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March 29, 2012

Mr. Edward Hansen L. Lowe New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 APR 2 2022

Re: 2011 Annual Groundwater Monitoring Reports Southern Union Gas Services, Ltd Boyd Compressor Station (GW-269) House Compressor Station (GW-243) Lea County, New Mexico

Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, NM 87505

Mr. Hansen,

Enclosed are the 2011 Annual Groundwater Monitoring Reports for the following groundwater remediation sites in Lea County, New Mexico:

Boyd Compressor Station (GW-269) Unit Letter "J", Section 26, Township 22 South, Range 37 East, NMPM

House Compressor Station (GW-243) Unit Letter "O", Section 11, Township 20 South, Township 38 East, NMPM

I have personally reviewed these documents, prepared by Basin Environmental Services Technologies, LLC, on behalf of Southern Union Gas Services, and believe the facts are true and accurate to the best of my knowledge and ability. If you have any questions or comments, please contact me at 432-940-5147 or by email at rose.slade@sug.com.

Respectfully submitted,

Rose L. Slade

EHS Compliance Specialist Southern Union Gas Services, Ltd rose.slade@sug.com

Cc: Geoffrey R. Leking, NMOCD Hobbs District Office SUG Environmental Files Enclosures

# Basin Environmental Service Technologies, LLC

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APR

2011 ANNUAL MONITORING REPORT

# SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION Lea County, New Mexico

Oil Conservation Division 1220 S. St. Francis Drive

2 2012

Santa Fe, NM 87505

Unit Letter "J" (NW/SE), Section 26, Township 22 South, Range 37 East New Mexico Discharge Plan & Permit #GW-269

Prepared For:

Southern Union Gas Services 801 S. Loop 464 Monahans, TX 79756

Prepared By:

Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, New Mexico 88260

**March 2012** 

Ben J. Arguijo Project Manager

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# **INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin), on behalf of Southern Union Gas Services (Southern Union), is pleased to submit this *Annual Monitoring Report* in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1st of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2011 only.

Groundwater monitoring was conducted during the third and fourth quarters of 2011 to assess the levels and extent of dissolved phase constituents and Phase-Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge.

# SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the Boyd Compressor Station release site is Unit Letter "J" (NW/SE), Section 26, Township 22 South, Range 37 East in Lea County, New Mexico. The geographic coordinates of the site are 32° 21.748' North latitude and 103° 07.830' West longitude. The property affected by the release is owned by Mr. R.D. Simms of Eunice, New Mexico. The facility is covered by a New Mexico Discharge Plan & Permit (GW-269). For reference, a "Site Location Map" is provided as Figure 1.

On September 18, 2007, a preliminary soil investigation commenced at the Boyd Compressor Station. Soil samples were collected using a hand auger at two (2) locations to evaluate the extent of hydrocarbon impact adjacent to the compressor skids. Laboratory analytical results indicated hydrocarbon impact was present in the areas sampled.

On May 14, 2008, Southern Union submitted a Pit or Below-Grade Tank Registration or Closure (Form C-144) to the New Mexico Oil Conservation Division (NMOCD) Santa Fe Office. The Form C-144 was accompanied by Remediation Plan (Plan) to remove an approximately eighty barrel (80 bbl) reinforced fiberglass below-grade tank (BGT), an approximately four hundred and sixty-three barrel (463 bbl) above-ground steel storage tank (AST), non-utilized piping, concrete slabs, equipment, and structures associated with the Boyd Compressor Station. The BGT was installed prior to the implementation of NMOCD rules regarding the utilization of BGT's.

On June 17, 2008, Basin, on behalf of Southern Union, began the excavation and removal of the eighty barrel (80 bbl) BGT at the Boyd Compressor Station. Following the excavation and removal of the BGT, the structural integrity of the tank was evaluated. On evaluation, the reinforced fiberglass tank exhibited corrosion around the bolts used to secure the two (2) halves of the tank and, most likely, resulted in the release of liquids adjacent to and beneath the tank.

On June 18, 2008, decommissioning of the compressor station and excavation of the previously identified impacted soil commenced. Several soil samples of the stockpile were collected. The

stockpiles which were deemed suitable were used as backfill, and the impacted soil was transported off-site.

On July 29, 2008, two (2) soil borings were advanced at the Boyd Compressor Station to further investigate and delineate the extent of vertical impact.

On December 15, 2008, Southern Union submitted an email to the NMOCD Santa Fe Office. In the email, Southern Union presented laboratory analytical results of collected soil samples and remedial activities to-date. Based on the laboratory analytical results and the depth of impacted soil below the BGT, Southern Union requested and received NMOCD approval to backfill the area associated with the BGT to ten feet (10') below ground surface (bgs) and install a twenty (20) mil polyethylene liner on the floor of the excavation. In addition, Southern Union requested and received NMOCD approval to install four (4) monitor wells at the Boyd Compressor Station. The monitor wells were designed to evaluate the status of the groundwater and any potential impact to the groundwater.

On December 29, 2008, a six-inch (6") pad of fine sand was applied to the floor of the excavation to protect the twenty (20) mil polyethylene liner from punctures. Following the emplacement of the pad material, the liner, measuring approximately twenty feet (20') in width and length, was installed in the excavation. An approximately six-inch (6") pad of fine sand was emplaced on top of the liner before backfilling activities commenced.

Based on laboratory analytical results, backfilling of the compressor area excavation began on November 18, 2008. The blended backfill material was water-packed in the excavation to minimize the settling of the soil.

On December 23, 2008, compressor excavation backfill activities were completed, and the compressor area soil was contoured to fit the surrounding topography. During the course of the remediation activities, approximately nine hundred cubic yards (900 yd<sup>3</sup>) of impacted soil was transported off-site, and approximately five thousand, one hundred and eighty-five cubic yards  $(5,185 \text{ yd}^3)$  of soil was blended on-site and utilized as backfill material.

On January 14, 2009, four (4) groundwater monitor wells (MW-1 through MW-4) were installed at the Boyd Compressor Station using an air rotary drilling rig. The monitor wells were installed to a total depth of approximately sixty-five feet (65') bgs.

Monitor well MW-1 was installed south and down-gradient of the previously installed twenty (20) mil polyethylene liner. Laboratory analytical results indicated TPH concentrations were less than the laboratory method detection limit (MDL) of 50 mg/Kg for all of the submitted soil samples, with the exception of the soil sample collected at five feet (5') bgs.

Monitor well MW-2 was installed north and up-gradient of the former below grade tank. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL of 50 mg/Kg for all of the submitted soil samples. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL of 200 mg/Kg in the soil samples

collected at twenty feet (20'), thirty feet (30'), fifty feet (50'), and sixty feet (60) bgs to 2,190 mg/Kg in the soil sample collected at ten feet (10') bgs.

Monitor well MW-3 was installed south-southwest and down-gradient of the former below grade tank. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL of 50 mg/Kg for all of the submitted soil samples, with the exception of the soil sample collected at forty feet (40') bgs, which exhibited a TPH concentration of 1.16 mg/Kg. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL of 200 mg/Kg in the soil samples collected at twenty feet (20'), thirty feet (30'), fifty feet (50'), and sixty feet (60') bgs to 2,190 mg/Kg in the soil sample collected at ten feet (10') bgs.

Monitor well MW-4 was installed south-southeast and down-gradient of the former below grade tank. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL of 50 mg/Kg for all of the submitted soil samples. Laboratory analytical results indicated chloride concentrations were less than the laboratory MDL of 200 mg/Kg for all of the submitted soil samples.

Currently, there are four (4) groundwater monitoring wells (MW1 through MW-4) on-site. Monitor wells MW-1, MW-2, MW-3, and MW-4 are gauged and sampled on a quarterly schedule.

