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene		0.141	0.0010	0.696 D	0.0099	0.00328	0.00100	0.00212	0.0010	0.00136	0.0010	ND	0.0010
m_p-Xylenes		0.216	0.0020	0.566	0.0020	0.00360	0.0020	0.00285	0.0020	0.00249	0.0020	ND	0.0020
o-Xylene		0.0928	0.0010	0.222	0.0010	0.00393	0.00100	0.00123	0.0010	0.00187	0.0010	0.00171	0.0010
Total Xylenes		0.309	0.0010	0.788	0.0010	0.00753	0.00100	0.00408	0.0010	0.00436	0.0010	0.00171	0.0010
Total BTEX		0.530	0.0010	1.67 D	0.0010	0.0151	0.00100	0.00620	0.0010	0.00572	0.0010	0.00171	0.0010
Percent Moisture	Extracted:												
	Analyzed:	Jun-23-11	17:00	Jun-23-11 17:00		Jun-23-11 17:00		Jun-23-11 17:00		Jun-23-11	7:00	Jun-23-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture	_	1.81	1.00	ND	1.00	ND	1.00	1.52	1.00	1.63	1.00	ND	1.00
TPH By SW8015 Mod	Extracted:	Jun-23-11	11:30	Jun-23-11 1	1:30	Jun-23-11	11:30	Jun-23-11	1:30	Jun-23-11	1:30	Jun-23-11	11:30
	Analyzed:	Jun-24-11	15:39	Jun-24-11 1	6:09	Jun-24-11	16:39	Jun-24-111	17:10	Jun-24-11 1	7:40	Jun-24-11	18:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		41.4	15.2	28.4	15.1	ND	15.1	ND	15.2	ND	15.3	ND	15.0
C12-C28 Diesel Range Hydrocarbons		350	15.2	ND	15.1	482	15.1	379	15.2	25.1	15.3	130	15.0
C28-C35 Oil Range Hydrocarbons		ND	15.2	ND	15.1	46.1	15.1	18.1	15.2	ND	15.3	ND	15.0
Total TPH		391	15.2	28.4	15.1	528	15.1	397	15.2	25.1	15.3	130	15.0

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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Brent Barron, II

Odessa Laboratory Manager



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 420862

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Thu Jun-23-11 09:30 am

Report Date: 29-JUN-11

								<b>Project</b> Ma	nager:	Brent Barron,	н		
	Lab Id:	420862-	007	420862-0	08	420862-0	09	420862-010		420862-0	11	420862-012	
Analysis Provestad	Field Id:	Floor-3 (	@ 1'	Floor -4 @	1'	Floor-5 @	27'	North S/W-1	@ 6'	West S/W-2	@ 6'	East S/W-2	@ 6'
Analysis Kequesieu	Depth:						-						
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-22-11	13:30	Jun-22-11 1	3:35	Jun-22-11 1	3:40	Jun-22-11 1	3:45	Jun-22-11 1	3:50	Jun-22-11	13:55
BTEX by EPA 8021B	Extracted:	Jun-24-11	11:30	Jun-24-11 1	1:30	Jun-24-11 1	1:30	Jun-24-11	11:30	Jun-24-11 1	1:30	Jun-24-11 11:30	
	Analyzed:	Jun-24-11	17:54	Jun-24-11 1	8:17	Jun-24-11 1	8:39	Jun-24-11 1	9:02	Jun-24-11 2	0:56	Jun-24-11 2	21:19
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00100	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.00188	0.0010
Toluene		ND	0.0020	0.00895	0.0020	ND	0.0021	0.00315	0.0020	ND	0.0021	0.0152	0.0021
Ethylbenzene		0.00105	0.00100	0.0189	0.0010	0.00130	0.0010	0.00375	0.0010	ND	0.0010	0.0162	0.0010
m_p-Xylenes		0.00805	0.0020	0.0256	0.0020	ND	0.0021	0.00502	0.0020	ND	0.0021	0.0208	0.0021
o-Xylene		0.00933	0.00100	0.0164	0.0010	ND	0.0010	0.00350	0.0010	ND	0.0010	0.00769	0.0010
Total Xylenes		0.0174	0.00100	0.0420	0.0010	ND	0.0010	0.00852	0.0010	ND	0.0010	0.0285	0.0010
Total BTEX		0.0184	0.00100	0.0699	0.0010	0.00130	0.0010	0.0154	0.0010	ND	0.0010	0.0618	0.0010
Percent Moisture	Extracted:												
	Analyzed:	Jun-23-11	17:00	Jun-23-11 1	7:00	Jun-23-11 1	7:00	Jun-23-11 1	7:00	Jun-23-11 1	7:00	Jun-23-11 1	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		ND	1.00	ND	1.00	3.31	1.00	1.62	1.00	3.68	1.00	3.92	1.00
TPH By SW8015 Mod	Extracted:	Jun-23-11	11:30	Jun-23-11 1	1:30	Jun-23-11 1	1:30	Jun-23-11 1	1:30	Jun-23-11 1	1:30	Jun-23-11 1	11:30
	Analyzed:	Jun-24-11	18:40	Jun-24-11 1	9:09	Jun-24-11 1	9:39	Jun-24-11 2	20:09	Jun-24-11 2	1:07	Jun-24-11 2	21:36
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	75.3	ND	75.5	ND	15.6	ND	15.2	ND	15.6	ND	15.6
C12-C28 Diesel Range Hydrocarbons		228	75.3	584	75.5	28.1	15.6	ND	15.2	ND	15.6	16.2	15.6
C28-C35 Oil Range Hydrocarbons		ND	75.3	ND	75.5	ND	15.6	ND	15.2	ND	15.6	ND	15.6
Total TPH		228	75.3	584	75.5	28.1	15.6	ND	15.2	ND	15.6	16.2	15.6

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



## Certificate of Analysis Summary 420862

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Project Id: Contact: Camille Bryant Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Jun-23-11 09:30 am

Report Date: 29-JUN-11

								Project Ma	nager:	Brent Barron,	II	
	Lab Id:	420862-0	013	420862-0	)14	420862-0	015	420862-0	016	420862-0	17	
Anghosis Requested	Field Id:	South S/W-	3@6'	Floor-6 @	J) 2'	West S/W-3	@ 1.5'	East S/W-3 (	@ 1.5'	Floor-7 @	) 1'	
Analysis Kequested	Depth:											
	Matrix:	SOIL		SOIL		SOIL	,	SOIL		SOIL		
	Sampled:	Jun-22-11	14:00	Jun-22-11 1	14:05	Jun-22-11	14:10	Jun-22-11	14:15	Jun-22-11 1	4:20	
BTEX by EPA 8021B	Extracted:	Jun-24-11	Jun-24-11 11:30 Jun		11:30	Jun-24-11	11:30	Jun-24-11	11:30	Jun-24-11 1	1:30	
	Analyzed:	Jun-24-11	21:41	Jun-24-11 2	22:04	Jun-24-11	22:26	Jun-24-11	22:49	Jun-24-11 2	3:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene		0.0119	0.0010	0.00136	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	
Toluene		0.0849	0.0020	ND	0.0021	0.00311	0.0020	ND	0.0021	ND	0.0021	
Ethylbenzene		0.0706	0.0010	ND	0.0010	0.00492	0.0010	0.00171	0.0010	ND	0.0010	
m_p-Xylenes		0.116	0.0020	ND	0.0021	0.00850	0.0020	0.00368	0.0021	ND	0.0021	1
o-Xylene		0.0440	0.0010	ND	0.0010	0.00418	0.0010	ND	0.0010	ND	0.0010	
Total Xylenes		0.160	0.0010	ND	0.0010	0.0127	0.0010	0.00368	0.0010	ND	0.0010	
Total BTEX		0.327	0.0010	0.00136	0.0010	0.0207	0.0010	0.00539	0.0010	ND	0.0010	
Percent Moisture	Extracted:											
	Analyzed:	Jun-23-11	17:00	Jun-23-11 1	7:00	Jun-23-11	17:00	Jun-23-11	7:00	Jun-23-11 1	7:00	1
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	1
Percent Moisture		ND	1.00	1.93	1.00	1.87	1.00	3.05	1.00	4.45	1.00	
TPH By SW8015 Mod	Extracted:	Jun-23-11	11:30	Jun-23-11 1	1:30	Jun-23-11	11:30	Jun-23-11	1:30	Jun-23-11 1	1:30	
	Analyzed:	Jun-24-11	22:05	Jun-24-11 2	2:34	Jun-24-11	23:03	Jun-24-112	23:32	Jun-25-11 0	0:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
C6-C12 Gasoline Range Hydrocarbons		ND	15.1	ND	15.2	ND	15.4	ND	15.5	ND	15.7	
C12-C28 Diesel Range Hydrocarbons		ND	15.1	192	15.2	26.5	15.4	19.3	15.5	ND	15.7	
C28-C35 Oil Range Hydrocarbons		ND	15.1	ND	15.2	ND	15.4	ND	15.5	ND	15.7	
Total TPH		ND	15.1	192	15.2	26.5	15.4	19.3	15.5	ND	15.7	

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 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.
- RPD exceeded lab control limits. F
- 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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Ph



## Project Name: Loco Hills Gathering

Vork Orders : 420862	, 		Project ID	): Salid					
Lab Batch #: 801384	Sample: 000039-1-BKS/B	NS Batch	REACATE RE	Sona	STUDY				
Units: mg/kg BTE	Date Analyzed: 06/24/11 12:24	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			(D)					
1,4-Difluorobenzene		0.0293	0.0300	98	80-120				
4-Bromofluorobenzene		0.0296	0.0300	99	80-120				
Lab Batch #: 861584	Sample: 606039-1-BSD / B	SD Batch	n: 1 Matrix:	Solid					
Units: mg/kg	Date Analyzed: 06/24/11 12:47	SUI	RROGATE RE	COVERY	STUDY				
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1 4-Difluorobenzene		0.0285	0.0300	95	80-120				
4-Bromofluorobenzene		0.0299	0.0300	100	80-120				
Lab Batch #: 861584	Sample: 606039-1-BLK / B	LK Batel	n. 1 Matrix	Solid					
Units: mg/kg	Date Analyzed: 06/24/11 13:55	SURROGATE RECOVERY STUDY							
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
-	Analytes			[D]					
1,4-Difluorobenzene		0.0248	0.0300	83	80-120				
4-Bromofluorobenzene		0.0256	0.0300	85	80-120				
Lab Batch #: 861584	Sample: 420862-001 / SMP	Bate	h: 1 Matrix:	:Soil					
Units: mg/kg	Date Analyzed: 06/24/11 15:37	SU	RROGATE RI	ECOVERY	STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0288	0.0300	96	80-120				
4-Bromofluorobenzene		0.0292	0.0300	97	80-120				
Lab Batch #: 861584	Sample: 420862-002 / SMP	Batel	h: 1 Matrix	Soil	•				
Units: mg/kg	Date Analyzed: 06/24/11 16:00	SU	RROGATE RI	ECOVERY	STUDY				
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R {Dl	Control Limits %R	Flags			
1 4-Difluorobenzene		0.0277	0.0300	02	80.120				
4-Bromofluorobenzene		0.0359	0.0300	120	80-120	1			

\* 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 / BAll results are based on MDL and validated for QC purposes.



## Project Name: Loco Hills Gathering

Work Orders : 420862	,		Project IE	):		
Lab Batch #: 861584	Sample: 420862-004 / SMP	Batel	h: 1 Matrix:	Soil	*	
Units: mg/kg	Date Analyzed: 06/24/11 16:46	SU	RROGATE RE	COVERY S	STUDY	
BTEX	( by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0260	0.0300	87	80-120	
4-Bromofluorobenzene		0.0260	0.0300	87	80-120	
Lab Batch #: 861584	Sample: 420862-005 / SMP	Bate	h: <sup>1</sup> Matrix:	Soil		-
Units: mg/kg	Date Analyzed: 06/24/11 17:08	SU	<b>RROGATE RF</b>	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	
4-Bromofluorobenzene		0.0292	0.0300	97	80-120	
Lab Batch #: 861584	Sample: 420862-006 / SMP	Bate	h: 1 Matrix:	; Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 06/24/11 17:31	SU	RROGATE RE	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [Bj	Recovery %R	Control Limits %R	Flags
	Analytes			נען		<b> </b>
1,4-Difluorobenzene		0.0247	0.0300	82	80-120	L
4-Bromotluorobenzene		0.0259	0.0300	86	80-120	
Lab Batch #: 861584	Sample: 420862-007 / SMP	Bate	h: <sup>1</sup> Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/24/11 17:54	SU	RROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0282	0.0300	94	80-120	
4-Bromofluorobenzene		0.0262	0.0300	87	80-120	
Lab Batch #: 861584	Sample: 420862-008 / SMP	Batc	h: <sup>1</sup> Matrix:	Soil	·	
Units: mg/kg	Date Analyzed: 06/24/11 18:17	SU	<b>RROGATE RE</b>	<b>ECOVERY</b>	STUDY	
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0244	0.0300	81	80-120	[
4-Bromofluorobenzene		0.0224	0.0300	75	80-120	*

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\*\* 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.



Project Name: Loco Hills Gathering

Vork Orders : 420862	,		Project IE	):					
Lab Batch #: 861584	Sample: 420862-009 / SMP	Bate	h: <sup>1</sup> Matrix:	Soil					
Units: mg/kg	Date Analyzed: 06/24/11 18:39	SU	RROGATE RE	COVERY	STUDY				
BTE	( by EPA 8021B Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags			
1.4-Difluorobenzene		0.0275	0.0300	92	80-120				
4-Bromofluorobenzene		0.0308	0.0300	103	80-120				
Lah Batch #: 861584		Batc	h: 1 Matrix:	Soil	J				
Units: mg/kg	Date Analyzed: 06/24/11 19:02	SURROGATE RECOVERY STUDY							
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags			
14-Difluorobenzene	Anarytes	0.0273	0.0300	01	80-120				
4-Bromofluorobenzene		0.0304	0.0300	101	80-120				
Lab Patab # 861584	Sample: 420862-006 S / MS	Pata	h. 1 Matrix	Soil					
Lab Datch #: 001304	Date Analyzed: 06/24/11 10:25	d: 06/24/11 10:25 SURROGATE RECOVERY STUDY							
BTEX	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags				
1.4.Difluorobenzene	Analytes	0.0262	0.0300		80.120				
4-Bromofluorobenzene		0.0232	0.0300	92	80-120				
Lab Batch # 861584	Semple: 420862-006 SD / M	ISD Bata	h. 1 Matrix	Soil					
Units: mg/kg	Date Analyzed: 06/24/11 19:48	SU	RROGATE RE	COVERY	STUDY				
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flags			
1.4-Difluorobenzene		0.0296	0.0300	99	80-120				
4-Bromofluorobenzene		0.0313	0.0300	104	80-120				
Lab Batch #: 861584	Sample: 420862-011 / SMP	Batc	h: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 06/24/11 20:56	SU	RROGATE RE	COVERY	STUDY				
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0274	0.0300	91	80-120				
4-Bromofluorobenzene		0.0301	0.0300	100	80-120				

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

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



## Project Name: Loco Hills Gathering

Vork Orders : 420862,	,		Project ID	):				
Lab Batch #: 861584	Sample: 420862-012 / SMP	Batch	n: 1 Matrix:	Soil				
Units: mg/kg	Date Analyzed: 06/24/11 21:19	SUI	RROGATE RE	COVERY	STUDY			
BTEX	A nalytas	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
	Analytes	0.0270	0.0200	02	80.120			
1,4-Diffuorobenzene		0.0279	0.0300	93	80-120			
4-Bromotiuorobenzene		0.0332			80-120	<b>L</b> ,		
Lab Batch #: 861584	Sample: 420862-013 / SMP	Batch	1: 1 Matrix:	Soil	~~~~~			
Units: mg/kg	Date Analyzed: 06/24/11 21:41	501	RROGATE RE	COVERY S	STUDY			
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0265	0.0300	88	80-120			
4-Bromofluorobenzene		0.0216	0.0300	72	80-120	*		
Lab Batch #: 861584	Sample: 420862-014 / SMP	Batel	h: 1 Matrix:	Soil				
Units: mg/kg	Date Analyzed: 06/24/11 22:04	SURROGATE RECOVERY STUDY						
ВТЕХ	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1.4-Difluorobenzene		0.0271	0.0300	90	80-120			
4-Bromofluorobenzene		0.0303	0.0300	101	80-120			
Lab Batch #: 861584	Sample: 420862-015 / SMP	Batcl	h: 1 Matrix:	Soil	L4			
Units: mg/kg	Date Analyzed: 06/24/11 22:26	SU	RROGATE RE	COVERY	STUDY			
ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
1.4 Different angene	Analytes	0.0201	<u>^ ^ 2200</u>	( <sup>1</sup> )		<u> </u>		
1,4-Difluorobenzene		0.0281	0.0300	94	80-120			
		0.0324	0.0300	108	80-120			
Lab Batch #: 861584	Sample: 420862-016 / SMP [	Batel	h:   Matrix:	Soil	07011037			
Units: mg/kg	Date Analyzed: 06/24/11 22:49		RRUGAIE KE	COVERY 1	STUDY			
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0260	0.0300	87	80-120			
4-Bromofluorobenzene		0.0303	0.0300	101	80-120			