# **FIELD ACTIVITIES**

The on-site monitor wells were gauged and sampled on September 28 (3Q2011) and December 1, 2011 (4Q2011). During these quarterly sampling events, the monitoring wells were purged of a minimum of three (3) well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos pump. Groundwater was allowed to recharge, and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass or plastic containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

Locations of the groundwater monitoring wells and the inferred groundwater elevations, which were constructed from the measurements collected during the 2011 quarterly sampling events, are depicted in Figures 2A and 2B. The groundwater gradient at the Boyd Compressor Station site appears to be fluctuating. The "Inferred Groundwater Gradient Map" from the 3Q2011 sampling event (Figure 2A, September 28, 2011) indicates a general gradient to the southeast of approximately 0.0013 ft/ft as measured between monitor wells MW-2 and MW-4. The "Inferred Groundwater Gradient Map" from the most recent sampling event (Figure 2B, December 1, 2011) indicates a general gradient of approximately 0.042 ft/ft to the southwest, as measured between monitor wells MW-2 and MW-3.

On September 28, 2011, the corrected groundwater elevation ranged between 3,257.28 and 3,257.45 feet above mean sea level in monitor wells MW-4 and MW-2, respectively. On December 1, 2011, the corrected groundwater elevation ranged between 3,252.32 and 3,4257.81

feet above mean sea level in monitor wells MW-3 and MW-4, respectively. The "2011 Groundwater Elevation Data" is provided as Table 1.

No PSH was detected in any of the on-site monitor wells during the 2011 reporting period.

# LABORATORY RESULTS

Groundwater samples collected from the monitor wells during the quarterly sampling events (3Q2011 and 4Q2011) were delivered to Xenco Laboratories in Odessa, Texas, for determination of chloride, and/or benzene, toluene, ethylbenzene, and total xylenes (BTEX) constituent concentrations by EPA Methods E300 and SW846-8021b, respectively. A summary of benzene, BTEX, and chloride concentrations is presented in Table 2, "2011 Concentrations of Benzene, BTEX & Chloride in Groundwater". Laboratory analytical reports are provided as Appendix A. "Groundwater Concentration" maps are provided as Figures 3A and 3B.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code (NMAC).

## Monitor well MW-1

Monitor well MW-1 is sampled on a quarterly schedule. Laboratory analytical results indicated chloride concentrations ranged from 4,050 mg/L in 4Q2011 to 4,250 mg/L in 3Q2011. Chloride concentrations exceeded NMOCD regulatory standards in all submitted groundwater samples. Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory method detection limit (MDL) and less than NMOCD regulatory standards in all submitted groundwater samples.

Baseline sampling of monitor well MW-1 was conducted on September 28, 2011. Laboratory analytical results from the baseline monitoring event are summarized in Tables 3 through 5.

### Monitor well MW-2

Monitor well MW-2 is sampled on a quarterly schedule. Laboratory analytical results indicated chloride concentrations ranged from 126 mg/L in 4Q2011 to 148 mg/L in 3Q2011. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene, toluene, ethylbenzene, total xylene, and chloride concentrations were less than NMOCD regulatory standards in all submitted groundwater samples.

Baseline sampling of monitor well MW-2 was conducted on September 28, 2011. Laboratory analytical results from the baseline monitoring event are summarized in Tables 3 through 5.

### **Monitor well MW-3**

Monitor well MW-3 is sampled on a quarterly schedule. Laboratory analytical results indicated chloride concentrations ranged from 115 mg/L in 4Q2011 to 138 mg/L in 3Q2011. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene, toluene, ethylbenzene, total xylene, and chloride concentrations were less than NMOCD regulatory standards in all submitted groundwater samples.

Baseline sampling of monitor well MW-3 was conducted on September 28, 2011. Laboratory analytical results from the baseline monitoring event are summarized in Tables 3 through 5.

## Monitor well MW-4

Monitor well MW-4 is sampled on a quarterly schedule. Laboratory analytical results indicated chloride concentrations ranged from 206 mg/L in 4Q2011 to 221 mg/L in 3Q2011. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene, toluene, ethylbenzene, total xylene, and chloride concentrations were less than NMOCD regulatory standards in all submitted groundwater samples.

Baseline sampling of monitor well MW-4 was conducted on September 28, 2011. Laboratory analytical results from the baseline monitoring event are summarized in Tables 3 through 5.

# SUMMARY

This report presents the results of monitoring activities for the 2011 monitoring period. Currently, there are four (4) groundwater monitoring wells (MW-1 through MW-4) on-site. Monitor wells MW-1, MW-2, MW-3, and MW-4 are sampled on a quarterly basis.

The groundwater gradient at the Boyd Compressor Station site appears to be fluctuating. The "Inferred Groundwater Gradient Map" from the 3Q2011 sampling event (Figure 2A, September 28, 2011) indicates a general gradient to the southeast of approximately 0.0013 ft/ft as measured between monitor wells MW-2 and MW-4. The "Inferred Groundwater Gradient Map" from the most recent sampling event (Figure 2B, December 1, 2011) indicates a general gradient of approximately 0.042 ft/ft to the southwest, as measured between monitor wells MW-2 and MW-3.

No PSH was detected in any of the on-site monitor wells during the 2011 reporting period.

Laboratory analytical results indicated chloride concentrations exceeded NMOCD regulatory standards in monitor well MW-1 during 3Q2011 and 4Q2011. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in all submitted groundwater samples.

# **ANTICIPATED ACTIONS**

Quarterly monitoring and groundwater sampling of monitor wells MW-1 through MW-4 will continue in the reporting year 2012.

A 2012 Annual Monitoring Report will be submitted to the NMOCD by April 1, 2013.

# LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Annual Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin 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 Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Southern Union Gas Services.

# DISTRIBUTION

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Geoffrey Leking New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 1) 1625 French Drive Hobbs, NM 88240 GeoffreyR.Leking@state.nm.us

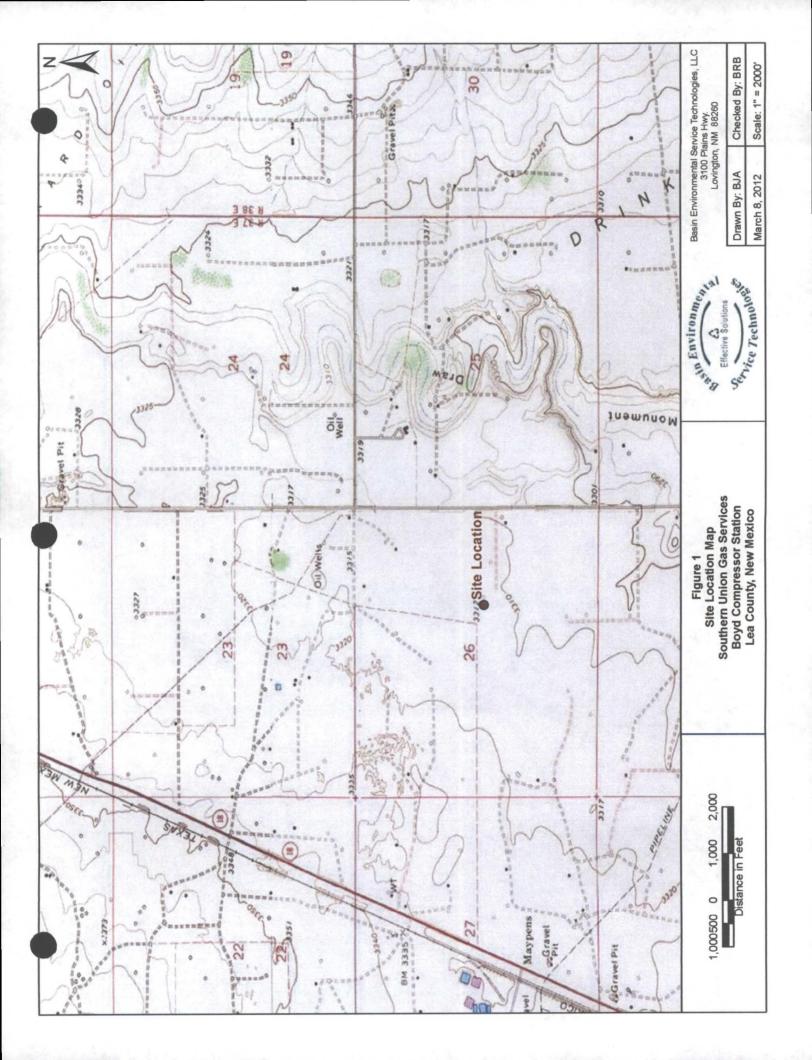
Copy 3: Rose Slade and Curt Stanley Southern Union Gas Services 801 S. Loop 464 Monahans, Texas 79756 rose.slade@sug.com