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

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## Project Name: Loco Hills Gathering

Vork Orders : 420862	, Samples 420862-017 / SMP	Patal	Project II	): Soil		
Lab Batch #: 001384	Date Analyzed: 06/24/11 23:12	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0282	0.0300	94	80-120	
4-Bromofluorobenzene		0.0325	0.0300	108	80-120	
Lab Batch #: 861924	Sample: 606224-1-BKS / B	KS Batcl	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/28/11 09:21	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0295	0.0300	98	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	
Lab Batch #: 861924	Sample: 606224-1-BSD / B	SD Batel	h• 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 06/28/11 09:43	SU	RROGATE RE	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0292	0.0300	97	80-120	
4-Bromofluorobenzene		0.0293	0.0300	98	80-120	
Lab Batch #: 861924	Sample: 606224-1-BLK / B	LK Batcl	h: <sup>1</sup> Matrix:	Solid		
Units: mg/kg	Date Analyzed: 06/28/11 10:51	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0258	0.0300	86	80-120	
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	
Lab Batch #: 861924	Sample: 420862-003 / SMP	Batc	h: 1 Matrix:	Soil		<u>.</u>
Units: mg/kg	Date Analyzed: 06/28/11 12:33	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	•	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene		0.0284	0.0300	95	80-120	

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



### Project Name: Loco Hills Gathering

Vork Orders: 420862	••		Project II	):		
Lab Batch #: 861924	Sample: 420862-002 / DL	Batch	1: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/28/11 12:55	SUI	RROGATE RE	COVERY S	STUDY	
BTE	<b>X by EPA 8021B</b>	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0247	0.0300	82	80-120	
4-Bromofluorobenzene		0.0297	0.0300	99	80-120	
Lab Batch #: 861924	<b>Sample:</b> 420862-003 S / MS	Batch	a: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/28/11 18:25	SUI	RROGATE RF	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0288	0.0300	96	80-120	[
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	
Lah Batch #: 861924	Sample: 420862-003 SD / N	ASD Batcl	h l Matrix	• Soil	,	
Units: mg/kg	Date Analyzed: 06/28/11 18:48	SUI	RROGATE RF	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		l
1,4-Difluorobenzene		0.0282	0.0300	94	80-120	
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	
Lab Batch #: 861507	Sample: 605982-1-BKS / B!	KS Batcl	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 06/24/11 14:10	SU	RROGATE RP	COVERY	STUDY	
TPH 3	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		115	99.6	115	70-135	i
o-Terphenyl		53.0	49.8	106	70-135	ł
Lab Batch #: 861507	<b>Sample:</b> 605982-1-BSD / B <sup>+</sup>	SD Batel	h: 1 Matrix	: Solid	. <u>.</u>	
Units: mg/kg	Date Analyzed: 06/24/11 14:40	SU!	RROGATE RE	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		116	99.9	116	70-135	
o-Terphenyl		53.0	50.0	106	70-135	

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\*\*\* Poor recoveries due to dilution

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



### Project Name: Loco Hills Gathering

Vork Orders : 420862	**		Project IF	):		
Lab Batch #: 861507	Sample: 605982-1-BLK / BL	<u>K Batch</u>	h: 1 Matrix:		TUDV	
Units: mg/kg	Date Analyzed: 06/24/11 15:09		KRUGAIL RE			<b></b>
трн і	By SW8015 Mod	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flags
	Analytes		!	[D]	!	1
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		58.6	50.0	117	70-135	
Lab Batch #: 861507	Sample: 420862-001 / SMP	Batc	h: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 06/24/11 15:39	SU	<b>RROGATE RF</b>	COVERY !	STUDY	
ТРН Ј	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		116	99.8	116	70-135	<u> </u>
o-Terphenyl		59.3	49.9	119	70-135	
Lab Ratch #: 861507	Sample: 420862-002 / SMP	Batc	h 1 Matrix	-Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 06/24/11 16:09	SU	RROGATE RF	COVERY (	STUDY	
ТРН 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			נטן	<u> </u>	<u> </u>
1-Chlorooctane		108	99.8	108	70-135	
o-Terphenyl		54.2	49.9	109	70-135	
Lab Batch #: 861507	Sample: 420862-003 / SMP	Bate	h: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 06/24/11 16:39	SU	RROGATE RF	COVERY S	STUDY	
ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		105	100	105	70-135	
o-Terphenyl		53.1	50.1	106	70-135	[ · · · · · · · · · · · · · · · · · · ·
Lab Batch #: 861507	Sample: 420862-004 / SMP	Batc	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 06/24/11 17:10	SU	RROGATE RF	ECOVERY	STUDY	
ТРН )	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		109	99.5	110	70-135	
o-Terphenyl		56.1	49.8	113	70-135	<b></b>

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\*\*\* Poor recoveries due to dilution

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# Project Name: Loco Hills Gathering

ork Orders : 420862	, ,		Project ID	):		
Lab Batch #: 861507	Sample: 420862-0057 SMP	Batel	h:   Matrix:	Soll	THINK	
Units: mg/kg	Date Analyzed: 06/24/11 17:40 By SW8015 Mod	Amount Found [A]	True Amount {B]	Recovery %R	Control Limits %R	Flags
	Analytes	ı,	ı- <i>,</i>	[D]		
1-Chlorooctane		110	101	109	70-135	
o-Terphenyl		56.6	50.3	113	70-135	
Lab Batch #: 861507	Sample: 420862-006 / SMP	Batcl	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/24/11 18:10	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	107	99.5	108	70-135	
o-Terphenyl		55.0	49.8	110	70-135	
Lab Ratch #• 861507		Batc	h· 1 Matrix:	Soil	l I	
Units: mg/kg	Date Analyzed: 06/24/11 18:40	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R ID]	Control Limits %R	Flags
1-Chlorooctane		74 8	99.7	75	70-135	
o-Terphenyl		35.2	49.9	73	70-135	
Lab Batch #: 861507		Batc	h. 1 Matrix	Soil		
Lan Dattin #. 001007	Date Analyzed: 06/24/11 19:09	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			וען		
1-Chlorooctane		113	100	113	70-135	
o-Terphenyi		58.7	50.0	117	70-135	
Lab Batch #: 861507	Sample: 420862-009 / SMP	Bate	h: 1 Matrix:	Soil	0.00110.17	
Units: mg/kg	Date Analyzed: 06/24/11 19:39	50	RROGATE KI	COVERY	STUDY	1
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		115	100	115	70-135	
o-Terphenyl		61.0	50.2	122	70-135	

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\*\*\* Poor recoveries due to dilution

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



### Project Name: Loco Hills Gathering

Vork Orders : 420862	, Samalar 420862-010 / SMP	Ratel	Project ID	): Soil		
Lab Batten #. 001007	Date Analyzed: 06/24/11 20:09	SUI	RROGATE RE	COVERY f	STUDY	
TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		145	200	73	70-135	
o-Terphenyl		76.6	99.8	77	70-135	
Lab Batch #: 861507	Sample: 420862-011 / SMP	Batch	1: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/24/11 21:07	SUI	RROGATE RE	COVERY	STUDY	
трн ј	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R ID]	Control Limits %R	Flags
1-Chlorooctane	Analytes	110	100		70-135	
o-Terphenyl		59.6	50.1	119	70-135	
Lab Ratch #+ 861507		Batel		Soil		
Lab Daten #. 001007	Date Analvzed: 06/24/11 21:36	SU	RROGATE RE	COVERY !	STUDY	
TPH 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		113	100	113	70-135	
o-Terphenyl		61.0	50.1	122	70-135	
Lab Batch #: 861507	Sample: 420862-013 / SMP	Batcl	n: 1 Matrix:	Soil	·	
Units: mg/kg	Date Analyzed: 06/24/11 22:05	SUI	RROGATE RF	COVERY S	STUDY	·
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 Oblassatana	Anaiytes	100	100	100	70.125	·
o-Ternhenyl		56.7	50.2	109	70-135	
Lab Patch # 861507	Sample: 420862-014 / SMP	Bate		- Soil	10-135	
Lab Daten #. 00.007	Date Analyzed: 06/24/11 22:34	SU	RROGATE RF	ECOVERY	STUDY	<u> </u>
TPH ?	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		109	99.5	110	70-135	
o-Terphenyl		57.3	49.8	115	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



# Project Name: Loco Hills Gathering

ork Orders: 420862	<u>'</u> ,		Project ID	):		
Lab Batch #: 861507	Sample: 420862-015 / SMP	Batch	n: 1 Matrix:	Soil	·	
Units: mg/kg	Date Analyzed: 06/24/11 23:03	SUI	RROGATE RE	COVERY S	STUDY	
TPH 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		]	[ח]		L
1-Chlorooctane		113	101	112	70-135	j
o-Terphenyl		60.5	50.3	120	70-135	
Lab Batch #: 861507	Sample: 420862-016 / SMP	Batel	h: 1 Matrix:	, Soil		
Units: mg/kg	Date Analyzed: 06/24/11 23:32	SU	RROGATE RE	COVERY	STUDY	
трн ј	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		109	100	109	70-135	í
o-Terphenyl		59.2	50.2	118	70-135	
• Batak #. 861507		Batel	- 1 Matrix:	- Coil	<u>L</u>	
Lag Daten #. 001207	Date Analyzed: 06/25/11 00:01	SU	RROGATE RF	ECOVERY (	STUDY	
		Amount	Control			
1PH I	By SW8015 Mod	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chlorooctane		112	100	112	70-135	í ———
o-Terphenyl		60.8	50.2	121	70-135	1
Lab Batch #: 861507	Sample: 420862-017 S / MS	Batc	h: 1 Matrix:	: Soil	<u>L</u>	
Units: mg/kg	Date Analyzed: 06/25/11 00:30	SU	RROGATE RF	COVERY ?	STUDY	<u></u> .
Трн	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
l	Analytes			[D]		1
1-Chlorooctane		121	100	121	70-135	
o-Terphenyl		61.3	50.0	123	70-135	
Lab Batch #: 861507	Sample: 420862-017 SD / M	SD Bate	h: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 06/25/11 00:58	SU	RROGATE RF	COVERY	STUDY	
Трн	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		118	99.7	118	70-135	
o-Terphenyl		55.2	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





Work Order #: 420862	-	Project ID: Data Analyzed: 06/24/2011												
Analyst: ASA		ate Prepa	red: 06/24/20	11			Date A	Motrive '	06/24/2011 Solid					
Lab Batch ID: 861584 S	ample: 606039-1-BKS	Bate	h#:   											
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUPI	LICATE		ERY STUI	)Y 				
BTEX by EPA 802 Analytes	1B 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	<0.00100	0.100	0.104	104	0.100	0.101	101	3	70-130	35				
Toluene	<0.00200	0.100	0.0950	95	0.100	0.0948	95	0	70-130	35				
Ethylbenzene	<0.00100	0.100	0.107	107	0.100	0.103	103	4	71-129	35				
m_p-Xylenes	<0.00200	0.200	0.209	105	0.200	0.198	99	5	70-135	35				
o-Xylene	<0.00100	0.100	0.103	103	0.100	0.0973	97	6	71-133	35				
Analyst: ASA	D	ate Prepa	red: 06/28/20	1			Date A	nalyzed: (	06/28/2011					
Lab Batch ID: 861924 S	ample: 606224-1-BKS	Batc	h #: 1					Matrix: S	Solid					
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUE	PY				
BTEX by EPA 802	1B 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		0.100	0.112		0.100	0.107	107	6	70.120	- 25				
Talvara	<0.00100	0.100	0.115	113	0.100	0.107	107	3	70-130	35				
Ethulhanzana	<0.00200	0.100	0.105	105	0.100	0.100	100	3	70-130	35				
	<0.00100	0.100	0.115	115	0.100	0.110	110	4	70.125	35				
m_p-Xylenes	<0.00200	0.200	0.222		0.200	0.212	106	5	70-135	35				
o-Xylene	<0.00100	0.100	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





Work Order #: 420862 Analyst: BEV Lab Batch ID: 861507 Sample: 66	Da 05982-1-BKS	Date Prepared:     06/23/2011     Project ID: Date Analyzed:     06/24/2011       KS     Batch #:     1     Matrix:     Solid													
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
TPH By SW8015 Mod	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	<14.9	996	848	85	999	877	88	3	70-135	35					
C12-C28 Diesel Range Hydrocarbons	<14.9	996	834	84	999	825	83	1	70-135	35					

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



## Form 3 - MS / MSD Recoveries

### **Project Name: Loco Hills Gathering**



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Work Order #: 420862						Project II	D:				
Lab Batch ID: 861584 Date Analyzed: 06/24/2011	QC- Sample ID: Date Prepared	420862 06/24/2	-006 S 011	Ba An	itch #: alyst:	l Matrix ASA	<b>x:</b> Soil				
Reporting Units: mg/kg	[	N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY	· <u>·····</u>	
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[ <b>B</b> ]		[D]	[E]		[G]				
Benzene	<0.00101	0.101	0.0669	66	0.101	0.0760	75	13	70-130	35	X
Toluene	<0.00201	0.101	0.0584	58	0.101	0.0648	64	10	70-130	35	X
Ethylbenzene	< 0.00101	0.101	0.0601	60	0.101	0.0622	62	3	71-129	35	X
m_p-Xylenes	<0.00201	0.201	0.112	56	0.201	0.115	57	3	70-135	35	X
o-Xylene	0.00171	0.101	0.0520	50	0.101	0.0529	51	2	71-133	35	х
Lab Batch ID: 861924	QC- Sample ID:	420862	-003 S	Ba	tch #:	1 Matrix	c: Soil				
Date Analyzed: 06/28/2011	Date Prepared:	06/28/2	011	An	alyst:	ASA					
<b>Reporting Units:</b> mg/kg		M	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Kesuit [F]	%R [G]	70	%0 <b>K</b>	% <b>K</b> PD	
Benzene	<0.00101	0.101	0.0771	76	0.101	0.0752	74	2	70-130	35	
Toluene	0.00425	0.101	0.0678	63	0.101	0.0668	62	1	70-130	35	X
Ethylbenzene	0.00328	0.101	0.0661	62	0.101	0.0641	60	3	71-129	35	X
m_p-Xylenes	0.00360	0.202	0.122	59	0.202	0.118	57	3	70-135	35	Х
o-Xylene	0.00393	0.101	0.0568	52	0.101	0.0557	51	2	71-133	35	x

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*[(C-F)/(C+F)] Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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





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Work Order #: 420862						Project II	D:				
Lab Batch ID: 861507 Date Analyzed: 06/25/2011	QC- Sample ID: Date Prenared:	420862	-017 S 011	Ba An	tch #: alvst:	l Matrix BEV	x: Soil				
Reporting Units: mg/kg		M	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<15.7	1050	903	86	1040	825	79	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.7	1050	803	76	1040	887	85	10	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{+}(C-A)/B$ Relative Percent Difference RPD =  $200^{+}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



# Sample Duplicate Recovery



### **Project Name: Loco Hills Gathering**

Work Order #: 420862

Lab Batch #: 861304	h #: 861304 Project ID:												
Date Analyzed: 06/23/2011 17:00	Date Prepared: 06/23/201	l Anal	yst: WRU										
QC- Sample ID: 420815-001 D	Batch #: 1	Mat	rix: Soil										
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY								
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag								
Analyte		[B]											
Percent Moisture	3.74	3.97	6	20									
Lab Batch #: 861307					· · · · ·								
Date Analyzed: 06/23/2011 17:00	Date Prepared: 06/23/201	l Ana	lyst: WRU										
QC- Sample ID: 420862-009 D	Batch #: 1	Mat	rix: Soil										
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY								
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag								
Percent Moisture	3.31	4.02	19	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 Laboratories**

The Environmental Lab of Texas

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUES

12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

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	Project Manager:	Camille Bryant															_	Pr	ojeci	Nan	1e:	Loco	o Hil	ls G	athe	ering	1		<u> </u>		<del></del>
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	Company Address:	2057 Commerce															_	I	Proje	ct Li	»c:		_Ed	dy C	ount	y, Ne	<u>w M</u>	exico			
	City/State/Zip:	Midland, TX 79703														-	_			PO	#:										
	Telephone No:	432.520.7720	$ \frown$				Fax	No:		432.	.520.7	701				_		Repor	t For	mat:	5	A_Sta	anda	rd		П т	RRP	,	[] I	NPDE	s
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## **Xenco Laboratories**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

The Environmental Lab of Texas

12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

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	Project Manager:	Camille Bryant													- P	rojec	t Na	me: _	Loco	o Hills	Gal	theri	ng					
	Company Name N	lova Safety and Environr	nental	<u> </u>		······································									_	Pr	ojec	t #:										
	Company Address: 2	057 Commerce											_		_	Proj∉	ect L	oc: _		Eddy	( Cou	inty, l	New	Mex	ico			
	City/State/Zip: M	fidland, TX 79703	_	_				_							_		PC	) #:					_	_	_			
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Rélinquis	hed by	Date	Tir	ne	Received by:		- 1						1	Da	te	Time		Samp	le Ha	nd Del	ivere	d an a			- - -	ر د	N	
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XENCO Laboratories

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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: NOV	a Salety & Env.
Date/Time:	62311 9.30
Lab ID # :	420862
Initials:	<u>AE</u>

### 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 relinguished / 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 property preserved?	(Yes)	No	N/A	
13. Sample container intact?	Yee	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?	Tes	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 N	0.	Cooler 5 No.	
Ibs $3 (0 ^{\circ}\text{C})$ ibs $^{\circ}\text{C}$ ibs	°C lbs	°C	ibs	°C

#### Nonconformance Documentation

Contact:	Contacted by:	Date/Time:
Regarding:		
Corrective Action Tak	en:	
Check all that apply:	□ Cooling process has begun shortly after condition acceptable by NELAC 5.	sampling event and out of temperature 5.8.3.1.a.1.
	Initial and Backup Temperature confirm	out of temperature conditions

Client understands and would like to proceed with analysis

# Analytical Report 421119

for

Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

### 01-JUL-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 (AZ0765), 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) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

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01-JUL-11

TNI

Project Manager: **Camille Bryant Nova Safety & Environmental** 2057 Commerce Street Midland, TX 79703

Reference: XENCO Report No: **421119** Loco Hills Gathering Project Address: Eddy County, New Mexico

### **Camille Bryant**:

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 421119. 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. 421119 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 421119



### Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	Jun-24-11 11:00	3 ft	421119-001
S	Jun-24-11 11:05	8 ft	421119-002
S	Jun-24-11 11:10	8 ft	421119-003
S	Jun-24-11 11:15	8 ft	421119-004
S	Jun-24-11 11:20	6 ft	421119-005
S	Jun-24-11 11:25	8 ft	421119-006
	Matrix S S S S S S	MatrixDate CollectedSJun-24-11 11:00SJun-24-11 11:05SJun-24-11 11:10SJun-24-11 11:15SJun-24-11 11:20SJun-24-11 11:25	MatrixDate CollectedSample DepthSJun-24-11 11:003 ftSJun-24-11 11:058 ftSJun-24-11 11:108 ftSJun-24-11 11:158 ftSJun-24-11 11:206 ftSJun-24-11 11:258 ft



Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 421119 Report Date: 01-JUL-11 Date Received: 06/24/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

### Analytical non nonformances and comments:

Batch: LBA-861718 TPH By SW8015 Mod SW8015MOD NM

Batch 861718, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 421119-001,421119-003,421119-006,421119-005,421119-004.

Batch: LBA-861924 BTEX by EPA 8021B SW8021BM

Batch 861924, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 421119-003, -001, -002. The Laboratory Control Sample for Toluene, Ethylbenzene, m\_p-Xylenes, o-Xylene is within laboratory Control Limits

### SW8021BM

Batch 861924, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 421119-003.

Batch: LBA-862159 BTEX by EPA 8021B SW8021BM

Batch 862159, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 421119-006, -005, -004. The Laboratory Control Sample for o-Xylene is within laboratory Control Limits



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

### Certificate of Analysis Summary 421119

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Fri Jun-24-11 03:49 pm

Report Date: 01-JUL-11

								Project Ma	nager:	Brent Barron,	11		
	Lab Id:	421119-(	001	421119-0	02	421119-0	003	421119-0	004	421119-0	05	421119-0	006
Analysis Basy astad	Field Id:	North S/W-	2 @3'	North S/W-3	3 @8'	West S/W-4 @8'		East S/W-4 @8'		South S/W- 4 @6'		RP. Floor	@8'
Analysis Kequestea	Depth:	3 ft		8 ft	8 ft		8 ft			6 ft		8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sampled		Jun-24-11	Jun-24-11 11:00		Jun-24-11 11:05		Jun-24-11 11:10		11:15	Jun-24-11 11:20		Jun-24-11 11:25	
BTEX by EPA 8021B Extracted:		Jun-28-11	08:20	Jun-28-11 (	08:20	Jun-28-11 (	08:20	Jun-29-11	14:43	Jun-29-11 1	4:43	Jun-29-11	14:43
Analyzed:		Jun-28-11	Jun-28-11 21:49		Jun-28-11 22:11		Jun-28-11 22:34		09:35	Jun-30-11 (	01:18	Jun-30-11 01:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.00114	0.0010	0.0171	0.0010	0.0111	0.0010	0.00160	0.0010	ND	0.0011	ND	0.0010
Toluene		0.0105	0.0021	0.0807	0.0021	0.120	0.0021	0.0135	0.0021	ND	0.0021	0.00393	0.0021
Ethylbenzene		0.0119	0.0010	0.0643	0.0010	0.125	0.0010	0.0144	0.0010	ND	0.0011	0.00864	0.0010
m_p-Xylenes		0.0200	0.0021	0.0775	0.0021	0.228	0.0021	0.0206	0.0021	ND	0.0021	0.0147	0.0021
o-Xylene		0.00829	0.0010	0.0259	0.0010	0.0940	0.0010	0.00946	0.0010	ND	0.0011	0.00555	0.0010
Total Xylenes		0.0283	0.0010	0.103	0.0010	0.322	0.0010	0.0301	0.0010	ND	0.0011	0.0203	0.0010
Total BTEX		0.0518	0.0010	0.266	0.0010	0.578	0.0010	0.0596	0.0010	ND	0.0011	0.0328	0.0010
Percent Moisture	Extracted:						1						
	Analyzed:	Jun-27-11	11:30	Jun-27-11 11:30		Jun-27-11 11:30		Jun-27-11 11:43		Jun-27-11 11:43		Jun-27-11 11:43	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RĻ	%	RL
Percent Moisture		4.62	1.00	3.26	1.00	4.22	1.00	2.89	1.00	5.46	1.00	4.48	1.00
TPH By SW8015 Mod	Extracted:	Jun-27-11	10:30	Jun-27-11 1	0:30	Jun-27-11	10:30	Jun-27-11	10:30	Jun-27-11 1	0:30	Jun-27-11	10:30
	Analyzed:	Jun-27-11	15:37	Jun-27-11 1	6:07	Jun-27-11	16:37	Jun-27-11	17:08	Jun-27-11 1	7:38	Jun-27-11	18:08
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.8	ND	15.5	64.8	15.7	36.8	15.5	ND	15.9	ND	15.7
C12-C28 Diesel Range Hydrocarbons		21.6	15.8	36.1	15.5	1100	15.7	1020	15.5	51.3	15.9	18.5	15.7
C28-C35 Oil Range Hydrocarbons		ND	15.8	ND	15.5	ND	15.7	34.4	15.5	ND	15.9	ND	15.7
Total TPH		21.6	15.8	36.1	15.5	1160	15.7	1090	15.5	51.3	15.9	18.5	15.7

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

Page 5 of 19



## **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.
- RPD exceeded lab control limits. F
- 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 OA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- MDL Method Detection Limit
- **POL** Practical Quantitation Limit
- 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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(305) 823-8555
(432) 563-1713
(361) 884-9116

Phon



### Project Name: Loco Hills Gathering

Vork Orders : 421119	l,		Project IF	):							
Lab Batch #: 801924	Sample: 606224-1-BKS / Br	S Batch	1: I Matrix:		<u>etunv</u>						
Units: mg/kg BTE2	Date Analyzed: 06/28/11 09:21 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes		, ··	[D]		1					
1,4-Difluorobenzene		0.0295	0.0300	98	80-120						
4-Bromofluorobenzene		0.0312	0.0300	104	80-120						
Lab Batch #: 861924	Sample: 606224-1-BSD / B?	SD Batch	h: 1 Matrix:	Solid							
Units: mg/kg	Date Analyzed: 06/28/11 09:43	SURROGATE RECOVERY STUDY									
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1.4-Difluorobenzene		0.0292	0.0300	97	80-120						
4-Bromofluorobenzene		0.0293	0.0300	98	80-120						
Lab Batch #: 861924		LK Batcl	h: 1 Matrix:	· Solid	<u> </u>	<u></u>					
Units: mg/kg	Date Analyzed: 06/28/11 10:51	SUI	RROGATE RF	COVERY	STUDY						
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
1,4-Difluorobenzene		0.0258	0.0300	86	80-120						
4-Bromofluorobenzene		0.0295	0.0300	98	80-120						
Lab Batch #: 861924	Sample: 420862-003 S / MS	3 Batch	h: 1 Matrix:	: Soil							
Units: mg/kg	Date Analyzed: 06/28/11 18:25	SUI	RROGATE RF	COVERY	STUDY						
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1 4-Difluorobenzene		0.0288	0.0300	96	80-120						
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	───					
Lah Batch #: 861924		MSD Bate	h· 1 Matrix	⊥ •Soil	<u> </u>	<u> </u>					
Units: mg/kg	Date Analyzed: 06/28/11 18:48	SU'	RROGATE RI	ECOVERY	STUDY						
BTE!	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluorobenzene		0.0282	0.0300	94	80-120						
4-Bromofluorobenzene		0.0268	0.0300	89	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



## Project Name: Loco Hills Gathering

Vork Orders : 421119	,	<b>D</b> (1)	Project II	):						
Lab Batch #: 801924	Sample: 421119-0017 SMP	Batch	REACATE RE		STUDY	-				
Units: mg/kg BTE2	Date Analyzed:         06/28/11 21:49           X by EPA 8021B         1	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes	11	(2)	[D]						
1,4-Difluorobenzene		0.0259	0.0300	86	80-120					
4-Bromofluorobenzene		0.0288	0.0300	96	80-120					
Lab Batch #: 861924	Sample: 421119-002 / SMP	Batch	n: <sup>1</sup> Matrix:	Soil						
Units: mg/kg	Date Analyzed: 06/28/11 22:11	SURROGATE RECOVERY STUDY								
BTE	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags					
1.4-Difluorobenzene	· · · · ·	0.0311	0.0300	104	80-120					
4-Bromofluorobenzene		0.0306	0.0300	102	80-120					
Lab Batch #: 861924	Sample: 421119-003 / SMP	Batel	h• 1 Matrix:	Soil	<u> </u>					
Units: mg/kg	Date Analyzed: 06/28/11 22:34	SU	RROGATE RE	COVERY	STUDY					
BTE	BTEX by EPA 8021B			Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0280	0.0300	93	80-120					
4-Bromofluorobenzene		0.0400	0.0300	133	80-120	**				
Lab Batch #: 862159	Sample: 606878-1-BKS / B	BKS Batch: 1 Matrix: Solid								
Units: mg/kg	Date Analyzed: 06/29/11 23:24	SU	RROGATE RI	ECOVERY	STUDY					
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene		0.0291	0.0300	97	80-120					
4-Bromofluorobenzene		0.0311	0.0300	104	80-120	L				
Lab Batch #: 862159	Sample: 606878-1-BSD / B	SD Batc	h: <sup>1</sup> Matrix	Solid	•					
Units: mg/kg	Date Analyzed: 06/29/11 23:47	SU	RROGATE RI	ECOVERY	STUDY					
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene		0.0310	0.0300	103	80-120					
4-Bromofluorobenzene	· · · · ·	0.0292	0.0300	97	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



## Project Name: Loco Hills Gathering

ork Orders: 421119	ι,		Project ID	):						
Lab Batch #: 862159	Sample: 606878-1-BLK / BI	_K Batch	1: 1 Matrix:	Solid						
Units: mg/kg	Date Analyzed: 06/30/11 00:55	SUF	ROGATE RE	COVERY S	JTUDY					
ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene		0.0276	0.0300	92	80-120					
4-Bromofluorobenzene		0.0275	0.0300	92	80-120					
Lab Batch #: 862159	Sample: 421119-005 / SMP	Batcl	h: 1 Matrix:	Soil	L					
Units: mg/kg	Date Analyzed: 06/30/11 01:18	SUI	RROGATE RE	COVERY S	STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1 4-Difluorobenzene		0.0287	0.0300	96	80-120					
4-Bromofluorobenzene		0.0295	0.0300	98	80-120					
I ab Batch #+ 862159	Sample: 421119-006 / SMP	Batel		• Soil	<u> </u>	·				
Units: mg/kg	Date Analyzed: 06/30/11 01:40	SU	RROGATE RF	COVERY (	STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			נטן		l				
1,4-Difluorobenzene		0.0276	0.0300	92	80-120	- 				
4-Bromofluorobenzene		0.0303	0.0300	101	80-120	L				
Lab Batch #: 862159	Sample: 421119-005 S / MS	S Batch: 1 Matrix: Soil								
Units: mg/kg	Date Analyzed: 06/30/11 05:03	SU/	RROGATE RE	COVERY S	STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1.4-Difluorobenzene		0.0290	0.0300	97	80-120					
4-Bromofluorobenzene		0.0327	0.0300	109	80-120	1				
Lab Batch #: 862159	Sample: 421119-005 SD / N	ASD Bate	h: <sup>1</sup> Matrix	:Soil						
Units: mg/kg	Date Analyzed: 06/30/11 05:26	SU	<b>RROGATE RF</b>	ECOVERY !	STUDY					
BTE	X by EPA 8021B Analytes	Amount Found įAj	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene		0.0293	0.0300	98	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



## Project Name: Loco Hills Gathering

Vork Orders : 421119	,		Project ID	):						
Lab Batch #: 862159	Sample: 421119-004 / SMP	Batch	1:   Matrix:	Soil						
Units: mg/kg	Date Analyzed: 06/30/11 09:35	SUI	ROGATE RE	COVERYS	STUDY					
ВТЕХ	К by ЕРА 8021В	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0276	0.0300	92	80-120					
4-Bromofluorobenzene		0.0332	0.0300	111	80-120					
Lab Batch #: 861718	Sample: 606101-1-BKS / Bk	CS Batch	n: 1 Matrix:	Solid						
Units: mg/kg	Date Analyzed: 06/27/11 14:05	SURROGATE RECOVERY STUDY								
ТРН І	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags					
1 Chlorooctane	Analytes	110	00.5		70.135					
o-Ternhenvl		57.5	49.8	115	70-135					
				9-1:4	10100					
Lab Batch #: 801/18			DECATE DE	Solia	TUDV					
Units: mg/kg	Date Analyzed: 06/27/11 14:36		KKUGATE KE							
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		112	100	112	70-135					
o-Terphenyl		58.2	50.2	116	70-135					
Lab Batch #: 861718	Sample: 606101-1-BLK / BI	LK Batch	h: l Matrix:	Solid						
Units: mg/kg	Date Analyzed: 06/27/11 15:06	SU	RROGATE RE	COVERY	STUDY					
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		112	99.8	112	70-135					
o-Terphenyl		62.7	49.9	126	70-135					
Lab Batch #: 861718	Sample: 421119-001 / SMP	Batcl	h: 1 Matrix:	: Soil	<u></u>					
Units: mg/kg	Date Analyzed: 06/27/11 15:37	SU	RROGATE RE	ECOVERY	STUDY					
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flags				
1-Chlorooctane	Analytus	126	100	126	70-135					
o-Terphenyl		70.3	50.1	140	70-135	*				
		1010	0011	1 10	1 10 100					

\* 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.