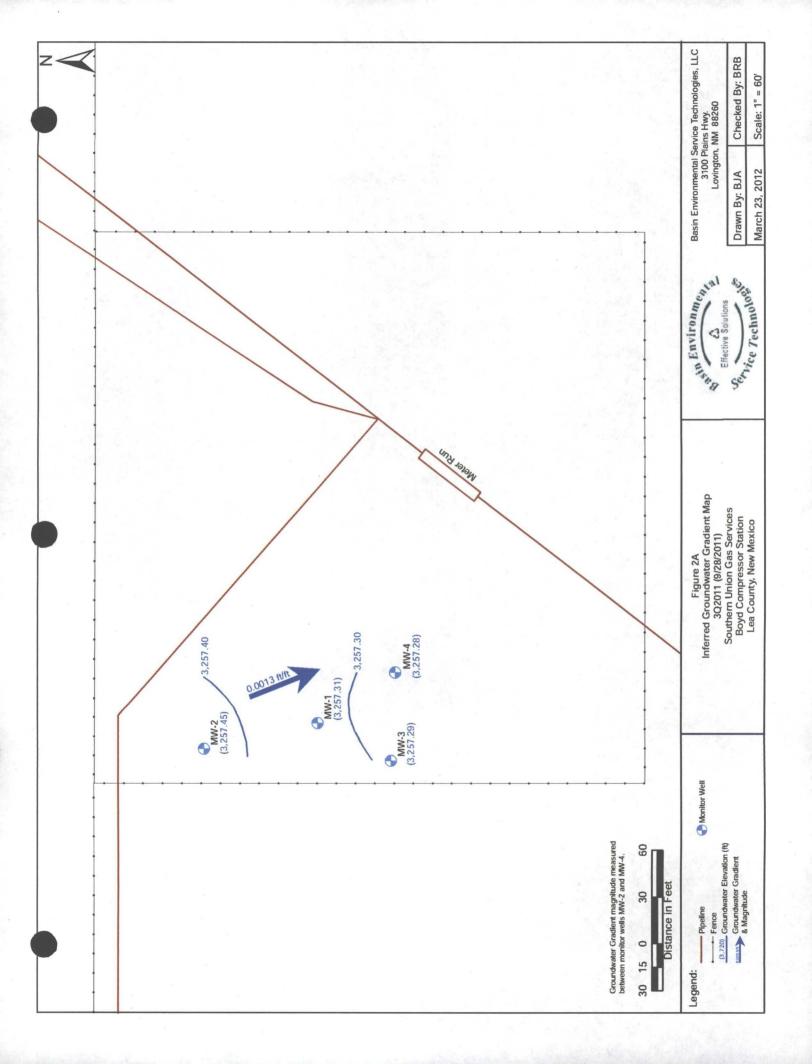
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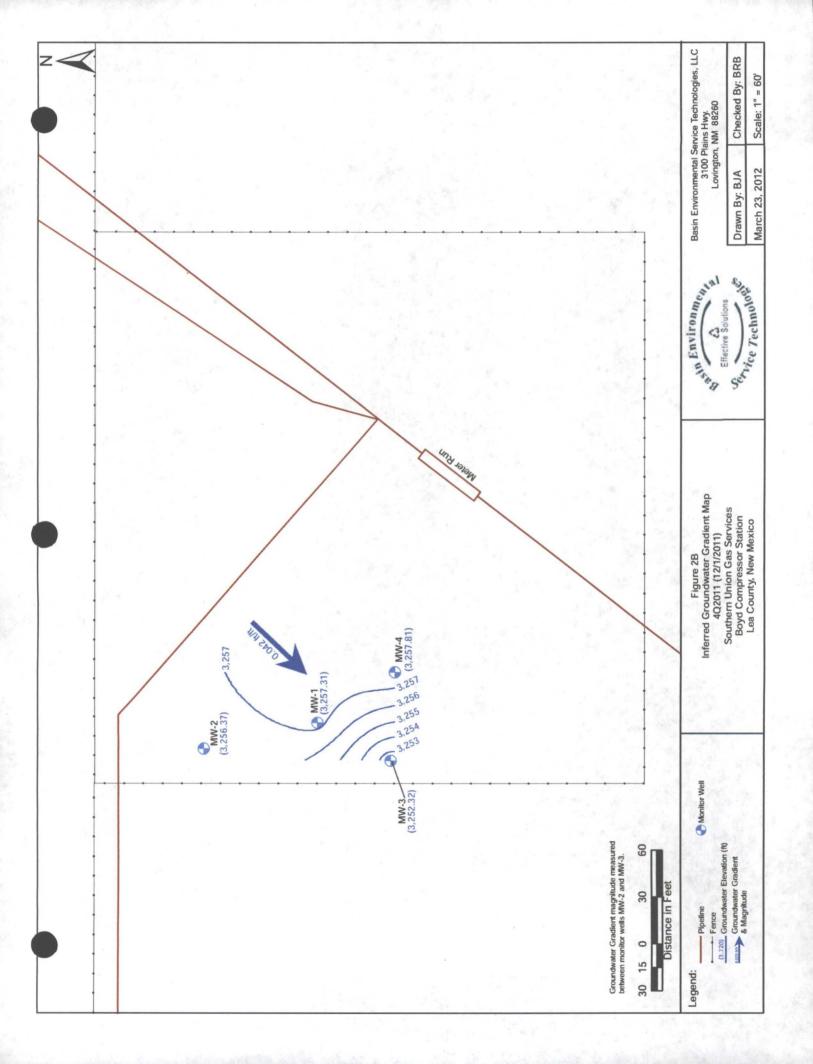
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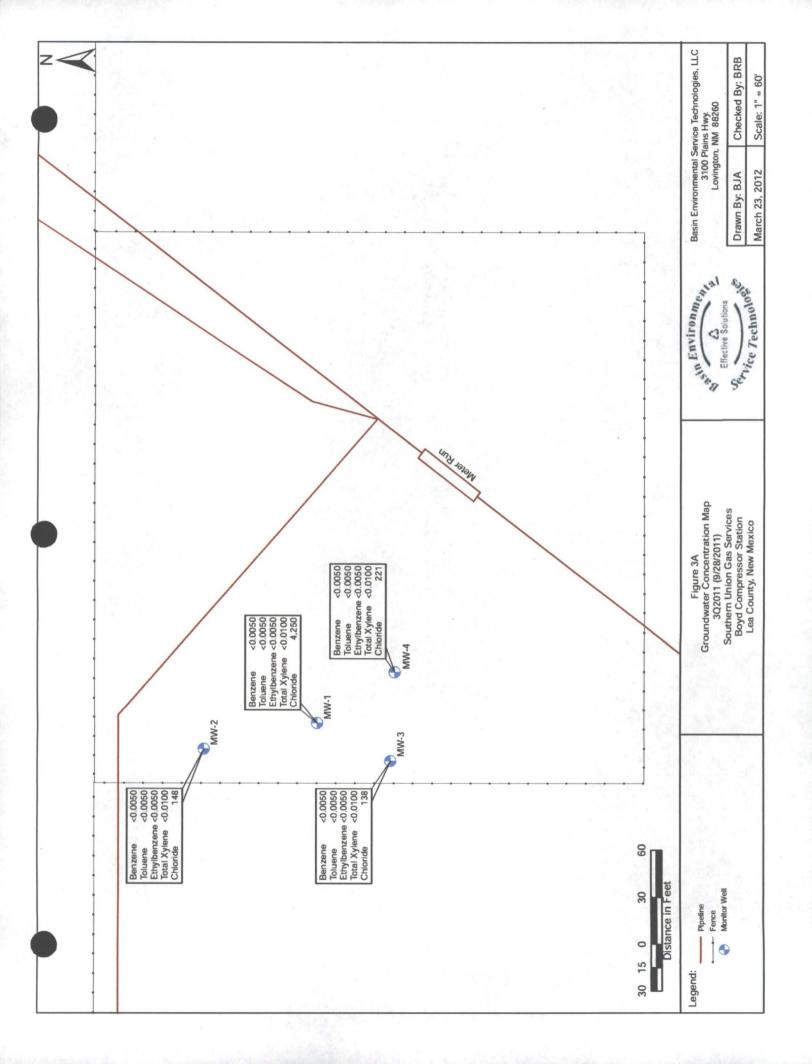