### Project Name: Loco Hills Gathering

'ork Orders : 421119,	, Samalar 421110 002 / SMP	D-4-1	Project ID	): Soil		
Lab Batch #: 001/10	Sample: 421117-0027 SWI		RROGATE RE	COVERY S	STUDY	
TPH F	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		116	99.9	116	70-135	
o-Terphenyl		63.4	50.0	127	70-135	
Lab Batch #: 861718	Sample: 421119-003 / SMP	Batcl	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/27/11 16:37	SU	RROGATE RE	COVERY	STUDY	
ТРН Е	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		130	100	130	70-135	
o-Terphenyl		68.8	50.0	138	70-135	*
Lab Batch #: 861718	Sample: 421119-004 / SMP	Batel	h: 1 Matrix:	Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 06/27/11 17:08	SU	RROGATE RF	COVERY S	STUDY	
трн і	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			נען		<u> </u>
1-Chlorooctane		128	100	128	70-135	
o-Terpnenyi		68.3	50.2	136	70-135	т 
Lab Batch #: 861718	Sample: 421119-005 / SMP	Batel	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 06/27/11 17:38	50	RROGATE RE	COVERY :	STUDY	
ТРН Ј	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		125	100	125	70-135	
o-Terphenyl		68.5	50.2	136	70-135	*
Lab Batch #: 861718	Sample: 421119-006 / SMP	Batc	h: 1 Matrix	: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 06/27/11 18:08	SU	<b>RROGATE RF</b>	ECOVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		127	100	127	70-135	l
o-Ternhenvl		69.8	50.1	139	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



## Project Name: Loco Hills Gathering

Work Orders : 421119	), Semalar (21119-006 S / M'	Project ID: MS Batchy 1 Matrix: Soil								
Units: mg/kg	Date Analyzed: 06/27/11 18:38	SU	RROGATE R	ECOVERY	STUDY					
ТРҢ	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		153	201	76	70-135	• <b>-</b>				
o-Terphenyl		81.6	100	82	70-135					
Lab Batch #: 861718	Sample: 421119-006 SD / N	ASD Bate	h: 1 Matrix	r: Soil						
Units: mg/kg	Date Analyzed: 06/27/11 19:08	SU	RROGATE R	ECOVERY	STUDY					
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		129	100	129	70-135					
o-Terphenyl		67.4	50.2	134	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





Work Order #: 421119							Pro	ject ID:			
Analyst: ASA	D	ate Prepai	red: 06/28/20	11			Date A	nalyzed:	06/28/2011		
Lab Batch ID: 861924 Sample: 606224	1-BKS	Batc	h#: 1					Matrix:	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOV	ERY STUE	DY	
BTEX by EPA 8021B	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	<0.00100	0.100	0,113	113	0.100	0.107	107	5	70-130	35	
Toluene	<0.00200	0.100	0.105	105	0.100	0.100	100	5	70-130	35	
Ethylbenzene	<0.00100	0.100	0.115	115	0.100	0.110	110	4	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.222	111	0.200	0.212	106	5	70-135	35	
o-Xylene	<0.00100	0.100	0.110	110	0.100	0.103	103	7	71-133	35	
Analyst: ASA	D	ate Prepar	red: 06/29/20	11			Date A	nalyzed: (	06/29/2011		
Lab Batch ID: 862159 Sample: 606878	1-BKS	Batc	<b>h #:</b> 1					Matrix:	Solid		
Units: mg/kg		BLAN	K/BLANKS	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOV	ERY STUE	γ	
BTEX by EPA 8021B	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	<0.00100	0.100	0.106	106	0.100	0.0990	99	7	70-130	35	
Toluene	<0.00200	0.100	0.0974	97	0.100	0.0906	91	7	70-130	35	
	-				<u> </u>		··			<u> </u>	<u> </u>
Ethylbenzene	< 0.00100	0.100	0.105	105	0.100	0.0987	99	6	71-129	35	ſ
Ethylbenzene m_p-Xylenes	<0.00100 <0.00200	0.100	0.105	105 102	0.100	0.0987	99 96	6	71-129 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





Work Order #: 421119 Analyst: BEV Lab Batch 1D: 861718	Sample: 606101-1-B	Date Prepared:     06/27/2011     Date Analyzed:     06/27/2011       -BKS     Batch #:     1     Matrix:     Solid										
Units: mg/kg			BLAN	K /BLANK S	SPIKE / I	BLANK S	PIKE DUPL	ICATE	RECOVE	ERY STUD	Y	
TPH By SW80 Analytes	15 Mod	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 Hydroca	arbons	<14.9	995	837	84	1000	850	85	2	70-135	35	
C12-C28 Diesel Range Hydrocar	bons	<14.9	995	798	80	1000	815	82	2	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





Å

Work Order #: 421119						Project I	D:				
Lab Batch ID:         861924         Q           Date Analyzed:         06/28/2011         1	C- Sample ID: Date Prepared:	420862 06/28/2	-003 S 011	Ba An:	tch #: alyst:	l <b>Matri</b> : ASA	x: Soil				
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0771	76	0.101	0.0752	74	2	70-130	35	
Toluene	0.00425	0.101	0.0678	63	0.101	0.0668	62	1	70-130	35	X
Ethylbenzene	0.00328	0.101	0.0661	62	0.101	0.0641	60	3	71-129	35	x
m_p-Xylenes	0.00360	0.202	0.122	59	0.202	0.118	57	3	70-135	35	X
o-Xylene	0.00393	0.101	0.0568	52	0.101	0.0557	51	2	71-133	35	X
Lab Batch ID: 862159 Q	C- Sample ID:	421119	-005 S	Bat	tch #:	1 Matrix	k: Soil				
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY	<u></u>	
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	<b>[B]</b>		[D]	[E]		[G]				
Benzene	< 0.00105	0.105	0.0864	82	0.105	0.0794	76	8	70-130	35	
Toluene	<0.00209	0.105	0.0772	74	0.105	0.0731	70	5	70-130	35	
Ethylbenzene	<0.00105	0.105	0.0829	79	0.105	0.0781	74	6	71-129	35	
m_p-Xylenes	<0.00209	0.209	0.158	76	0.211	0.147	70	7	70-135	35	
o-Xylene	<0.00105	0.105	0.0771	73	0.105	0.0724	69	6	71-133	35	X

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference RPD =  $200^{*}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



Work Order #: 421119 Project ID:											
Lab Batch ID: 861718 Date Analyzed: 06/27/2011	QC- Sample ID: Date Prepared:	421119 06/27/2	-006 S 2011	Ba An	tch #: alyst:	l <b>Matri</b> BEV	x: Soil				
<b>Reporting Units:</b> mg/kg		N	IATRIX SPIK	É / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]		%к [D]	Added [E]	Result [F]	%к [G]	%	%к	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	1050	100	1050	881	84	18	70-135	35	
C12-C28 Diesel Range Hydrocarbons	18.5	1050	987	92	1050	828	77	18	70-135	35	Į

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

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

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Work Order #: 421119

# Sample Duplicate Recovery



### **Project Name: Loco Hills Gathering**

Lab Batch #: 861731				Project I	D:	
Date Analyzed: 06/27/2011 11:30	Date Prepar	ed: 06/27/2011	Ana	lyst: WRU		
QC- Sample ID: 421127-001 D	Batch	1#: 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]			
Percent Moisture		13.2	13.0	2	20	
Lab Batch #: 861733						
Date Analyzed: 06/27/2011 11:43	Date Prepar	ed: 06/27/2011	Ana	lyst: WRU		
QC- Sample ID: 421119-004 D	Batch	#: 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result  A]	Sample Duplicate Result (B)	RPD	Control Limits %RPD	Flag
Analyte				<u> </u>		
Percent Moisture		2.89	2.47	16	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 Laboratories**

#### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

The Envir	onmental Lab of Tex	88				•				1260 Ode	00 W ssa,	est I Tex	-20 as 7	East 9768	t 5								P	'hon Fax:	ie: 4 : 4	32-!  32-!	563-* 563-*	1800 1713	) 3			
F	Project Manager:	Camille Bryant	· .			<u>.</u>												Pr	ojec	t Na	me: _	Lo	co I	Hills	Ga	ther	ring					
c	Company Name	Nova Safety and Environ	mental		<u> </u>														Pr	ojec	:t #:_											
C	Company Address:	2057 Commerce																I	Proje	ect L	.oc: _		[	Eddy	<u>/ Co</u>	unty,	New	√ Me	xico			
c	City/State/Zip:	Midland, TX 79703					<u> </u>													PC	) #:_											
Т	relephone No:	432.520.7720					Fax No:	:	432.	.520.	770 <u>1</u>						Re	əpor	t Fo	rmat	. \	Ŕ	Stan	darc	i	Γ	] TF	۲RP		<b>م</b> []	IPDE	s
s	Sampler Signature	ameri	Ra		set.	-lo	e-mail:	;		c	brya	int@	<u>)nov</u>	atra	aining	<u>1.cc</u>	2	_														
(lab use on			D	Yic O	IL	de	y												F			тс	LP:	Ana	ilyze	For		<b>—</b>			- 2	
ORDER #	#: 421119		-			•	0		ſ	Pr	eserva	ition &	# of	Conta	ainers	Т	Ма	trix	g			тот	AL:	e	+	-	-				48, 72	
LAB # (lab use only)	FIEL	D CODE	Beginning Depth	Ending Depth	20	Date Sampled	Time Sampled	Field Filtered	<ul> <li>Total #. of Containers</li> </ul>	X Ice	HNUS	H <sub>2</sub> S0,	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Unter (Specify)	DW=Drinking Water SL=Sludge GW = Gmundwater S=SolifSolife	NP=Non-Potable Specify Other	× TPH: 418.1 8015M 8015	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Antons (CI, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg So	Volatiles	Serrivolaures	Ro	N.O.R.M.			RUSH TAT (Pre-Schedule) 24, 4	× Standard TAT
001 4	north sil	1-308	+		19	<u>a1</u>	$\frac{1100}{1105}$		- <u>+</u> +	$\frac{2}{x}$	+	+-	+		-+	╉	S	<u>- nc</u> Dil	$\frac{1}{x}$		-+	╉	+	╉	╋	ť	;†	†-	$\left  \right $		+-	$f_{x}$
003	12 test	W: 1 @ 8'							1	x							Sc	oil	X							7		T			T	X
004 8	East sli	J-4 e 8'					1115		1	x							S	oil	X				_	_	$\bot$	<u></u> ×	1	L	$\square$	$\vdash$	$\bot$	X
005 5	Surth SII	N-406'	ļ				1120	$\square$	1	x	-	1				┦	Sc	oil	X		_	-	$\downarrow$	_	╇	_ <u> </u> ×	4	$\downarrow$	$\square$	⊢⊢	$\perp$	×
006	KP. Floo	<u>(C 8'</u>	┝──-	<u> </u>	<b>├↓</b>	L	1125	$\left  \right $	1	<u>×</u>		┢			$\rightarrow$	+	Sc	oil	X		-+-	+	-		_	+×	4	╀	┝╌┦	+	+	₽
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RUUL	_urail	x 10/24/1	1	1.01	L AA	16 <u>i</u>	Under	2							62	<u>y</u>	-11	15	<u>4</u>	1										_0		



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#### **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:	Abra Safety	
Date/Time:	6-24-11 3:49	
Lab ID # :	421119	
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	(NA)	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	(P)	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)?	(P)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	Yee	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples property preserved?	Teg	No	N/A	
13. Sample container intact?	Ye	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 N	D.	Cooler 5 No.	
ibs 6 °C ibs °C ibs	°C lbs	°C	lbs	°C

#### Nonconformance Documentation

Contact:	Contacted by:	Date/Time:
Regarding:		· · · · · · · · · · · · · · · · · · ·
	·	
Corrective Action Tak	en:	
		***
Check all that apply:	Cooling process has begun shortly after sample condition acceptable by NELAC 5.5.8.3.1.	ing event and out of temperature a.1.
	Initial and Backup Temperature confirm out of t	emperature conditions
	- Gient understands and would like to proceed w	viui analysis

Page 19 of 19

# Analytical Report 421882

for Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

### 06-JUL-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 (AZ0765), 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 (AAL11), 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) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



06-JUL-11

TNI)

Project Manager: **Camille Bryant Nova Safety & Environmental** 2057 Commerce Street Midland, TX 79703

Reference: XENCO Report No: **421882** Loco Hills Gathering Project Address: Eddy County, New Mexico

### **Camille Bryant**:

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 421882. 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. 421882 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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# Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	Jul-01-11 11:53		421882-001
SP-2	S	Jul-01-11 11:59		421882-002
SP-3	S	Jul-01-11 12:07		421882-003


## CASE NARRATIVE

Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 421882 Report Date: 06-JUL-11 Date Received: 07/01/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None



Project Id:

Contact: Camille Bryant

C28-C35 Oil Range Hydrocarbons

Total TPH

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 421882

Nova Safety & Environmental, Midland, TX

Project Name: Loco Hills Gathering



Date Received in Lab: Fri Jul-01-11 04:53 pm

Report Date: 06-JUL-11

Report Dat

								Project Manager:	Brent Barron, II	
	Lab Id:	421882-0	001	421882-0	002	421882-0	003			
Anglusia Degranted	Field Id:	SP-1		SP-2		SP-3				
Analysis Requested	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Jul-01-11	1:53	Jul-01-11 1	11:59	Jul-01-11	12:07			
Percent Moisture	Extracted:									
	Analyzed:	Jul-05-11	10:08	Jul-05-11	10:08	Jul-05-11	10:08			
	Units/RL:	%	RL	%	RL	%	RL			
Percent Moisture		2.37	1.00	2.57	1.00	2.44	1.00			
TPH By SW8015 Mod	Extracted:	Jul-05-11	10:00	Jul-05-11 1	10:00	Jul-05-11	0:00			
	Analyzed:	Jul-05-11	13:59	Jul-05-11 1	14:30	Jul-05-11	5:01			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		169	15.3	219	15.4	213	15.3			
C12-C28 Diesel Range Hydrocarbons		1560	15.3	1640	15.4	1610	15.3			

ND

1860

15.4

15.4

20.8

1840

15.3

15.3

20.6

1750

15.3

15.3

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.

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

Brent Barron, II

Odessa Laboratory Manager

Final 1.000



# **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or В laboratory contamination.
- The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. D 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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2505 North Falkenburg Rd, Tampa, FL 33619
5757 NW 158th St, Miami Lakes, FL 33014
12600 West I-20 East, Odessa, TX 79765
842 Cantwell Lanc, Corpus Christi, TX 78408
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116
(602) 437-0330	

Pho (281

Final 1.000



## Project Name: Loco Hills Gathering

<b>Work Orders :</b> 421882	", ", 0		Project II	):								
Lab Batch #: 802022	Date Analyzed: 07/05/11 12:27	SU SU	RROGATE RE	ECOVERY	STUDY							
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			ניטן								
1-Chlorooctane		86.2	99.9	86	70-135							
o-Terphenyl		43.2	50.0	86	70-135							
Lab Batch #: 862622	Sample: 607157-1-BSD / B	SD Batel	h: 1 Matrix:	Solid								
Units: mg/kg	Date Analyzed: 07/05/11 12:56	SURROGATE RECOVERY STUDY										
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			ניין								
1-Chlorooctane		88.4	99.7	89	70-135							
o-Terphenyl		45.6	49.9	91	70-135							
Lab Batch #: 862622	Sample: 607157-1-BLK / B	BLK Batel	h: 1 Matrix	Solid								
Units: mg/kg	Date Analyzed: 07/05/11 13:27	SU	RROGATE RI	ECOVERY	STUDY							
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			[0]								
1-Chlorooctane		85.0	100	85	70-135							
o-Terphenyl		44.3	50.2	88	70-135							
Lab Batch #: 862622	Sample: 421882-001 / SMF	Batcl	h: I Matrix	: Soil								
Units: mg/kg	Date Analyzed: 07/05/11 13:59	SU	RROGATE RI	ECOVERY	STUDY							
ТРН	By SW8015 Mod Analytes	Amount Found {A}	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chlorooctane		79.0	99.7	79	70-135							
o-Terphenyl		39.8	49.9	80	70-135							
Lab Batch #: 862622	Sample: 421882-002 / SMI	P Batel	h: <sup> </sup> Matrix	Soil								
Units: mg/kg	Date Analyzed: 07/05/11 14:30	SU	RROGATE RI	ECOVERY	STUDY							
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chlorooctane		77.0	100	77	70-135							

\* Surrogate outside of Laboratory QC limits

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

o-Terphenyl

\*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.

38.6

50.0

77

70-135

.



# Project Name: Loco Hills Gathering

Vork Orders: 421882	-,		Project II	D:					
Lab Batch #: 862622	Sample: 421882-003 / SMP	Batel	h: 1 Matrix:	: Soil					
Units: mg/kg	Date Analyzed: 07/05/11 15:01	SU	RROGATE RE	COVERY	STUDY				
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		82.8	99.8	83	70-135				
o-Terphenyl		41.4	49.9	83	70-135				
Lab Batch #: 862622	Sample: 421882-003 S / MS	Batc	h: 1 Matrix:	: Soil					
Units: mg/kg	Date Analyzed: 07/05/11 15:32	SURROGATE RECOVERY STUDY							
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			ַנטן 					
1-Chlorooctane		77.4	100	77	70-135				
o-Terphenyl		36.7	50.1	73	70-135				
Lab Batch #: 862622	Sample: 421882-003 SD / M	ISD Bate	h: 1 Matrix:	: Soil					
Units: mg/kg	Date Analyzed: 07/05/11 16:03	33 SURROGATE RECOVERY STUDY							
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		76.6	100	77	70-135				
o-Terphenyl		37.3	50.1	74	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.





.

## Project Name: Loco Hills Gathering

Work Order #: 421882 Analyst: BEV Lab Batch ID: 862622	Sample: 607157-1-B	Date Prepared:         07/05/2011           BKS         Batch #:         1         Matrix:         Solid										
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW801 Analytes	15 Mod	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 Hydroca	rbons	<15.0	999	900	90	997	922	92	2	70-135	35	
C12-C28 Diesel Range Hydrocart	bons	<15.0	999	884	88	997	926	93	5	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



Work Order #: 421882 Project ID:											
Lab Batch ID: 862622 Date Analyzed: 07/05/2011	QC- Sample ID: Date Prepared:	421882 07/05/2	-003 S 011	Ba An	tch #: alyst:	l Matri: BEV	<b>k:</b> Soil				
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	213	1030	943	71	1030	934	70	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	1610	1030	2350	72	1030	2390	76	2	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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

A



# Sample Duplicate Recovery



## **Project Name: Loco Hills Gathering**

#### Work Order #: 421882

Lab Batch #: 862627 Date Analyzed: 07/05/2011 10:08	Date Prepared: 07/05/2011	Ana	<b>Project I</b> lyst: WRU	D:	
QC- Sample ID: 421882-001 D	Batch #: 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	2.37	2.32	2	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 Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

The Env	rironmental Lab of Tex	(88								12 Od	600 Iess	We a, T	st I- exa	20 E s 79	ast 1765									P) F	hone Fax:	9: 43 43	32-5( 32-5(	53-11 63-1	800 713					
	Project Manager:	Camille Bryant															_		Pro	ject	Nan	ne:_				Loc	o Hi	lls C	Sath	ierir	<u>ig</u>			
	Company Name	Nova Safety and Er	nvironm	ental													_			Pro	jeci	t #:_												
	Company Address:	2057 Commerce			<b>.</b>												_		P	rojec	ct Lo	oc:_			<u> </u>	ddy	Cou	nty, I	New	Me>	dico			
	City/State/Zip:	Midland, TX 79703															_				PO	)#:_												
	Telephone No:	432.520.7720					Fax No:		432	2.52	0.77	01						Re	port	For	nat	:	Ŕ	Stan	dard			] TR	ŔP		۱ 🗌	1PDE	ΞS	
	Sampler Signature:	David L	ope	2			e-mail:				cbry	ant	<u>@n</u>	ova	train	ing.c	×Ç								<u> </u>									
(lab use d	only)																				_		тс	LP:	Anal	yze	For:	1	[			ر  -	<u>e</u>	
ORDER	#: 421882		[								Prese	ervati	on &	# of (	Contai	ners	Ļ	Mat	rix	158	7		TOT	AL:	93	+-	8					۽ ب	: ;;	
LAB # (lab use only)	FIEL	D CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	tce	HNO3	HCI	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=Orinking Water St =Studioe	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 418.1 (8015M) 80	TPH: TX 1005 TX 1006	Cations (Ca. Mg. Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag ba Cd Cr PD Hg Volatiles	Semivotatiles	BTEX/8021B 5030 or BTEX 82	RCI	N.O.R.M.			BIICU TAT (n- Schodula) 24	KUOM IAI (Pre-Schedule) A	Standard TAT
001		SP-1				7/1/2011	1153			x			_					s		x			_				×	$\downarrow$			$\vdash$	4	$\downarrow$	<u>x</u>
002		SP-2				7/1/2011	1159			x					_	_		<u>_</u> S		x	4	4	4	4	+	+-	×		<b> </b>	┟─┘	$\vdash$	+	+	<u>x</u>
003		<u>SP-3</u>				7/1/2011	1207	$\left  \right $		x				-	-+-	+	╞	S	-	×		-	-	-	+	┼╴	×	╉──	<u> </u>	┼──┤	┝─┼	╉	╉	<u>×</u>
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Special Ir	nstructions: Hold BTEX Until 1	TPH is finished. If To	tai TPF	l is le	ss tha	n 1,000 mg/Kg	then run BTEX	. If c	ver	r 1,0	00 r	ng/ł	(g ci	all C	amil	le Br	yan	IL_		<u> </u>		Labo Sam VOC	ple s Fi	ory ( Cont ree o	<b>Comi</b> ainei f Hea	nen s Int adsp	ts: tact? ace?	?		(	$\widehat{\diamond}$	~ 6	A	2
Relinquish	id 10022			Tin 157	ne 30	Received by: 1	att Gura	2								7-1	ate 	()		ime		Labe Cust Cust	els o ody odv	n co seal	ntain s on s on	er(s) cont conl	) aine: er(s)	r(s)		۲	Ý	Ŕ	9	
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#### **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:	Nova Safety & Environmental
Date/Time:	7-1-11 16:53
Lab ID # :	421882
Initials:	ZM

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	¥es)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	NA	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Tes	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)?	Ve	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?	œ	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?	Tes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	NA	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 No	)	Cooler 5 No.	
Ibs -1.4 °C Ibs °C Ibs °C	lbs	°C	ibs	°C

#### **Nonconformance Documentation**

Contacted by: Contact:\_ 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

# Analytical Report 422474

for Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

#### 19-JUL-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 (AZ0765), 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 (AAL11), 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) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



19-JUL-11



Project Manager: **Camille Bryant Nova Safety & Environmental** 2057 Commerce Street Midland, TX 79703

Reference: XENCO Report No: **422474** Loco Hills Gathering Project Address: Eddy County, New Mexico

#### **Camille Bryant**:

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 422474. 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. 422474 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 422474



## Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
East S/W-4A @ 8'	S	Jul-07-11 09:00		422474-001
West S/W-4A @ 8'	S	Jul-07-11 09:10		422474-002
SP-1A	S	Jul-07-11 12:00		422474-003
SP-2A	S	Jul-07-11 12:05		422474-004
SP-3A	S	Jul-07-11 12:10		422474-005
SP-4	S	Jul-07-11 12:15		422474-006
SP-5	S	Jul-07-11 12:20		422474-007
SP-6	S	Jul-07-11 12:25		422474-008
SP-7	S	Jul-07-11 12:30		422474-009





Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 422474 Report Date: 19-JUL-11 Date Received: 07/08/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-863486 BTEX by EPA 8021B SW8021BM

Batch 863486, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene, Ethylbenzene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 422474-002, -001.

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

Batch: LBA-864167 BTEX by EPA 8021B SW8021BM

Batch 864167, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 422474-009. 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 422474-003.



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 422474

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Fri Jul-08-11 11:08 am

Report Date: 19-JUL-11

								Project Ma	nager:	Brent Barron,	II		
	Lab Id:	422474-	001	422474-0	02	422474-(	003	422474-(	004	422474-0	005	422474-	006
	Field Id:	East S/W-4/	A @ 8'	West S/W-44	A @ 8'	SP-1A	A	SP-2A	۰ I	SP-3A	<b>\</b>	SP-4	
Analysis Requested	Depth:				1								
	Matrix:	SOIL		SOIL	Í	SOIL	. (	SOIL		SOIL		SOIL	
	Sampled:	Jul-07-11 (	09:00	Jul-07-11 (	9:10	Jul-07-11	12:00	Jul-07-11	12:05	Jul-07-11	12:10	Jul-07-11	12:15
BTEX by EPA 8021B	Extracted:	Jul-12-11	09:30	Jul-12-11 (	9:30	Jul-18-11 (	08:46	Jul-18-11 (	08:46	Jul-18-11 (	08:46	Jul-18-11	08:46
	Analyzed:	Jul-12-11	20:49	Jul-12-11 2	1:12	Jul-18-11	13:50	Jul-18-11	14:13	Brent Barron, II 422474-005 SP-3A SOIL Jul-07-11 12:10 Jul-18-11 08:46 Jul-18-11 14:35 mg/kg RL 0 ND 0.00100 0 0.0269 0.00100 0 0.0269 0.0020 0 0.0324 0.00100 0 0.0324 0.00100 0 0.0324 0.00100 0 0.0853 0.00100 0 0.0853 0.00100 0 0.0853 0.00100 0 0.0853 0.00100 0 0.0853 0.00100 0 0.119 0.00100 Jul-08-11 15:15 % RL 0 ND 1.00 Jul-09-11 22:23 mg/kg RL 72.5 15.1 777 15.1 22.6 15.1 872 15.1	Jul-18-11	14:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.00136	0.0010	ND	0.0010	ND	0.0010	0.00115	0.0010	ND	0.00100	ND	0.00100
Toluene		0.00927	0.0020	ND	0.0021	0.0126	0.0020	0.00731	0.0020	0.00648	0.0020	0.0101	0.0020
Ethylbenzene		0.0270	0.0010	ND	0.0010	0.0435	0.0010	0.0294	0.0010	0.0269	0.00100	0.0341	0.00100
m_p-Xylenes	_	0.0695	0.0020	ND	0.0021	0.0830	0.0020	0.0568	0.0020	0.0529	0.0020	0.0619	0.0020
o-Xylene		0.0428	0.0010	ND	0.0010	0.0497	0.0010	0.0350	0.0010	0.0324	0.00100	0.0352	0.00100
Total Xylenes	_	0.112	0.0010	ND	0.0010	0.133	0.0010	0.0918	0.0010	0.0853	0.00100	0.0971	0.00100
Total BTEX		0.150	0.0010	ND	0.0010	0.189	0.0010	0.130	0.0010	0.119	0.00100	0.141	0.00100
Percent Moisture	Extracted:												
	Analyzed:	Jul-08-11	15:15	Jul-08-11 1	5:15	Jul-08-11	15:15	Jul-08-11 1	15:15	Jul-08-11	15:15	Jul-08-11	15:15
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		ND	1.00	3.43	1.00	ND	1.00	ND	1.00	ND	1.00	ND	1.00
TPH By SW8015 Mod	Extracted:	Jul-09-11	11:30	Jul-09-11 1	1:30	Jul-09-11	11:30	Jul-09-11 1	11:30	Jul-09-11	11:30	Jul-09-11	11:30
	Analyzed:	Jul-09-11	20:20	Jul-09-11 2	0:51	Jul-09-11 2	21:22	Jul-09-11 2	21:53	Jul-09-11 2	22:23	Jul-09-11	22:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		34.7	15.0	ND	15.5	115	15.1	55.1	15.1	72.5	15.1	54.6	15.1
C12-C28 Diesel Range Hydrocarbons		163	15.0	139	15.5	1470	15.1	651	15.1	777	15.1	719	15.1
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.5	ND	15.1	ND	15.1	22.6	15.1	23.0	15.1
Total TPH		198	15.0	139	15.5	1590	15.1	706	15.1	872	15.1	797	15.1

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.

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Brent Barron, II

Odessa Laboratory Manager

Page 5 of 20

Final 1.001



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 422474

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Fri Jul-08-11 11:08 am

Report Date: 19-JUL-11

Project Manager: Brent Barron, II

	Lab Id:	422474-	007	422474-0	800	422474-	009		
Analysis Paguastad	Field Id:	SP-5		SP-6		SP-7	,		
Analysis Requested	Depth:	,							
	Matrix:	SOIL		SOIL		SOIL	-		
	Sampled:	Jul-07-11	12:20	Jul-07-11	12:25	Jul-07-11	12:30		
BTEX by EPA 8021B	Extracted:	Jul-18-11	08:46	Jul-18-11 (	08:46	Jul-18-11	08:46		
	Analyzed:	Jul-18-11	15:21	Jul-18-11	15:43	Jul-18-11	16:07		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.0010	ND	0.00100	ND	0.00099		
Toluene		0.0145	0.0020	0.00566	0.0020	0.00549	0.0020		
Ethylbenzene		0.0491	0.0010	0.0168	0.00100	0.0144	0.00099		
m_p-Xylenes		0.0868	0.0020	0.0315	0.0020	0.0265	0.0020		
o-Xylene		0.0508	0.0010	0.0202	0.00100	0.0157	0.00099		
Total Xylenes		0.138	0.0010	0.0517	0.00100	0.0422	0.00099		
Total BTEX		0.201	0.0010	0.0742	0.00100	0.0621	0.00099		
Percent Moisture	Extracted:								
	Analyzed:	Jul-08-11	15:15	Jul-08-11	15:15	Jul-08-11	15:15		
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		ND	1.00	ND	1.00	ND	1.00	 	
TPH By SW8015 Mod	Extracted:	Jul-09-11	11:30	Jul-09-11	11:30	Jul-09-11	11:30	ĺ	
	Analyzed:	Jul-09-11	23:21	Jul-09-112	23:50	Jul-10-11	00:19		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		59.0	15.0	36.5	15.0	25.9	15.1		
C12-C28 Diesel Range Hydrocarbons		705	15.0	409	15.0	300	15.1	-	
C28-C35 Oil Range Hydrocarbons		20.6	15.0	19.8	15.0	ND	15.1		
Total TPH		785	15.0	465	15.0	326	15.1		

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.

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

**DL** Method Detection Limit

- NC Non-Calculable
- + Outside XENCO's scope of NELAC Accreditation.

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(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



## Project Name: Loco Hills Gathering

<b>Nork Orders :</b> 422474	ł,		Project IF	):		
Lab Batch #: 863486	Sample: 607677-1-BKS7 B	KS Batch	1: 1 Matrix:	Solid	OPTINV	
Units: mg/kg	Date Analyzed: 07/12/11 11:09	501	RROGATE KE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes	I]	ı'	[D]		i
1,4-Difluorobenzene		0.0309	0.0300	103	80-120	
4-Bromofluorobenzene		0.0275	0.0300	92	80-120	
Lab Batch #: 863486	Sample: 607677-1-BSD / B	SD Batel	h: 1 Matrix:	: Solid		
Units: mg/kg	Date Analyzed: 07/12/11 11:32	SU	RROGATE RF	<b>COVERY</b>	STUDY	
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Amay (C)	0.0306	0.0300	102	80-120	<sup> </sup>
4-Bromofluorobenzene		0.0306	0.0300	102	80-120	┟ <sup>/</sup>
Lab Batch #: 863486	Sample: 607677-1-BLK / B	LK Bate	h: 1 Matrix:	Solid	<u>k</u>	<u></u>
Units: mg/kg	Date Analyzed: 07/12/11 12:42	SU	RROGATE RF	COVERY !	STUDY	
BTE	BTEX by EPA 8021B		True Amount [B]	Recovery %R  D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0277	0.0300	92	80-120	
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	
Lab Batch #: 863486	Sample: 422474-001 / SMP	Batel	h: 1 Matrix	: Soil	<u> </u>	·
Units: mg/kg	Date Analyzed: 07/12/11 20:49	SU	RROGATE RF	<b>ECOVERY</b>	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Difluorobenzene	Analytts	0.0263	0.0300	88	80-120	<b> </b>
4-Bromofluorobenzene		0.0203	0.0300	101	80-120	
Lab Batch #: 863486		Batc	h. 1 Matrix	• Soil		1
Units: mg/kg	Date Analyzed: 07/12/11 21:12	SU	RROGATE RF	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0293	0.0300	98	80-120	
4-Bromofluorobenzene		0.0314	0.0300	105	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 / BAll results are based on MDL and validated for QC purposes.



## Project Name: Loco Hills Gathering

<b>Vork Orders :</b> 422474	, 	S D-4-1	Project ID	): Soil		
Lab Batch #: 803480	Sample: 4224/4-001 37 M.	S Batch	RROGATE RF	COVERY S	STUDY	
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0297	0.0300	99	80-120	
4-Bromofluorobenzene		0.0304	0.0300	101	80-120	
Lab Batch #: 863486	Sample: 422474-001 SD / N	MSD Batch	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 07/13/11 02:32	SU	RROGATE RE	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	
Lab Batch #• 864167	Sample: 608076-1-BKS / B	KS Batel	h:   Matrix:	Solid		
Units: mg/kg	Date Analyzed: 07/18/11 09:42         SURROGATE RECOVERY STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			{D}		
1,4-Difluorobenzene		0.0332	0.0300	111	80-120	
4-Bromofluorobenzene		0.0306	0.0300	102	80-120	
Lab Batch #: 864167	Sample: 608076-1-BSD / E	BSD Batcl	h: <sup>1</sup> Matrix:	Solid		
Units: mg/kg	Date Analyzed: 07/18/11 10:04	SU	RROGATE RE	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0325	0.0300	108	80-120	
Lab Batch #: 864167	Sample: 608076-1-BLK / E	BLK Bate	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 07/18/11 11:12	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	¥	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	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



## Project Name: Loco Hills Gathering

<b>Vork Orders :</b> 422474	, ,		Project II	):		
Lab Batch #: 86416/	Sample: 423105-001 S7 MS		h: 1 Matrix:	Soll	TUDV	
Units: mg/kg	Date Analyzed: 07/18/11 12:19	50	RRUGATE RE			
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0328	0.0300	109	80-120	
Lab Batch #: 864167	Sample: 423105-001 SD / N	ISD Bate	h: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 07/18/11 12:41	SU	RROGATE RE	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0304	0.0300	101	80-120	
4-Bromofluorobenzene		0.0338	0.0300	113	80-120	
Lab Batch #: 864167	Sample: 422474-003 / SMP	Batc	h: <sup>1</sup> Matrix:	: Soil	I	
Units: mg/kg	Date Analyzed: 07/18/11 13:50	SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B	SURROGATE         RECOVERY STUDY           Amount         True         Control           Found         Amount         Recovery         Limits           [A]         [B]         %R         %R		Control Limits %R	Flag	
	Analytes			[D]		
1,4-Difluorobenzene		0.0281	0.0300	94	80-120	
4-Bromofluorobenzene		0.0371	0.0300	124	80-120	*
Lab Batch #: 864167	Sample: 422474-004 / SMP	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 07/18/11 14:13	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes	0.0070	0.0200		00.100	
1,4-Difluorobenzene		0.0272	0.0300	91	80-120	
		0.0293	0.0300	<u>84</u>	80-120	
Lab Batch #: 864167	Sample: 4224/4-005/SMF	Bate	h: 1 Matrix	:50Il	STUDY	
Units: mg/kg	Date Analyzed: 07/18/11 14:35		KRUGATE KI			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0254	0.0300	85	80-120	
4-Bromofluorobenzene		0.0338	0.0300	113	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