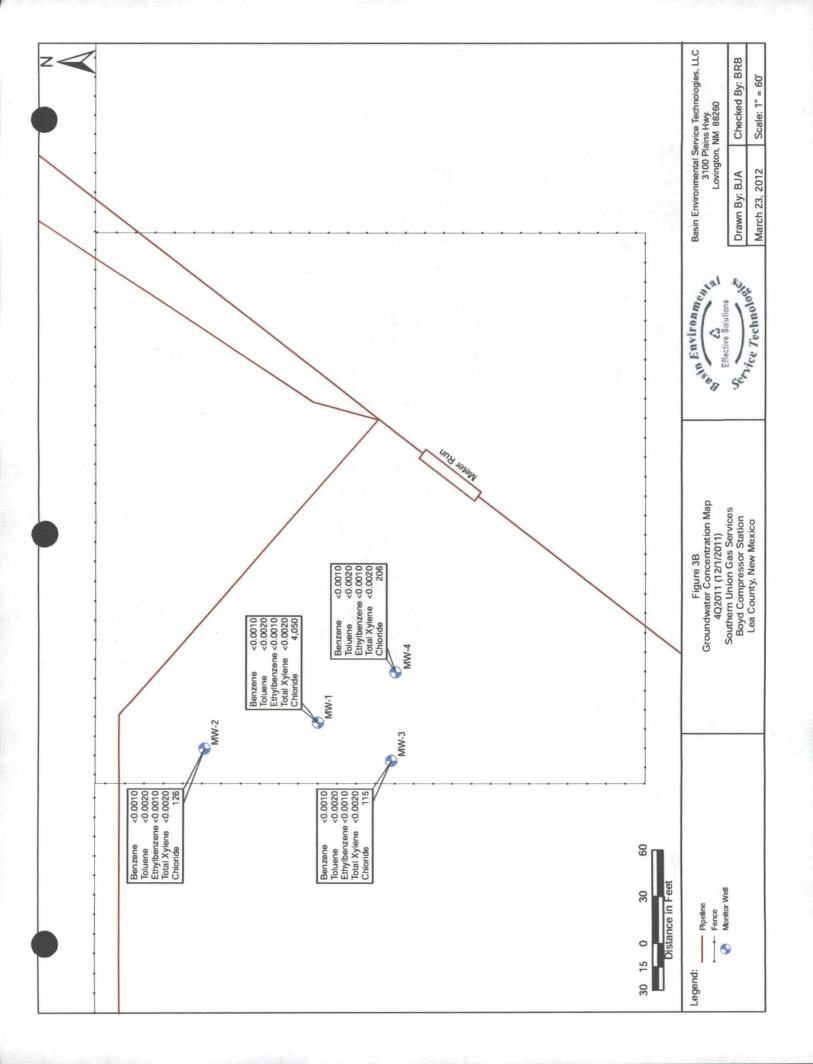
Figures











Tables

# **GROUNDWATER ELEVATION DATA**

### SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	TOTAL DEPTH	CORRECTED GROUNDWATER ELEVATION
MW-1	9/28/2011	3,316.67	-	59.36	-	69.35	3,257.31
	12/1/2011	3,316.67	-	59.36	-	69.35	3,257.31
Sec. 16		4					
MW-2	9/28/2011	3,317.02	-	59.57	-	69.64	3,257.45
	12/1/2011	3,317.02	· -	60.65	-	69.64	3,256.37
	5 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1. 2. Yun 1. 4.	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Stran in		
MW-3	9/28/2011	3,317.52	-	60.23	-	69.50	3,257.29
	12/1/2011	3,317.52	-	65.20	·	69.50	3,252.32
	18	8	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	•			
MW-4	9/28/2011	3,317.06	-	59.78	-	68.95	3,257.28
	12/1/2011	3,317.06	- :	59.25	-	68.95	3,257.81
Reg Star	and the second second		"专家资料之				V SEPART

# 2011 CONCENTRATIONS OF BENZENE, BTEX & CHLORIDE IN GROUNDWATER

# SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

				METH	ODS: EPA S	METHODS: EPA SW 846-8021b			E 300
SAMPLE	SAMPLE	BENZENE (ma/L)	ENZENE TOLUENE	ETHYL- Benzene	M,P- XYLENES	(md/l) O-XYLENES	TOTAL XYLENE	TOTAL BTEX	
MW-1	9/28/2011	<0.0050	<0.0050	(mg/L) <0.0050	<b>(mg/L)</b> <0.010	<0.0050	(mg/L) <0.010	(mg/L) <0.010	4,250
	12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	4,050
									A CARLES AND A CAR
MW-2	9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	148
	12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	126
							5 		
MW-3	9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	138
	12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	115
and the second of the second o									
MW-4	9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	221
	12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	206
			大学の学校です				1		
<b>NMOCD CRITERIA</b>	/	0.01	0.75	0.75	TOTAL XY	TOTAL XYLENES 0.62			250

# CONCENTRATIONS OF RCRA & NMWQCC METALS IN GROUNDWATER

# SOUTHERN UNION GAS SERVICES

# BOYD COMPRESSOR STATION

# LEA COUNTY, NEW MEXICO

# All water concentrations are reported in mg/L EPA SW846-6020A. EPA 7470A

		Zinc	0			╺────┫┞┼┊┤
H	Nickel	0.0434	0.0170	0.0691	<0.0050	շ ան/ך
	munəbdyloM	0.0155	0.0140	0.0138	0.0138	J\gm 0.
	. əsənspnsM	0.586	0.389	1.00	0.0436	ר אַסאר אַ
-ouzua, I	Iron	47.6	10.4	53.1	2.48	J\0m 0.
EFA 304040-0020A, EFA 1410A	Copper	0.0439	0.0252	0.102	0.00286	ן,6m 0.
	3ledoD	0.0195	0.0103	0.0545	<0.0050	טק של,ך
	Boron	2.77	0.451	0.476	0.490	շինա ցչ
	munimulA	62.0	13.0	68.4	3.59	ן מאַ ר
	SAMPLE DATE	9/28/2011	9/28/2011	9/28/2011	9/28/2011	minant Levels Drinking Sections 1-
SAMPLE LOCATION		MW-1	MW-2	MW-3	MW-4	Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-