# Project Name: Loco Hills Gathering

Vork Orders : 422474	+,	D. ( )	Project ID	): 0.41		
Lab Batch #: 804107	Sample: 4224/4-000/ SMIT	Baten	RROGATE RF	Sou COVERY (	STUDY	
Units: mg/kg BTE2	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		0.0004	0.0200		00.120	i
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	i
4-Bromofluorodenzene		0.0325	0.0300	108	80-120	
Lab Batch #: 864167	Sample: 422474-007 / SMP	Batch	a: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 07/18/11 15:21	SU	RROGATE RE	COVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0241	0.0300	80	80-120	· ·
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	
Lab Batch #: 864167	Sample: 422474-008 / SMP	Batcl	h: 1 Matrix:	Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 07/18/11 15:43	SU	RROGATE RE	COVERY S	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0271	0.0300	90	80-120	
4-Bromofluorobenzene		0.0326	0.0300	109	80-120	i
Lab Batch #: 864167	Sample: 422474-009 / SMP	Bate	h: 1 Matrix:	Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 07/18/11 16:07	SU	<b>RROGATE RF</b>	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Diffuorobenzene		0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	
Lah Ratch #: 863227	Sample: 607509-1-BKS / BK	(S Batc	h· 1 Matrix:	Solid		·
Units: mg/kg	Date Analyzed: 07/09/11 18:45	SU _	RROGATE RI	ECOVERY :	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		115	100	115	70-135	
o-Terphenyl		59.8	50.1	119	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



# Project Name: Loco Hills Gathering

<b>Vork Orders :</b> 422474	·,		Project II	):		
Lab Batch #: 803227	Sample: 60/509-1-850/85	SD Bater	h: 1 Matrix: <b>PROCATE RE</b>	Solid COVERY (	STUDY	
Units: mg/kg	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		127	99.6	128	70-135	
o-Terphenyl		66.0	49.8	133	70-135	
Lab Batch #: 863227	Sample: 607509-1-BLK / BI	LK Batc	h: 1 Matrix:	Solid		
Units: mg/kg	Units: mg/kg Date Analyzed: 07/09/11 19:49 SURROGATE RECOVERY STUDY					
TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		109	99.8	109	70-135	
o-Terphenyl		60.6	49.9	121	70-135	
Lab Batch #. 863227		Bate	h•   Matrix	Soil	<u>.</u>	
Units: mg/kg	Date Analyzed: 07/09/11 20:20	SURROGATE RECOVERY STUDY				
TPH 3	TPH By SW8015 Mod		True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		80.6	99.6	81	70-135	
o-Terphenyl		41.1	49.8	83	70-135	
Lab Batch #: 863227	Sample: 422474-002 / SMP	Batc	h: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 07/09/11 20:51	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		58.5	50.0	117	70-135	
Lah Batch #: 863227		Batc		⊥ •Soil	<u> </u>	<u> </u>
Units: mg/kg	Date Analyzed: 07/09/11 21:22	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		100	99.7	100	70-135	
o-Terphenyl		54.3	49.9	109	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



## **Project Name: Loco Hills Gathering**

<b>Vork Orders :</b> 422474	, Sampla: 422474-004 / SMP	Ratel	Project II	): Soil		
Lab Baten #: 003227	Date Analyzed: 07/09/11 21:53	SU	RROGATE RE	COVERY S	STUDY	_
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		54.6	50.2	109	70-135	
Lab Batch #: 863227	Sample: 422474-005 / SMP	Batel	h: <sup>1</sup> Matrix:	Soil		
Units: mg/kg	Date Analyzed: 07/09/11 22:23	SU	RROGATE RE	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	111	100	111	70-135	
o-Terphenyl		59.9	50.0	120	70-135	
Lah Batch #: 863227	Sample: 422474-006 / SMP	Batc	h: l Matrix:	: Soil	l	
Units: mg/kg	Date Analyzed: 07/09/11 22:52	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		120	100	120	70-135	
o-Terphenyl		65.1	50.1	130	70-135	
Lab Batch #: 863227	Sample: 422474-007 / SMP	Bate	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 07/09/11 23:21	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		119	99.8	119	70-135	
o-Terphenyl		64.7	49.9	130	70-135	
Lab Batch #: 863227	Sample: 422474-008 / SMP	Bate	h: 1 Matrix	Soil	I	L
Units: mg/kg	Date Analyzed: 07/09/11 23:50	SU	RROGATE RI	ECOVERY	STUDY	-
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	117	99.7	117	70-135	
o-Terphenyl		63.1	49.9	126	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.

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# Form 2 - Surrogate Recoveries

# Project Name: Loco Hills Gathering

ork Orders : 422474	' <del>'</del> 2	Project ID:					
Lab Batch #: 863227	Sample: 422474-009 / SMP	Batc	h: 1 Matrix	: Soil			
Units: mg/kg	Date Analyzed: 07/10/11 00:19	SU	IRROGATE RI	ECOVERY	STUDY		
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		114	101	113	70-135		
o-Terphenyl		62.6	50.3	124	70-135		
Lab Batch #: 863227	Sample: 422474-009 D / MI	D Bate	:h: <sup>1</sup> Matrix	:Soil			
Units: mg/kg	Date Analyzed: 07/10/11 05:41	SU	RROGATE R	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		119	101	118	70-135		
o-Terphenyl		64.1	50.3	127	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





Work Order #: 422474							Pro	ject ID:			
Analyst: ASA	D۵	ate Prepai	ed: 07/12/201	1			Date A	nalyzed: (	07/12/2011		
Lab Batch ID: 863486 Sample: 6076	77-1-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUE	)Y	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.111	111	0.100	0.115	115	4	70-130	35	
Toluene	< 0.00200	0.100	0.101	101	0.100	0.107	107	6	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.106	106	0.100	0.113	113	6	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.206	103	0.200	0.218	109	6	70-135	35	
o-Xylene	< 0.00100	0.100	0.101	101	0.100	0.108	108	7	71-133	35	
Analyst: ASA		ate Prepar	ed: 07/18/201	1			Date A	nalyzed: (	07/18/2011		
Lab Batch ID: 864167 Sample: 6080	76-1-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	γ	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result (Fl	Blk. Spk Dup. %R IGl	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[-]	1-1		0.100					
Benzene	<0.00100	0.100	0.108	108	0.100	0.108	108	0	70-130	35	
	< 0.00200	0.100	0.102	102	0.100	0.101	101		70-130	35	
					0.000				<b>A 1 A C</b>		
Ethylbenzene	<0.00100	0.100	0.110	110	0.100	0.111	111	1	71-129	35	
Ethylbenzene m_p-Xylenes	<0.00100 <0.00200	0.100	0.110	110 107	0.100	0.111 0.215	111 108	1	71-129 70-135	35 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





Work Order #: 422474 Analyst: BEV Lab Batch ID: 863227	Sample: 607509-1-BK	Da S	Project ID: Date Prepared: 07/09/2011 Date Analyzed: 07/09/2011 Batch #: 1 Matrix: Solid									
Units: mg/kg			BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	ICATE	RECOVE	ERY STUD	Y	
TPH By SW80	15 Mod s	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-C12 Gasoline Range Hydroca	arbons	<15.0	1000	879	88	996	964	97	9	70-135	35	
C12-C28 Diesel Range Hydrocar	rbons	<15.0	1000	864	86	996	950	95	9	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



Work Order # : 422474						Project II	D:				
Lab Batch ID:         863486         Q           Date Analyzed:         07/13/2011         1	C- Sample ID: Date Prepared:	422474 07/12/2	-001 S 011	Ba An	tch #: alyst:	l <b>Matri</b> ASA	c: Soil		-		
Reporting Units: mg/kg		M	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
Benzene	0.00136	0.0999	0.0733	72	0.0999	0.0622	61	16	70-130	35	X
Toluene	0.00927	0.0999	0.0773	68	0.0999	0.0664	57	15	70-130	35	X
Ethylbenzene	0.0270	0.0999	0.106	79	0.0999	0.0927	66	13	71-129	35	X
m_p-Xylenes	0.0695	0.200	0.225	78	0.200	0.198	64	13	70-135	35	X
o-Xylene	0.0428	0.0999	0.121	78	0.0999	0.108	65	11	71-133	35	X
Lab Batch ID: 864167 Q	C- Sample ID:	423105	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed: 07/18/2011	Date Prepared:	07/18/2	011	An	alyst:	ASA					
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00106	0.106	0.103	97	0.106	0.102	96	1	70-130	35	
Toluene	<0.00212	0.106	0.0951	90	0.106	0.0953	90	0	70-130	35	
Ethylbenzene	<0.00106	0.106	0.101	95	0.106	0.102	96	1	71-129	35	
m_p-Xylenes	<0.00212	0.212	0.196	92	0.212	0.193	91	2	70-135	35	
o-Xylene	< 0.00106	0.106	0.0960	91	0.106	0.0948	89	1	71-133	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



Sample Duplicate Recovery



## **Project Name: Loco Hills Gathering**

Work Order #: 422474

Lab Batch #: 863289			Project I	D:	
Date Analyzed: 07/08/2011 15:15 Date Prej	oared: 07/08/2011	Ana	lyst: WRU		
QC- Sample ID: 422475-001 D Ba	tch #: 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		<b>[B]</b>			
Percent Moisture	<1.00	<1.00	0	20	
Lah Batah # 863227					
Lab Datch #: 003227					
Date Analyzed:         07/10/2011         05:41         Date Prep	oared: 07/09/2011	Ana	lyst:BEV		
Date Analyzed:         07/10/2011 05:41         Date Prep           QC- Sample ID:         422474-009 D         Bate	<b>bared:</b> 07/09/2011 tch #: 1	Anal Mat	lyst:BEV rix: Soil		
Date Analyzed:         07/10/2011 05:41         Date Prep           QC- Sample ID:         422474-009 D         Bate Prep           Reporting Units:         mg/kg         Bate Prep	oared: 07/09/2013 itch #: 1 SAMPLE	Anal Mat SAMPLE	lyst:BEV rix: Soil DUPLIC	ATE REC	OVERY
Date Analyzed: 07/10/2011 05:41 Date Prep QC- Sample ID: 422474-009 D Ba Reporting Units: mg/kg TPH By SW8015 Mod	tch #: 1 SAMPLE Parent Sample Result [A]	Anal Mat SAMPLE Sample Duplicate Result IB]	lyst: BEV rix: Soil DUPLIC RPD	ATE REC Control Limits %RPD	OVERY Flag
Date Analyzed: 07/10/2011 05:41 Date Pre QC- Sample ID: 422474-009 D Ba Reporting Units: mg/kg TPH By SW8015 Mod Analyte	tch #: 1 SAMPLE Parent Sample Result [A]	Anal Mat / SAMPLE Sample Duplicate Result [B]	lyst:BEV rix: Soil DUPLIC RPD	ATE REC Control Limits %RPD	OVERY Flag
Date Analyzed:       07/10/2011 05:41       Date Prepute         QC- Sample ID:       422474-009 D       Bate         Reporting Units:       mg/kg         TPH By SW8015 Mod         Analyte         C6-C12 Gasoline Range Hydrocarbons	tch #: 1 SAMPLE Parent Sample Result [A] 25.9	Anal Mat SAMPLE Sample Duplicate Result [B] 26.6	lyst: BEV rix: Soil DUPLIC RPD	ATE REC Control Limits %RPD 35	OVERY Flag
Date Analyzed:       07/10/2011 05:41       Date Pregot         QC- Sample ID:       422474-009 D       B:         Reporting Units:       mg/kg       B:         TPH By SW8015 Mod       Analyte         C6-C12 Gasoline Range Hydrocarbons       C12-C28 Diesel Range Hydrocarbons	Dared: 07/09/201 tch #: 1 SAMPLE Parent Sample Result [A] 25.9 300	Anal Mat SAMPLE Sample Duplicate Result [B] 26.6 316	lyst: BEV rix: Soil DUPLIC RPD 3 5	ATE RECO Control Limits %RPD 35 35	OVERY Flag

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 Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

The Envi	ironmental Lab of Tex	as								12 Oc	600 dess	We: a, T	st I-2 'exas	20 E 5 79	ast 765								P	hone Fax:	e: 4: 4:	32-5 32-5	563-1 563-1	1800 1713	) }			
	Project Manager:	Camille Br	yant															Pr	ojec	t Na	me:	_Lc	ico H	lills	Gat	her	ing					
	Company Name	Nova Safety and	Environn	nental															P	rojec	:t #:											
	Company Address:	2057 Commerce																I	Proje	ect L	.oc:		E	ddy	Cou	inty,	New	/ Me:	xico			
	City/State/Zip:	Midland, TX 7970	)3			· · · · · · · · · · · · · · · · · · ·														P	D #:											
	Telephone No:	432.520.7720					Fax No:		432	2.52	0.77	01					_	Repor	rt Fo	rma	t:	Ø	Stan	dard		Γ	] TF	₹RP		ı []	NPDE	s
	Sampler Signature:	David	Lop	Sez	<u>,</u>		e-mail:				<u>cb</u> ı	ryan	nt@r	nova	atrai	ning	1.CC	2														
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ORDER	# 427494								i		Prese	ervatio	on & #	t of C	ontai	ners	-	Matrix				TOT	AL:		1	+					8. 72 h	
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AB # (lab use only)	FIFI			leginning Depth	inding Depth	Date Sampled	Time Sampled	ield Filtered	otal #. of Containers	lce	HNO <sub>3</sub>	HCI	H <sub>2</sub> SO4	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None Other / Snerifu)		uve⊐unniking water S∟≡Skudg sW = Groundwater S=Soiù/Soli iP=Non-Potable Specify Othe	PH: 418.1 8015M	PH: TX 1005 TX 10	ations (Ca, Mg, Na, K)	nions (CI, SO4, Alkalinity)	AR / ESP / CEC	olatiles	emivolatiles	TEX 8021B/5030 or BTEX	CI	LO.R.M.			(USH TAT (Pre-Schedule)	tandard TAT
	East S/			<u> </u>	<u> </u>	7/7/2011	900	Ē	Ĕ 1	 X	-		-+		-f	+	-	Soil	X		0	4	s :	<u> &gt;</u>	- s	-N <sup>a</sup>	<u>, a</u>	Z			╶╫╩	- X
602	West S	/W-4A @ 8'				7/7/2011	910	- 1	1	x						+	T	Soil	x			1				X			$\square$	$\top$	+	T <sub>x</sub>
003	S					7/7/2011	1200		1	х								Soil	X				T		Τ	T	1		Π	$\top$	T	X
004	S	P-2A				7/7/2011	1205		1	х								Soil	x					Τ	Τ		Τ	$\square$	$\square$		T	X
005	S	P-3A				7/7/2011	1210		1	х								Soil	X				T		Ţ	T	Τ		Π		T	IX
006	ę	SP-4				7/7/2011	<u>12</u> 15		1	Х								Soil	X								Τ				Τ	X
007	5	SP-5				7/7/2011	1220		1	х								Soil	X													X
800	S	SP-6			- <u></u>	7/7/2011	1225		1	х								Soil	x													X
009		SP-7				7/7/2011	1230		1	х			-+					Soil	X			$ \downarrow$			_	$\bot$			$\square$	$\square$		X
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kelinguishe Katu	e Carbay	al hi	Date 8/11	Tin ND <sup>4</sup>	ne K	Received by ELC	lundod	/							1-	7-8	)ate ( (	11	Time	8	Tem	pera	ture	Upor	Z i Re	9/ 9/	ر د ا	-	. 205	6	°C 	

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#### 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:	Nova Safely & Env
Date/Time:	7-8-11 11:08
Lab ID # :	422 4 4
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?	es	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	(NIA)	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 N	0.	Cooler 5 No.	
	ibs	°C	lbs	°C

#### **Nonconformance Documentation**

Contact:	Contacted by:	Date/Time:
Regarding:		
Corrective Action Tak	en:	
Check all that apply:	□ Cooling process has begun shortly after s condition acceptable by NELAC 5.5.	ampling event and out of temperature 8.3.1.a.1. ut of temperature conditions
	$\Box$ Client understands and would like to proc	eed with analysis

ands and would like to proceed with analysis

# Analytical Report 427175

for

Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

#### 08-SEP-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 (AZ0765), 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 Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



08-SEP-11

TNI

Project Manager: **Camille Bryant Nova Safety & Environmental** 2057 Commerce Street Midland, TX 79703

Reference: XENCO Report No: 427175 Loco Hills Gathering Project Address: Eddy County, New Mexico

#### **Camille Bryant**:

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 427175. 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. 427175 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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Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1B	S	09-07-11 13:50		427175-001



## CASE NARRATIVE

Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 427175 Report Date: 08-SEP-11 Date Received: 09/07/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

## Certificate of Analysis Summary 427175

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Wed Sep-07-11 04:35 pm

Report Date: 08-SEP-11

Project Manager: Brent Barron II

	Lab Id:	427175-001			
Analysis Paguastad	Field Id:	SP-1B			
Analysis Kequestea	Depth:				
	Matrix:	SOIL			
	Sampled:	Sep-07-11 13:50			
Percent Moisture	Extracted:				~
	Analyzed:	Sep-07-11 17:00			
	Units/RL:	% RL			
Percent Moisture		1.78 1.00	 		
TPH By SW8015 Mod	Extracted:	Sep-07-11 16:43			
	Analyzed:	Sep-08-11 02:15			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		115 15.2			
C12-C28 Diesel Range Hydrocarbons		1470 15.2			
C28-C35 Oil Range Hydrocarbons		147 15.2			
Total TPH		1730 15.2			

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.