# Table 4 CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

All water concentrations are in mg/L

Chloroethane	<0.01	<0.01	<0.01	<0.01	-
Chlorobenzene	<0.005	<0.005	<0.005	<0.005	-
Sarbon Tetrachloride	<0.005 <0.005	<0.005 <0.005	<0.005	<0.005	-1\քա ք0.0
Carbon Disulfide	\$0.05 ∧	\$0.05 ∧0	<0.05 10</th <th>&lt;0.05</th> <th>-</th>	<0.05	-
tert-Butylbenzene	<0.005	<0.005	<0.005	<0.005	_
sec-Butylbenzene	<0.005	<0.005	<0.005	<0.005	-
ansznsdiylbenzene	<0.005	<0.005	<0.005	<0.005	-
ЭӨТМ	<0.005	<0.005	<0.005	<0.005	
S-Butanone	<0.05	<0.05	<0.05	<0.05	-
Bromomethane	<0.005	<0.005	<0.005	<0.005	-
Βιοποίοιπ	<0.005	<0.005	<0.005	<0.005	-
Bromodichloromethane	<0.005	<0.005	<0.005	<0.005	-
Bromochloromethane	<0.005	<0.005	<0.005	<0.005	-
Bromobenzene	<0.005	<0.005	<0.005	<0.005	
əuəzuəg	<0.005	<0.05 <0.005	<0.05 <0.005	<0.005	.1\gm f 0.0
Acrylonitrile	<0.05	<0.05	<0.05	<0.05	•
enotecA	<0.1	<0.1	<0.1	<0.1	-
Date Sampled	9/28/2011	9/28/2011	9/28/2011	9/28/2011	nant Levels from water standards IU and 3-103.A.
Sample Location	MW-1	MW-2	MW-3	MW-4	Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.



# CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

Table 4

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cis-1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	-1/8ա1.0
1,1-Dichloroethene	<0.005	<0.005	<0.005	<0.005	ן,8m כֿ00.0
3,2-Dichloroethane	<0.005 <0.005	<0.005	<0.005	<0.005	J\Bm 10.0
1,1-Dichloroethane	<0.005	<0.005	<0.005	<0.005	J\gm 200.0
Dichlorodifluormethane	<0.005	<0.005	<0.005	<0.005	-
90-20-20-20-20-20-20-20-20-20-20-20-20-20	<0.005	<0.005	<0.005	<0.005	-
1,3-Dichlorobenzene	<0.005	<0.005	<0.005	<0.005	-
1,2-Dichlorobenzene	<0.005	<0.005	<0.005	<0.005	-
Dibromomethane Dibromomethane	<0.005	<0.005	<0.005	<0.005	-
(BD3) ensiteomordiD-2,1	<0.005	<0.005	<0.005	<0.005	J\քm ۲000.0
1,2-Dibromo-3- chloropropane	<0.005	<0.005	<0.005	<0.005	-
Dibromochloromethane	<0.005	<0.005	<0.005	<0.005	-
p-Cymene(p-	<0.005	<0.005	<0.005	<0.005	-
4-Chlorotoluene	<0.005	<0.005	<0.005	<0.005	-
2-Chlorotoluene	<0.005	<0.005	<0.005	<0.005	-
Chloromethane	<0.01	<0.01	<0.01	<0.01	-
Chloroform	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005	<b>⅃</b> ∖քաՐ.0
2-Chloroethyl vinyl ether	<0.005	<0.005	<0.005	<0.005	-
Date Sampled	9/28/2011	9/28/2011	9/28/2011	9/28/2011	Maximum Contarninant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.
Sample Location	MW-1	MW-2	MW-3	MW-4	Maximum Contaminant Levels fro NMWQCC Drinking water standar Sections 1-101.UU and 3-103.A

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# CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

Table 4

All water concentrations are in mg/L

		_	_		
ansdigerochloroethane	<0.005	<0.005	<0.005	<0.005	-
Styrene	<0.005	<0.005	<0.005	<0.005	-
aneznedylbenzene	<0.005 ▲0.005	<0.005	<0.005	<0.005	· -
Naphthalene	<u>60.01</u>	<u>6</u> .01	<u>60.01</u>	<0.01	-7/8ш £0.0
4-Methyl-2-pentanone (MIBK)	<0.05	<0.05	<0.05	<0.05	-
Methylene chloride	0.0056	0.0055	0.0059	0.0055	-Մքա†.0
sob⊾obλ psuzeue	<0.005	<0.005	<0.005	<0.005	-
S-Hexanone	<0.05	<0.05	<0.05	<0.05	-
Hexachlorobutadiene	<0.005	<0.005	<0.005	<0.005	-
eneznediγn}∃	<0.005 <	<0.005	<0.005	<0.005	շնքա ՇՆ.0
trans-1,3-Dichloropropene درهاره	<0.005	<0.005	<0.005	<0.005	-
cis-1,3-Dichloropropene	<0.005	<0.005	<0.005	<0.005	-
1,1-Dichloropropane	<0.005	<0.005	<0.005	<0.005	-
2,2-Dichloropropane	<0.005	<0.005	<0.005	<0.005	-
1,3-Dichloropropane	<0.005	<0.005	<0.005	<0.005	-
1,2-Dichloropropane	<0.005 <0.005 <0.00	<0.005 <0.005 <0.005	<0.005 <0.005 <0.00	<0.005 <0.005 <0.009	-
trans-1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	. •
Date Sampled	9/28/2011	9/28/2011	9/28/2011	9/28/2011	Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A
Sample Location	MW-1	MW-2	MW-3	MW-4	Maximum Contan NMWQCC Drinkin Sections 1-101

Page 3 of 4

Table 4

# CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SOUTHERN UNION GAS SERVICES BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

All water concentrations are in mg/L

<0.0020	<0.0020	<0.0020	<0.0020	J\gm 100.0
<0.010	<0.010	<0.010	<0.010	,1/8m 29.0
	<0.005	<0.005	<0.005	Totał Xylene
	<0.005	<0.005	<0.005	-
	<0.005	<0.005	<0.005	-
	<0.005	<0.005	<0.005	
	<0.005	<0.005	<0.005	-
	<0.005	<0.005	<0.005	J \քm ۲0.0
	<0.005	<0.005	<0.005	
<0.005	<0.005	<0.005	<0.005	ر¶ھ/ل
<0.0099	6600.0>	6600.0>	<0.0099	-
<0.0099	6600.0>	6600.0>	6600.0>	-
<0.005	<0.005	<0.005	<0.005	-Մք <b>ՠ Շ</b> ՆՕ
<0.005	<0.005	<0.005	<0.005	- ·
<0.005	<0.005	<0.005	<0.005	J/Bm 20.0
9/28/2011	9/28/2011	9/28/2011	9/28/2011	Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.
MW-1	MW-2	MW-3	MW-4	Maximum Contaminant Levels fro NMWQCC Drinking water standar Sections 1-101.UU and 3-103.A
	0.28/2011 < 0.005 < 0.005 < 0.005 < 0.005 < 0.0060 < 0.0060 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 <	9/28/2011         <0.005	9/28/2011         <0.005	9/28/2011         <0.005