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

Brent Barron II

Odessa Laboratory Manager

Page 5 of 13

Final 1.000

# **Flagging Criteria**

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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## Form 2 - Surrogate Recoveries

### Project Name: Loco Hills Gathering

Vork Orders : 427175	,	D - ( -1	Project II			
Lab Batch #: 809404	Data Analyzed: 00/08/11 02:15	Batci	RROGATE RE	COVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			נטן		
1-Chlorooctane		134	99.5	135	70-135	
o-Terphenyl	l	62.7	49.8	126	70-135	
Lab Batch #: 869404	Sample: 611049-1-BLK / BL	K Batcl	h: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 09/07/11 22:37	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		102	101	101	70-135	
o-Terphenyl		49.8	50.3	99	70-135	
Lab Batch #: 869404	Sample: 611049-1-BKS / BK	S Bate	h: <sup>1</sup> Matrix	: Solid		
Units: mg/kg	Date Analyzed: 09/07/11 21:35	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R (D)	Control Limits %R	Flags
1-Chlorooctane	Analytes	133	100	133	70-135	
o-Terphenyl		55.3	50.1	110	70-135	
Lab Batch #• 869404	Sample: 611049-1-BSD / BS	D Bate	h. 1 Matrix	· Solid		
Lipite: mg/kg	Date Analyzed: 09/07/11 22:07	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			נען		l
1-Chlorooctane		111	99.9	111	70-135	
o-Terphenyl		45.4	50.0	91	70-135	L
Lab Batch #: 869404	Sample: 427106-003 S / MS	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 09/08/11 02:44	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		118	100	118	70-135	
o-Terphenyl		47.6	50.0	95	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: Loco Hills Gathering

Work Orders: 427175	,		Project I	D:								
Lab Batch #: 869404	Sample: 427106-003 SD / N	ISD Bate	h: 1 Matrix	c:Soil								
Units: mg/kg	Date Analyzed: 09/08/11 03:16	SURROGATE RECOVERY STUDY										
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			נטן								
1-Chlorooctane		116	100	116	70-135	-						
o-Terphenyl		46.6	50.1	93	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 / BAll results are based on MDL and validated for QC purposes.





### Project Name: Loco Hills Gathering

Work Order #: 427175 Analyst: BBH Lab Batch ID: 869404	Sample: 611049-1-BI	Project ID:           Date Prepared:         09/07/2011           KS         Batch #:         1         Matrix:         Solid										
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW80 Analytes	15 Mod	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 Hydroca	arbons	<15.0	1000	817	82	999	732	73	11	70-135	35	
C12-C28 Diesel Range Hydrocar	bons	<15.0	1000	932	93	999	736	74	24	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 / MSD Recoveries

### **Project Name: Loco Hills Gathering**

4



Work Order #: 427175						Project II	D:				
Lab Batch ID: 869404 Date Analyzed: 09/08/2011 Reporting Units: mg/kg	QC- Sample ID: Date Prepared:	427106 09/07/2	-003 S 011	Ba An E / MAT	tch #: alyst:	l Matri: BBH	x: Soil	OVERV	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<16.9	1120	790	71	1130	806	71	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.9	1120	897	80	1130	873	77	3	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference RPD =  $200^{*}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



## Sample Duplicate Recovery



### Project Name: Loco Hills Gathering

Work	Order a	<b>#</b> :	427175
11 U I K	UIUCI 7	π.	12/1/2

Lab Batch #: 869400 Date Analyzed: 09/07/2011 13:08 QC- Sample ID: 427131-016 D	<b>Date Prepared:</b> 09/07/201 <b>Batch #:</b> 1	1 Ana Mat	Project I lyst: BRB trix: Soil	D:	
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	e Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	<1.00	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	Labo	rato	ries
		'i u l u	1100

Xe	nco Labora	atories							CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST																						
The En	vironmental Lab of Texa	5							126 Ode	00 V essa	Nes a, Te	t I-2 exa	20 E s 791	ast 765								1	Pho Fax	ne: « k:	432 432	-563 :-56:	)-180 )-171	0 3			
	Project Manager:	Camille Bryant														_	P	roj	ect N	ame	:		Loc	<u>:o Hil</u>	lls G	athe	ring				
	Company Name	Nova Safety and Environ	nental													-			Proj	ect #	:										
	Company Address:	2057 Commerce														_		Pr	oject	Loc	:		Edo	íy Cc	ount	<u>y, N</u> e	<u>aw M</u> r	exico			
	City/State/Zip:	Midland, TX 79703														-			t	PO #	:	-									
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O LAB # (lab use only)	FIELD	D CODE D-1B	Beginning Depth	Ending Depth	Date Sampled Date Sampled 9/7/2011	Time Sampled	Field Filtered	Total #. of Containers	X Ice	HNO3	Ŧ	H <sub>2</sub> SO4	NaOH	Na252U3	None Other ( Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	X 1PH: 418.1 8015M 80 TPH: TY 1005 TY 1005	Cations (Ca, Mg, Na, K)	Anions (CI, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 82	RCI	N.O.Tr.MI.		DISH TAT Res Servicited 21	
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Standard TAT



XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa Document Trite: 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: N	ova Safety	
Date/Time:	97.11 5	16:35
Lab ID # :	427175	
Initials:	<u> ae</u>	· · · · · · · · · · · · · · · · · · ·

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	NA	
4. Chain of Custody present?		Yes	No		
5. Sample instructions complete on chain of custody?		Tes	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?		Tes	No		
10. Sample matrix / properties agree with chain of custody?		(Tes)	No ·		
11. Samples in proper container / bottle?		Tes	No		
12. Samples properly preserved?		res	No	N/A	
13. Sample container intact?		Tes	No		
14. Sufficient sample amount for indicated test(s)?		Ves	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.	Co	oler 4 No	).	Cooler 5 No.	
Ibs 3.6 °C Ibs °C Ibs	°C	lbs	°C	lbs	°C

#### Nonconformance Documentation

Contact:	Contacted by:	Date/Time:
Regarding:		·····
Corrective Action Take	n:	
		· · · · · · · · · · · · · · · · · · ·
Check all that apply:	Cooling process has begun shortly after condition acceptable by NELAC 5.	r sampling event and out of temperature 5.8.3.1.a.1.
	□ Initial and Backup Temperature confirm	out of temperature conditions

## Analytical Report 427375

for Nova Safety & Environmental

Project Manager: Camille Bryant Loco Hills Gathering

#### 12-SEP-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 (AZ0765), 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 (AAL11), 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 Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00989): Arizona (AZ0758)



12-SEP-11

Project Manager: **Camille Bryant Nova Safety & Environmental** 2057 Commerce Street Midland, TX 79703

Reference: XENCO Report No: **427375** Loco Hills Gathering Project Address: Eddy County, New Mexico

#### **Camille Bryant**:

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 427375. 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. 427375 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 427375



Nova Safety & Environmental, Midland, TX

Loco Hills Gathering

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1C	S	09-09-11 13:00		427375-001



### CASE NARRATIVE

Client Name: Nova Safety & Environmental Project Name: Loco Hills Gathering



Project ID: Work Order Number: 427375 Report Date: 12-SEP-11 Date Received: 09/09/2011

**Sample receipt non conformances and comments:** None

Sample receipt non conformances and comments per sample:

None



**Project Id:** 

Contact: Camille Bryant

Project Location: Eddy County, New Mexico

### Certificate of Analysis Summary 427375

Nova Safety & Environmental, Midland, TX



Project Name: Loco Hills Gathering

Date Received in Lab: Fri Sep-09-11 04:10 pm

Report Date: 12-SEP-11

Project Manager: Brent Barron II

	Lab Id:	427375-001			
Analysis Requested	Field Id:	SP-1C			
Analysis Nequesieu	Depth:				
	Matrix:	SOIL			
	Sampled:	Sep-09-11 13:00		 	
Percent Moisture	Extracted:				
	Analyzed:	Sep-09-11 17:00			
	Units/RL:	% RL			
Percent Moisture		1.67 1.00			
TPH By SW8015 Mod	Extracted:	Sep-09-11 16:30			
	Analyzed:	Sep-12-11 03:52			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.2			
C12-C28 Diesel Range Hydrocarbons		29.1 15.2			
C28-C35 Oil Range Hydrocarbons		20.1 15.2			
Total TPH		49.2 15.2			

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.

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

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

BRL Below Reporting Limit.

RL	Reporting	Limit
----	-----------	-------

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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4143 Greenbriar Dr, Stafford, Tx 77477 9701 Harry Hines Blvd , Dallas, TX 75220 5332 Blackberry Drive, San Antonio TX 78238 2505 North Falkenburg Rd, Tampa, FL 33619 5757 NW 158th St, Miami Lakes, FL 33014 12600 West 1-20 East, Odessa, TX 79765 6017 Financial Drive, Norcross, GA 30071 3725 E. Atlanta Ave, Phoenix, AZ 85040 Phone Fax (281) 240-4200 (281) 240-4280 (214) 902 0300 (214) 351-9139 (210) 509-3334 (210) 509-3335 (813) 620-2000 (813) 620-2033 (305) 823-8500 (305) 823-8555 (432) 563-1800 (432) 563-1713 (770) 449-8800 (770) 449-5477 (602) 437-0330



## Form 2 - Surrogate Recoveries

## Project Name: Loco Hills Gathering

Vork Orders: 427375,	,		Project ID	):					
Lab Batch #: 869691	Sample: 427375-001 / SMP	Batel	h: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 09/12/11 03:52	SU	RROGATE RE	COVERYS	STUDY	; 			
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		93.7	99.8	94	70-135				
o-Terphenyl		46.8	49.9	94	70-135				
Lab Batch #: 869691	Sample: 611195-1-BLK / B	LK Bate	h: <sup>1</sup> Matrix:	Solid					
Units: mg/kg	Date Analyzed: 09/11/11 19:16	SU	RROGATE RE	COVERY	STUDY				
трн і	By SW8015 Mod	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		78.6	99.5	79	70-135				
o-Terphenyl		42.1	49.8	85	70-135				
Lab Batch #: 869691	Sample: 611195-1-BKS / B	KS Bate	h. 1 Matrix.	Solid					
Lab Baltin #. 00,000	Date Analyzed: 09/11/11 18:15	SU	RROGATE RE	COVERY	STUDY				
		Amount	Т-шо		Control				
ТРН І	3y SW8015 Mod Analvtes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags			
1-Chlorooctane		88.6	100	89	70-135				
o-Terphenyl		45.6	50.2	91	70-135				
Lab Batch #: 869691	Sample: 611195-1-BSD / B	SD Batc	h: <sup>1</sup> Matrix:	Solid	• • • • • •				
Units: mg/kg	Date Analyzed: 09/11/11 18:44	SU	RROGATE RE	COVERY	STUDY				
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			נען					
1-Chlorooctane		94.0	100	94	70-135				
o-Terphenyl		43.3	50.1	86	70-135				
Lab Batch #: 869691	Sample: 427262-008 S / MS	Bate	h: <sup>1</sup> Matrix:	Soil					
Units: mg/kg	Date Analyzed: 09/12/11 07:06	SU	RROGATE RE	COVERY	STUDY				
TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	-	102	100	102	70-135				
o-Terphenyl		41.6	50.0	83	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 / BAll results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

### Project Name: Loco Hills Gathering

Work Orders: 427375	,		Project II	D:							
Lab Batch #: 869691	Sample: 427262-008 SD / 1	MSD Bate	h: <sup>1</sup> Matrix	:Soil							
Units: mg/kg	Date Analyzed: 09/12/11 07:38	SURROGATE RECOVERY STUDY									
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
1-Chlorooctane		98.1	100	98	70-135						
o-Terphenyl		46.9	50.1	94	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 / BAll results are based on MDL and validated for QC purposes.





### Project Name: Loco Hills Gathering

Work Order #: 427375 Analyst: BBH Lab Batch ID: 869691	Sample: 611195-1-B	Date Prepared:     09/09/2011       BKS     Batch #:     1										
Units: mg/kg			BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
TPH By SW801 Analytes	15 Mod	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 Hydroca	rbons	<15.1	1000	851	85	1000	869	87	2	70-135	35	
C12-C28 Diesel Range Hydrocar	bons	<15.1	1000	712	71	1000	728	73	2	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



#### **Project Name: Loco Hills Gathering**



Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*[(C-F)/(C+F)] Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



## Sample Duplicate Recovery



### **Project Name: Loco Hills Gathering**

Work Order #: 427375

Lab Batch #: 869633 Date Analyzed: 09/09/2011 15:30 QC- Sample ID: 427325-004 D B	Project ID: Date Prepared: 09/09/2011 Analyst: BRB Batch #: 1 Matrix: Soil									
Reporting Units: %	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag					
Percent Moisture	5.46	5.03	8	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 Laboratories

#### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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	Project Manager:Car	nille Bryant														-	Pre	oject	l Nai	me:		Lo	co H	ills (	Gath	ierir	<u>ıg</u>				
	Company Name Nova Safet	y and Environn	nental													_		Pr	ojec	t #:_											
	Company Address: 2057 Comr	merce														-	ŗ	Proje	oct L	oc:_		E	ddy (	Cour	ity, N	Nev	<u>v Me</u>	xico			
	City/State/Zip: Midland, T	K 79703														-			PC	) #:_											
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AB # (lab use only)			eginning Depth	nding Depth	Date Sampled	Time Sampled	eld Fittered	otal #. of Containers	8	-INO <sub>3</sub>	ΓCI	1 <sub>2</sub> S04	\aOH \asS,Ω,	Vone	Other ( Specify)	W=Drinking Water SL=Sludge	:W = Groundwater S=Soil/Solid iP=Non-Potable Specify Other	PH: 418.1 8015M 80	PH: TX 1005 TX 1006	ations (Ca, Mg, Na, K)	nions (Cl, SO4, Alkalinity)	AR / ESP / CEC	Netais: As Ag ba Lo Ur ru riy Olatiles	emivolatiles	3TEX 8021B/5030 or BTEX 82	g	I.O.R.M.			RUSH TAT (Pre-Schedule	Standard TAT
	SP-1C			ш	9 <b>/9</b> /2011	1300	<u>i</u> .	<u>ب</u> 1	x								Soil	X	<u> </u>	-	~	<u>, , , , , , , , , , , , , , , , , , , </u>		Ĺ			Í		土	X	
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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: N	wa Safety & Env.
Date/Time:	99.11 14:10
Lab ID # :	427375
Initials:	Q9

#### Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	(TES)	No	None	
3. Custody seals intact on shipping container (cooler) and pottles?	(Tes)	No	N/A	
4. Chain of Custody present?	(PES)	No		
5. Sample instructions complete on chain of custody?	Ves	No		
6. Any missing / extra samples?	Yes	NO		
7. Chain of custody signed when relinquished / received?	Tes	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	Tes	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Ves)	No		
12. Samples property preserved?	Yer	No	N/A	
13. Sample container intact?	Tes	No		
14. Sufficient sample amount for indicated test(s)?	(¥)	No		
15. All samples received within sufficient hold time?	<b>G</b>	No		
16. Subcontract of sample(s)?	Yes	No	<b>N</b> /AB	
17. VOC sample have zero head space?	Tes	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 N	0.	Cooler 5 No.	
Ibs 2.6 °C Ibs °C Ibs °C	lbs	; °(	lbs	°C

**Nonconformance Documentation** 

Contact:	Contacted by:	Date/Time:
Regarding:		
Corrective Action Tak	en:	
		· · · · · · · · · · · · · · · · · · ·
Check all that apply:	□ Cooling process has begun shorth condition acceptable by NEL □ Initial and Backup Temperature co □ Client understands and would like	/ after sampling event and out of temperature AC 5.5.8.3.1.a.1. nfirm out of temperature conditions to proceed with analysis

# APPENDIX C: Soil Disposal Manifests

Page 1 of 1

4507 W. Carlsbad Hwy Hobbs, New Mexico 88240

Jommenta



(575)393-1079 WWW.CRIHOBBS.COM

ICKET: 855575 \$6.... Bill To: **DCP Midstream** Lease: LOCO HILLS DCP MIDSTREAM Well: **GATHERING SYSTEM SITE F 454** Company/Generator: Rig: Company Man: JOHN BEDDINGTON PO: Trucking: A & S Driver: SERGIO 6/22/2011 Date: Vehicle: 5 NΛ 3rd Party Ticket:

 Ype of Materials
 Quantity
 Area
 Description

 Product
 Quantity
 Area
 Description

 Cont Soil
 20.00 yards
 50/51

Generator Certification Statement of Waste Status thereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

CRI.Representative (signature)

Tank Bottoma

reel	inches		
1st Guage		BS & W/BBLS Received	BS & W
2nd Guage		Free Water	
Received		Total Received	

.......