Page 4 of 4

# CONCENTRATIONS OF SEMI-VOLATILE COMPOUNDS IN GROUNDWATER SOUTHERN UNION GAS SERVICES

# BOYD COMPRESSOR STATION LEA COUNTY, NEW MEXICO

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	Ругепе	<0.005	<0.005	<0.005	<0.005	
	Phenanthrene	<0.005	<0.005	<0.005	<0.005	
	ənəlsıttıqsN	<0.005	<0.005	<0.005	<0.005	
	ənəıyq(bɔ-ɛ,ઽ,t]onəbnl	<0.005	<0.005	<0.005	<0.005	1. C. S.
	Fluorene	<0.005	<0.005	<0.005	<0.005	
	Fluoranthene	<0.005	<0.005	<0.005	<0.005	چرچان از از از ا
0	Dibenz[a,h]anthracene	<0.005	<0.005	<0.005	<0.005	
EPA SW846-8270C, 3510	Chrysene	<0.005	<0.005	<0.005	<0.005	
SW846-8	Benzo[k]fluoranthene	<0.005	<0.005	<0.005	<0.005	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
EPA	ənəlyıəq[i,d,g]oznəð	<0.005	60.005	60.005	<0.005 <0.005	•
	ອກອາປາດຮາດນາ້າ[d]oznອອີ	<0.005	<0.005	<0.005	<0.005	
	Benzo[a]pyrene	<0.005	<0.005	<0.005	<0.005	
	9n9วธาปัทธ[ธ]ozn9d	<0.005	<0.005	<0.005	<0.005	
	อก9วธาณิกA	<0.005	<0.005	<0.005	<0.005	2 2
	ənəlyıtlıqsnəɔA	<0.005	<0.005	<0.005	<0.005	à
	ənərtiriqsnəcA	<0.005	<0.005 <	<0.005	<0.005	1
	SAMPLE DATE	9/28/2011	9/28/2011	9/28/2011	9/28/2011	
	SAMPLE LOCATION	MW-1	MW-2	MW-3	MW-4	n y Anton de Antonio d

Appendices

# Appendix A

# Laboratory Analytical Reports

# Analytical Report 428606

# for

# **Southern Union Gas Services- Monahans**

Project Manager: Rose Slade Boyd Compressor Station

# 14-OCT-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)

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14-OCT-11

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

Reference: XENCO Report No: 428606 Boyd Compressor Station Project Address: Lea County, NM

### Rose Slade:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 428606. 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. 428606 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 428606



# Southern Union Gas Services- Monahans, Monahans, TX

# Boyd Compressor Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	09-28-11 13:45	•	428606-001
MW-2	W	09-28-11 12:30		428606-002
MW-3	W	09-28-11 13:45	•	428606-003
MW-4	W	09-28-11 13:30		428606-004

# CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: Boyd Compressor Station



Project ID: Work Order Number: 428606 Report Date: 14-OCT-11 Date Received: 09/29/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

# None

# Analytical non nonformances and comments:

## Batch: LBA-871512 Anions by E300

The RPD between the sample and sample duplicate was above the QC limit for Chloride. This is most likely due to sample non-homogeniety.

# Batch: LBA-871684 VOAs by SW-846 8260B SW8260B

Batch 871684, Carbon Tetrachloride recovered above QC limitsTrichlorofluoromethane recovered above QC limits in the Blank Spike and Duplicate. Samples affected are: 428606-004, -003, -001, -002.

## SW8260B

Batch 871684, 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1-Dichloropropene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Chlorotoluene, Bromochloromethane, Bromodichloromethane, Chloroform, Sec-Butylbenzene, n-Propylbenzene, o-Xylene, p-Cymene (p-Isopropyltoluene), tert-Butylbenzene, trans-1,2dichloroethene recovered above QC limits in the Matrix Spike. Carbon Tetrachloride, Trichlorofluoromethane recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 428606-004, -003, -001, -002.

The Laboratory Control Sample for Bromodichloromethane, 1,3-Dichlorobenzene, Bromochloromethane, 2-Chlorotoluene, tert-Butylbenzene, 1,4-Dichlorobenzene, Chloroform, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, Sec-Butylbenzene, o-Xylene, 1,1,1-Trichloroethane, 1,1,1,2-Tetrachloroethane, trans-1,2-dichloroethene, n-Propylbenzene, p-Cymene (p-Isopropyltoluene), 1,1-Dichloropropene is within laboratory Control Limits

## SW8260B

Batch 871684, Bromochloromethane RPD was outside QC limits. Samples affected are: 428606-004, -003, -001, -002

# CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: Boyd Compressor Station



Project ID: Work Order Number: 428606 Report Date: 14-OCT-11 Date Received: 09/29/2011

Batch: LBA-872310 ICP-MS Metals by SW 6020A SW6020

Batch 872310, Zinc recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 428606-004, -003, -001, -002. The Laboratory Control Sample for Zinc is within laboratory Control Limits

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# Certificate of Analysis Summary 428606 Southern Union Gas Services- Monahans, Monahans, TX Project Name: Boyd Compressor Station



Project Id: Contact: Rose Slade

Date Received in Lab: Thu Sep-29-11 08:46 am Report Date: 14-OCT-11

								<b>Project Ma</b>	mager: E	Project Manager: Brent Barron II	
	Lab Id:	428606-001	11	428606-002	02	428606-003	-003	428606-004	004		
	Field Id:	I-WM	•	<u>M</u> W-2		MW-3	÷	MW-4	4		
naisanhay sistinuy	Depth:										
	Matrix:	WATER		WATER	~	WATER	SR	WATER	R		
	Sampled:	Sep-28-11 13.45	3.45	Sep-28-11 12:30	12:30	Sep-28-11 13:45	13:45	Sep-28-11 13:30	13:30		
Anions by E300	Extracted:										
	Analyzed:	Oct-03-11 14:31	4:31	Oct-03-11 14:31	14:31	Oct-03-11 14:31	14:31	Oct-03-11 14:31	14:31		
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Chloride		4250	100	148	5.00	138	5.00	221	10.0		
ICP-MS Metals by SW 6020A	Extracted:	Oct-06-11 17:00	7:00	Oct-06-11 17:00	17:00	Oct-06-11 17:00	17:00	Oct-06-11 17:00	17:00		
SUB: E871002	Analyzed:	Oct-13-11 15:52	5:52	Oct-13-11 15:58	15:58	Oct-13-11 16:04	16:04	Oct-13-11 16:10	16:10		
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Aluminum		62.0	0.0100	13.0	00100	68.4	0.0100	3.59	0.0100		
Boron		2.77	0.0100	0.451	0.0100	0.476	0.0100	0.490	0.0100		
Cobalt		0.0195 0.00500	0.00500	0.0103	0.00500	0.0545	0.0545 0.00500	QN	0.00500		
Copper		0.0439 0.00200	0.00200	0.0252	0.00200	0.102	0.00200	0.00286	0.00200		
Iron		47.6	0.150	10.4	0.150	53.1	0.150	2.48	0.150		
Manganese		0.586 0.00200	0.00200	0.389	0.00200	1.00	0.00200	0.0436	0.00200		
Molybdenum		0.0155 0.00200	0.00200	0.0140	0.0140 0.00200	0.0138	0.00200	0.0138	0.00200		
Nickel		0.0434 0.00500	0.00500	0.0170	0.00500	1690:0	0.00500	QN	0.00500		
Zinc		0.146 0.00300	0.00300	0.0425	0.00300	0.262	0.00300	0.0161	0.00300		

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 bast judgment of XENCO Laboratorics. XENCO Laboratorics 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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Odessa Laboratory Manager

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Brent Barron II

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Project Id:

Southern Union Gas Services-Monahans, Monahans, TX Certificate of Analysic Summary 428606 Project Name: Boyd Compressor Station



Contact: Rose Slade	-			Dat	Date Received in Lab: 7	Thu Sep-29-11 08:46 am
Project Location: Lea County, NM						14-OCT-11
			-	-	Project Manager: E	Brent Barron II
	Lab Id:	428606-001	428606-002	428606-003	428606-004	
	Field Id:	I-WM	MW-2	MW-3	MW-4	
Analysis Kequesiea	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	,
· · ·	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30	
SVOAs by EPA 8270C	Extracted:	Oct-01-11 07:37	Oct-01-11 07:40	Oct-01-11 07:43	Oct-01-11 07:46	
SUB: E871002	Analyzed:	Oct-03-11 18:14	Oct-03-11 18:38	Oct-03-11 19:02	Oct-03-11 19:26	
· .	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL.	
1,2,4-Trichlorobenzene		06600.0 UN	ND 0.0101	ND 0.00962	06600:0 CIN	
1,2-Dichlorobenzene		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 QN .	
1,3-Dichlorobenzene		06600'0 QN	ND 0.0101	ND 0.00962	06600:0 <b>CN</b>	
1,4-Dichlorobenzene		06600:0 QN	1010'0 QN	ND 0.00962	06600:0 QN	
2,4,5-Trichlorophenol		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 QN	
2,4,6-Trichlorophenol		06600:0 QN	ND 0.0101	ND 0.00962	06600:0 CN	
2,4-Dichlorophenol		06600:0 QN	1010:0 ON	ND 0.00962	06600'0 QN	
2,4-Dimethylphenol		06600:0 QN	ND 0.0101	ND 0.00962	0660070 QN	
2,4-Dinitrophenol		ND 0.0198	ND 0.0202	ND 0.0192	ND 0.0198	
2,4-Dinitrotoluene		06600'0 QN	ND 0.0101	ND 0.00962	06600:0 QN	
2,6-Dinitrotoluene		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 UN	
2-Chloronaphthalene		0660070 QN	ND 0.0101	ND 0.00962	06600:0 UN	
2-Chlorophenol		06600'0 GN	ND 0.0101	ND 0.00962	ND 0.00990	
2-Methylmaphthalene		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 UN	
2-methylphenol		06600:0 <b>GN</b>	ND 0.0101	ND 0.00962	06600.0 · UN ·	
2-Nitroaniline		ND 0.0198	ND 0.0202	ND 0.0192	ND 0.0198	
2-Nitrophenol			ND 0.0101	ND 0.00962	06600'0 QN	
3&4-Methylphenol		06600'0 ON	1010:0 <b>ON</b>	ND 0.00962	06600'0 CN	
3,3-Dichlorobenzidine		06600:0 QN	1010'0 QN .	ND 0.00962	06600.0 QN	
3-Nitroaniline		ND 0.0198	ND 0.0202	· ND 0.0192	ND 0.0198	
4,6-dinitro-2-methyl phenol		06600'0 QN	ND 0.0101	ND 0.00962	066000 ON	
4-Bromophenyl-phenylether		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 · UN	
4-chloro-3-methylphenol		ND 0.00990	ND 0.0101	ND 0.00962	066000 ON	
4-Chloroaniline	•	ND 0.0198	ND 0.0202	ND 0.0192	ND 0.0198	
4-Chlorophenyl Phenyl Ether		06600.0 UN	ND 0.0101	ND 0.00962	06600.0 UN	
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 bat judgment of XENCO Laboratorics.	ade for your exclusive	and confidential use.				The All
XENCO Laboratorics assumes no responsibility and makes no warranty to t Our liability is limited to the amount invoiced for this work order unless oth	the end use of the data nerwise agreed to in wr	hereby presented. iting.			K	20 00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. In superscientions and really secrescent (invergiout this analytical report represent the besi judgment of XENCO Laboratories. XENCO Laboratories assumes to responsibility and makes no warmaty to the end use of the data hereby presented. Our liability is litmited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Odessa Laboratory Manager

Brent Barron II

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Contact: Rose Slade

**Project Id:** 

# Certificate of Analysis Summary 428606 Southern Union Gas Services- Monahans, Monahans, TX Project Name: Boyd Compressor Station



 Date Received in Lab:
 Thu Sep-29-11 08:46 am

 Report Date:
 14-OCT-11

					0	
	Lab Id:	428606-001	428606-002	428606-003	428606-004	
A maturic Damandad	Field Id:	I-WM	MW-2	MW-3	MW-4	-
naicanhavi cichinity	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30	
SVOAs by EPA 8270C	Extracted:	Oct-01-11 07:37	Oct-01-11 07:40	Oct-01-11 07:43	Oct-01-11 07:46	
SUB: E871002	Analyzed:	Oct-03-11 18:14	Oct-03-11 18:38	Oct-03-11 19:02	Oct-03-11 19:26	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
4-Nitroaniline		ND 0.0198	ND 0.0202	ND 0.0192	ND 0.0198	
4-Nitrophenol		ND 0.00990	ND 0.0101	ND 0.00962	06600.0 UN	
Acenaphthene		0660010 QN	ND 0.0101	ND 0.00962	066000 <b>CIN</b>	
Acenaphthylene		06600'0 QN	ND 0.0101	ND 0.00962	066000 CIN	
Aniline (Phenylamine, Aminobenzene)		ND 0.0198	ND 0.0202	ND 0.0192	ND 0.0198	•
Anthracene		06600'0 QN	ND 0.0101	ND 0.00962	06600 ON	
Benzo(a)anthracene		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 GN	
Benzo(a)pyrene		ND 0.00990	ND 0.0101	ND 0.00962	06600.0 GN	
Benzo(b)fluoranthene		ND 0.00990	ND 0.0101	QN		
Benzo(g,h,i)perylene		ND 0.00990	ND 0.0101	QN	06600'0 <b>CIN</b>	
Benzo(k)fluoranthene		ND 0.00990	ND 0.0101	QN	06600.0 <b>UN</b>	
Benzoic Acid		ND 0.0495	ND 0.0505	QN		
Benzyl Butyl Phthalate		ND 0.00990	ND 0.0101	QN	00000 ON	
bis(2-chloroethoxy) methane		ND 0.00990	ND 0.0101	ND 0.00962	06600.0 <b>UN</b>	
bis(2-chloroethyl) ether		ND 0.00990	ND 0.0101	Ŋ	06600.0 UN	
bis(2-chloroisopropyl) ether		ND 0.00990	ND 0.0101	ND 0.00962	06600.0 <b>UN</b>	
bis(2-ethylhexyl) phthalate		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 UN	
Chrysene		06600'0 QN	ND 0.0101	ND 0.00962	. 06600'0 CIN	
Dibenz(a,h)Anthracene		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 CIN	
Dibenzofuran		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 UN	
Diethyl Phthalate		06600'0 QN	ND 0.0101	QN	06600.0 UN	
Dimethyl Phthalate		· ND 0.00990	ND 0.0101	ND 0.00962	06600'0 <b>UN</b>	
di-n-Butyl Phthalate		ND 0.00990	ND 0.0101	ND 0.00962		
di-n-Octyl Phthalate		06600'0 QN	1010 <sup>.</sup> 0 <b>C</b> N	ND 0.00962	00000 ON	
Fluoranthene		06600.0 UN	1010 0.0101	ND 0.00962	00000 UN	

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Brent Barron II

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Contact: Rose Slade

Project Id:

Southern Union Gas Services-Monahans, Monahans, TX Certificate of Analysis Jummary 428606 Project Name: Boyd Compressor Station