		NON-HAZARDOUS WASTE MAN	Fest 75201
Part I:	Generato Address City/Stat	e Mallinst TX - 70025	(5.75)605-7210 Telephone No.
ORGINATI	ON OF WA	STE:	
Operation	s Center		Permit No
Property N	lame	Well, Tank Battery, Plant, Facility) Spection 3	1 Frenchig 17 South Reason 296 -
WASTE ID	DENTIFICATIO	DN AND AMOUNT (BARRELS, YARDS, TONS, CU.	FT., LBS., UNITS, ETC.)
Drilling Flui Completion Contaminate	ids Fluids ed Soil	Tank Bottoms Gas Plant Waste Crude 20 yr ' Other Materials	Exempt Fluids C117 No Pit No
		DESCRIPTION / NOTES	
		JOHN	BEDDINGTON
CERTIFIC	ATION:	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent	And was consigned to the transporter of my knowledge.
CERTIFIC, PART II:	ATION: TRANSP	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans	I and was consigned to the transporter of my knowledge. Date and Time of Shipment
Certific, Part II:	ATION: TRANSP Name	The waste described above is not hazardous pursuant to 40 CFR Part 26 numed below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent PORTER: (To be completed in full by Trans Service below: Privacking Service below: Privacking	And was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) ST5-626-1471 Telephone No.
CERTIFIC,	ATION: TRANSP Name Address City/Stat	The waste described above is not hazardous pursuant to 40 CFR Part 26 numed below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans $\frac{1}{10000000000000000000000000000000000$	A and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) STS-626-1471 Telephone No. <u>145</u> Truck No.
CERTIFIC	ATION: TRANSP Name Address City/Stat	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans $\frac{1}{10000000000000000000000000000000000$	I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. -74-55 Truck No. Int to the destination below. 6-22-11
CERTIFIC/ PART II: CERTIFIC/	ATION: TRANSP Name Address City/Stat ATION:	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans $\frac{1}{10000000000000000000000000000000000$	I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. -14.5 Truck No. nt to the destination below. 6-922-11 Date and Time Received
CERTIFIC/ PART II: CERTIFIC/ PART III:	ATION: TRANSP Name Address City/Stat ATION: DISPOS/	The waste described above is not hazardous pursuant to 40 CFR Part 26 numed below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent PORTER: (To be completed in full by Trans $A = S = T \cup \exists ck : ng$ $S = r(j + b) = P \cup v = ch + j$ $A = S = T \cup \exists ck : ng$ $S = r(j + b) = P \cup v = ch + j$ A = S = S = S = S = S = S = S = S = S =	BEDDington I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. 44.5 Truck No. nt to the destination below. <u>6-22-11</u> Date and Time Received
CERTIFIC/ PART II: CERTIFIC/ PART III:	ATION: TRANSP Name Address City/Stat ATION: DISPOS/ Name	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans M = S $T = S = SS = T = S = SS = S$	BEDDingToN I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. 14-5 Truck No. nt to the destination below. <u>6-22-11</u> Date and Time Received (575) 393-1079 Telephone No.
CERTIFIC,	ATION: TRANSP Name Address City/Stat ATION: DISPOS/ Name Address City/Stat	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent ORTER: (To be completed in full by Trans M = S $M = S$ $M = SM = SM = S$ $M = SM = S$	BEDDingToN I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. 14-5- Truck No. nt to the destination below. <u>6-922-11</u> Date and Time Received (575) 393-1079 Telephone No. <u>www.crihobbs.com</u>
CERTIFIC,	ATION: TRANSP Name Address City/Stat ATION: DISPOS/ Name Address City/Stat	The waste described above is not hazardous pursuant to 40 CFR Part 26 named below. I certify that the foregoing is true and correct to the best of Signature of Generator's Authorized Agent PORTER: (To be completed in full by Trans $A = S = T \lor \exists ch \land ng \\ S = T \lor d$	BEDDingToN I and was consigned to the transporter of my knowledge. Date and Time of Shipment Sporter) 575-626-1471 Telephone No. 44-5 Truck No. Int to the destination below. <u>6-22-11</u> Date and Time Received (575) 393-1079 Telephone No. <u>www.crihobbs.com</u> E-mail Insporter described in Part II.

· . · ·

NX DOLE/TIME DOM-LD-DOM-KINO/ JULII 06/23/2011 09:24 FAX

Ticket: 355577

Page 1 of 1

4507 W. Car Hobbs, New M	Isbad Hwy exico 88240		RE	(575)393-1079 WWW.CRIHOBBS.COM
		277	R360 сотралу	
TICKET: 355577	- Huga ( ) - C. C. Sugara	hilder and the set of the		
Bill To:	DCP Midstream		Lease:	LOCO HILLS
Company/Generator:	DCP MIDSTREAM		Well:	GARHERING SYSTEM SITE E 454
Company Man:	JOHN BEDDINGI	UN	Kig:	
Data:	A & 3 6/22/2011		PU:	A 13 M 11 (STOC)
Jate. Red Party Tickar	0/22/2011 NA		Dilver; Vahiola:	AKNESTU
the range becch			venicie.	5
Comments		in an		
Type of Materials				
Product	nel meren it di tranca i l'inte è di kumurana	<u>Quantity</u>	Area Descrip	nearaista (h) = 10,400,000,000,000,000,000,000,000,000,0
Cont Soil		20.00 yards	50/51	
Generator Certification I hereby certify that acco 1988 regulatory determin X RCRA Exempt: Oil waste. RCRA Non-Exempt characteristics established amended. The following MSDS Information	rding to the Resource nation, the above des Field wastes generate Oil field waste white d in RCRA regulation documentation is at RCRA Hazardo	Association and Reservation and Reservation and Reservation and gas expected from oil and gas expected from oil and gas expected from on-hazerdous thans, 40 CFR 261.21-26 tached to demonstrate ous Waste Analysis	ecovery Act (RCRA) a ploration and producti at does not exceed the 1.24 or listed hazardo the above-described y Process Knowledg	and the US Environmental Protection Agency's July ion operations and are not mixed with non-exempt e minimum standards for waste hazardous by bus waste as defined in 40 CFR, part 261, subpart D, as waste is non-hazardous. (Check the appropriate items): ge Other (Provide description above)
Driver/Agent (signate	<b>re)</b>		<b>CR</b>	I Representative (algnature)
ErNesto Tank Bottoms	Incher			
Ist Guage		BS &	W/BBLS Received	NS & W T
2nd Guage			Free Water	
Received			Total Received	

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PART I		75202
	Generator $\frac{DCP}{DC} \frac{M_{p} l_{p} t_{p}}{m_{p} l_{p} t_{p}} \frac{M_{p} l_{p} t_{p}}{m_{p} l_{p} t_{p}}} \frac{M_{p} l_{p} t_{p}}{m_{p} l_{p} t_{p}} \frac{M_{p} l_{p} t_{p}}{m_{p} l_{p} t_{p}} \frac{M_{p} l_{p} t_{p}}{m_{p} l_{p} t_{p}}} \frac{M_{p} l_$	(576) <u>A005 - 7210</u> Telephone No.
ORGINATIC	N OF WASTE:	
Operations	Center Pern	nit No
Property Na	IMO Loss Hills And Anna Anna Anna Anna Anna Anna Anna	and the second second
WASTE IDE	NTIFICATION AND AMOUNT (BARRELS, YARDS, TONS, CU.FT., LBS	S., UNITS, ETC.')
Drilling Fluid Completion F Contaminated	s Tank Bottoms Exen luids Gas Plant Waste C117 Soil Soil Other Materials Pit N	npt Fluids No o
	DESCRIPTION / NOTES	
	· · · · · · · · · · · · · · · · · · ·	
CERTIFICA	ION: The waste described above is not hazardous pursuant to 40 CFR Part 261 and was e numed below. I certify that the forogoing is true and correct to the best of my know Signature of Generator's Authorized Agent	Date and Time of Shipmen
PART II:	RANSPORTER' to be completed in full by transporter	
		) 
	Name _ A+S Trucking	<u>575-636-1471</u> Telephone NV
	Name <u>A+S Trucking</u> Address <u>P.O. Box 225</u> City/State Heserman N.M. 88232	<u>575- 676-147</u> ] Telephone No. 井 イ
	Name <u>A+5</u> Trucking Address <u>P.O. box 225</u> City/State Hegerman, N.M. 88232	<u>575 - 636 - 14</u> 71 Telephone No. <u># 4</u> Truck No.
CERTIFICA	Name <u>A+S</u> Trucking Address <u>P.O. box</u> 225 City/State <u>Heaperman</u> , N.M. 88232 TION: Toertify that the fivestic in quantity above was received by me for shipment to the des	$\frac{575 \cdot 636 \cdot 1471}{\text{Telephone No.}}$ $\frac{149}{\text{Truck No.}}$ $\frac{149}{\text{Truck No.}}$
CERTIFICA	Name <u>A + S Tr v(king</u> Address <u>P.0. box 225</u> City/State <u>Hosperman</u> , N.M. 88232 TION: Leertify that the waste in quantity above was received by me for shipment to the des	$\frac{575 - 636 - 147}{\text{Telephone No.}}$ $\frac{\# 4}{\text{Truck No.}}$ $\frac{1}{6 - 32 - 1}$ Date and Time Received
CERTIFICA	NameA + 5v(kind AddressP.0_box 225 City/StateHeap(man, N.M. 88232 FION: Loertify that the waste in quantity above was received by me for shipment to the des  Signature of Thensporter's Agent DISPOSAL OR RECLAMATION SITE:	$\frac{575 - 626 - 1471}{\text{Telephone No.}}$ $\frac{4}{7}$ Truck No. $\frac{1}{6 - 22 - 11}$ Date and Time Received
CERTIFICA	Name <u>A+S</u> Trucking Address <u>P.O. box</u> 225 City/State <u>Heaperman</u> , N.M. 88232 FION: I certify that the waste in quantity above was received by me for shipment to the des Signature of Themsporter's Agent DISPOSAL OR RECLAMATION SITE: Name <u>Controlled Recovery, Inc.</u>	$\frac{575 \cdot 636 \cdot 147}{\text{Telephone No.}}$ $\frac{4}{7}$ $\frac{4}{7}$ $\frac{4}{7}$ $\frac{2}{7}$ $\frac{6 \cdot 32 - 11}{2}$ Date and Time Received (575) 393-1079
Certifica Part III:	Name <u>A+S</u> Trucking Address <u>P.O. box</u> 225 City/State <u>Heaperman</u> , N.M. 88232 FION: I certify that the waste in quantity above was received by me for shipment to the der Signature of Themsporter's Agent DISPOSAL OR RECLAMATION SITE: Name <u>Controlled Recovery, Inc.</u> Address <u>P.O. Box 388</u>	$\frac{575 \cdot 636 \cdot 1471}{\text{Telephone No.}}$ $\frac{4}{177}$ $\frac{4}{1770}$ $\frac{4}{1770}$ $\frac{6 \cdot 32 - 11}{1770}$ Date and Time Received $\frac{(575) 393 - 1079}{\text{Telephone No.}}$
Certifica Part III:	Name       A+5       Tr v(kind	<u>575-676-147</u> Telephone No. <u>+</u> <u>4</u> Truck No. tination below. <u>6-22-11</u> Date and Time Received <u>(575) 393-1079</u> Telephone No. <u>Ww.crihobbs.com</u> E-mail
Certifica Part III: Certifica	Name       A+5       Tr r(kind         Address       P.O. box       225         City/State       Heageman       N.M. 88232         FION:       I certify that the waste in quantity above was received by me for shipment to the destand         Signature of the sporter's Agent         DISPOSAL OR RECLAMATION SITE:         Name       Controlled Recovery, Inc.         Address       P.O. Box 388         City/State       Hobbs, N.M. 88241-0388	<u>575-676-147</u> Telephone No. <u>+</u> <u>4</u> Truck No. tination below. <u>6-22-11</u> Date and Time Received <u>(575) 393-1079</u> Telephone No. <u>revw.crihobbs.com</u> E-mail scribed in Part II.

APPENDIX D: Release Notification and Corrective Action (Form-C-414)

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Date:

Phone: 432-620-4207

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Form C-141 Revised October 10, 2003 Submit 2 Copies to appropriate District Office in accordance

Oil Conservation Division 1000 Couth Of Em .:- D

<u>District IV</u> 1220 S. St. Fran	icis Dr., Santa	1 Fe, NM 87505	i	1220 Sa	nta F	n St. Franc Se, NM 875	15 Dr. 05			W	ith Rule	side of form
			Rela	ease Notific	catio	n and Co	orrective A	ction		<u>-</u>		
							OPERATOR					Final Repo
Name of Co	ompany	DCP Midst	ream, LP			Contact J	on D. Bebbingto	on		•		
Address	Address 10 Desta Drive, Suite 400 West						to. 432-620-42	07				
Facility Nat	me Loco	Hills Gathe	ring Syst	tem		Facility Typ	e Pipeline					
Surface Ow	Surface Owner BLM / State Mineral Owner								Lease No	<b>).</b>		
				LOCA	ATIO	N OF RE	LEASE					
Unit Letter	Section Township Range Feet from the North/					h/South Line	South Line Feet from the East/West Line			e County		
	3 17S 29F					EDDY						
Latitude	N32 86	394	<u></u>	Longi	tude	W104 066	י 73					<u> </u>
na ci cuue	NJ2.0U.			LOngr								
Turna of Dala	man Cruda	01		NAT	UK	S OF REL	LASE Palance 16		Voluma D	acoustad	11	
Source of Re	elease Pinel	ine				Date and H	Date and Hour of Occurrence Date and I			Hour of Discovery		
						Unknown			06-03-201	1 16:00		
Was Immedi	iate Notice (	Given?	Yes [	No 🗖 Not R	enuirea	If YES, To Whom?						
By Whom?	Johnnie Br	adford/DCP				Date and Hour, June 6, 2011 1600						
Was a Water	rcourse Read	ched?				If YES, Volume Impacting the Watercourse.						
			] Yes 🛛	🛾 No								
If a Waterco	urse was Im	pacted, Desci	ribe Fully.	* No water cours	se was	impacted.						
Describe Ca	use of Probl	em and Reme	edial Actic	on Taken.*								
On June 3, 2	2011 at appr	oximately 160	00 a field (	operator discovered	ed that	a pipeline had	leaked crude oil.	The leak	is attribute	d to corro	sion.	
		-		-								
Describe Ar	ea Affected	and Cleanup	Action Ta	ken.*								
Deadilociti		und Oremiap										
A vacuum ti	ruck was dis	patched and r	ecovered :	approximately 11	bbls o	foil. OCD wa	is notified by telep	phone and	l e-mail on	June 6 an	d BLM	was notified
vards down	a dry creek	bed. The clea	inup by D	CP contractor NC	VA wi	ill be performe	d once the archeol	logical su	rvey deline	ates the a	rea. An	prox 80 feet
of the pipeli	ine was repla	nced.	···· [ - 2 -						··· <b>·</b>			
I hereby cer	tify that the	information g	given abov	e is true and com	plete to	the best of my	knowledge and u	understan	d that purs	uant to NN	AOCD r	rules and
regulations	all operators	are required	to report a	ind/or file certain	release	notifications a	ind perform corre	ctive actio	ons for rele	ases which	h may e	ndanger
should their	n or me env	fronment. In have failed to	e acceptar adequatel	v investigate and	remedi	ate contaminat	ion that nose a th	reat to pro	und water.	surface v	erator o vater, hi	i naointy iman health
or the enviro	onment. In	addition, NM	OCD acce	ptance of a C-141	l report	t does not relie	ve the operator of	responsit	oility for co	mpliance	with an	y other
federal, stat	e, or local la	ws and/or reg	ulations.			·····						
							<u>OIL CON</u>	ISERV.	ATION	DIVISI	<u>ON</u>	
Signature:												
						Approved by	District Supervis	sor:				
Printed Nan	ne: Jon D. I	Bebbington					-					
Title: Sr. Er	nvironmenta	l Engineer				Approval Da	nte:	E	xpiration I	Date:		
E-mail Add	lress: jdbebb	ington@dcpn	nidstream.	com		Conditions of	of Approval:			A.H1		
					Attached							