Date Received in Lab: Thu Sep-29-11 08:46 am

				-	Project Manager: Brent Barron II	Brent Barron II	
	Lab Id:	428606-001	428606-002	428606-003	428606-004		
Analycic Dogusciad	Field Id:	I-WW	MW-2	MW-3	MW-4		
naicanhau cicliniuv	Depth:			=	 - -		
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30		
SVOAs by EPA 8270C	Extracted:	Oct-01-11 07:37	Oct-01-11 07:40	Oct-01-11 07:43	Oct-01-11 07:46		
SUB: E871002	Analyzed:	Oct-03-11 18:14	Oct-03-11 18:38	Oct-03-11 19:02	Oct-03-11 19:26		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Fluorene		06600:0 QN	ND 0.0101	ND 0.00962	06600'0 ON		
Hexachlorobenzene		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 QN		
Hexachlorobutadiene		06600.0 UN	1010.0 UN	ND 0.00962	06600'0 QN		
Hexachlorocyclopentadiene	· · · ·	06600'0 QN	ND 0.0101	ND 0.00962	0660010 ON		
Hexachloroethane		06600.0 UN	1010 <sup>.0</sup> ON	ND 0.00962	06600'0 QN		
Indeno(1,2,3-c,d)Pyrene		06600'0 GN	ND 0.0101	ND 0.00962	ND 0.00990		
sophorone		06600'0 QN	1010 <sup>.0</sup> <b>GN</b>	ND 0.00962	06600.0 UN	-	•
Naphthalene		06600.0 UN	ND 0.0101	ND 0.00962	06600'0 QN		
Nitrobenzene		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 QN		
N-Nitrosodi-n-Propylamine		06600'0 QN	ND 0.0101	ND 0.00962	06600.0 UN		
N-Nitrosodiphenylamine		06600'0 QN	ND 0.0101	ND 0.00962	06600'0 QN		
Pentachlorophenol		ND 0.00990	ND 0.0101	ND 0.00962	ND 0.00990		
Phenanthrene		06600'0 QN	ND 0.0101	ND 0.0062	06600 0 ON		
Phenol		06600'0 QN	ND 0.0101	ND 0.0062	06600'0 QN		
Pyrene		06600.0 UN	ND 0.0101	ND 0.00962	06600'0 QN		
Puridine		06600.0 UN	ND 0.0101	ND 0.00962	06600 0 UN		

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Brent Barron II Odessa Laboratory Manager

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Contact: Rose Slade

Project Id:

### Certificate of Analysis Summary 428606 Southern Union Gas Services- Monahans, Monahans, TX Project Name: Boyd Compressor Station



Date Received in Lab: Thu Sep-29-11 08:46 am Report Date: 14-OCT-11

	Lab Id:	428606-001	428606-002	428606-003	428606-004		
	Field Id:	MW-1	MW-2	MW-3	MW-4		
Anaiysis Kequesieu	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30		
VOAs by SW-846 8260B	Extracted:	Oct-03-11 13:17	Oct-03-11 13:18	Oct-03-11 13:19	Oct-03-11 13:20		
SUB: E871002	Analyzed:	Oct-03-11 19:54	Oct-03-11 20:16	Oct-03-11 20:38	Oct-03-11 21:00		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL			
1,1,1,2-Tetrachloroethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	-	
1,1,1-Trichloroethane		ND 0.00500	005000 GN	ND 0.00500	ND 0.00500		
1,1,2,2-Tetrachloroethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,1,2-Trichloroethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,1-Dichloroethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,1-Dichloroethene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,1-Dichloropropene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2,3-Trichlorobenzene	*	ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2,3-Trichloropropane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2,4-Trichlorobenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2,4-Trimethylbenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	•	
1,2-Dibromo-3-Chloropropane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2-Dibromoethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2-Dichlorobenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2-Dichloroethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,2-Dichloropropane		ND 0.00500	ND 0.00500		ND 0.00500		
1,3,5-Trimethylbenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,3-Dichlorobenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,3-Dichloropropane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
1,4-Dichlorobenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
2,2-Dichloropropane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
2-Chlorotoluene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	-	
4-Chlorotoluene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
Benzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500		
Rmmohenzene		ND 0.00500	ND 0.00500	00000 CIN	100500 0 010		

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Brent Barron II Odessa Laboratory Manager

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### Southern Union Gas Services-Monahans, Monahans, TX Certificate of Analysis Summary 428606 **Project Name: Boyd Compressor Station**



Contact: Rose Slade **Project Id:** 

Date Received in Lab: Thu Sep-29-11 08:46 am Report Date: 14-OCT-11

					TT ADDRESS SALES		
	Lab Id:	428606-001	428606-002	428606-003	428606-004		
f	Field Id:	I-MM	MW-2	MW-3	MW-4	· · ·	
Anaiysis Kequestea	Depth:					· ·	
	Matrix:	WATER	WATER	WATER	WATER		
~	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30		
VOAs by SW-846 8260B	Extracted:	Oct-03-11 13:17	Oct-03-11 13:18	Oct-03-11 13:19	Oct-03-11 13:20		
SUB: E871002	Analyzed:	Oct-03-11 19:54	0ct-03-11 20:16	Oct-03-11 20:38	Oct-03-11 21:00		
	Units/RL:	mg/L I	RL mg/L RL	mg/L RL	mg/L RL		
Bromochloromethane		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Bromodichloromethane		ND 0.00500	Q	QN	ND 0.00500		
Bromoform		. ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Bromomethane		ND 0.00500	QN	0.00500 UD 0.00500	ND 0.00500		
Carbon Tetrachloride		ND 0.00500	500 ND 0.00500	QN	ND 0.00500		
Chlorobenzene		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Chloroethane		ND 0:0	QN	QN	ND 0.0100		
Chloroform		ND 0.00500	QN	QN	ND 0.00500		
Chloromethane		ND 0.0	0.0100 ND 0.0100	0.0100 ND 0.0100	ND 0.0100		
cis-1,2-Dichloroethene		ND 0.00500	Q	000000 ND 0.00500	ND 0.00500		
cis-1,3-Dichloropropene		ND 0.00500	500 ND 0.00500	00000 ON 0.00500	ND 0.00500		
Dibromochloromethane		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Dibromomethane	•	ND 0.00500	500 ND 0.00500	000000 OND 0.00500	ND 0.00500		
Dichlorodifluoromethane		ND 0.00500	500 ND 0.00500	0.00500 ND	ND 0.00500		
Ethylbenzene		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Hexachlorobutadiene		· ND 0.00500	QN	0 ND 0.00500	ND 0.00500		
isopropylbenzene		ND 0.00500	500 ND 0.00500	00000 ND 0.00500	ND 0.00500		
m,p-Xylenes		0.0 UN 0.0	0.0100 ND 0.0100	Q	00100 ON		
Methylene Chloride		0.00563 0.00500	<b>500</b> 0.00552 0.00500	0.00589 0.00500	0.00548 0.00500		
MTBE		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
Naphthalene		0.0 UN 0.0	0.0100 · ND 0.0100	0.0100 ND 0.0100	ND 0.0100		
n-Butylbenzene		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
n-Propylbenzene		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
o-Xylene		ND 0.00500	500 ND 0.00500	0 ND 0.00500	ND 0.00500		
n-Cymene (n-Isonronyltoluene)		ND 0.00500	1500 ND 0.00500	0 ND 0.00500	ND 0.00500		

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Odessa Laboratory Manager

Brent Barron II

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### Certificate of Analysis Summary 428606 Southern Union Gas Services- Monahans, Monahans, TX



Project Name: Boyd Compressor Station

Contact: Rose Slade Project Location: Lea County, NM

**Project Id:** 

Report Date: 14-OCT-11

Date Received in Lab: Thu Sep-29-11 08:46 am

					Project Manager: Brent Barron II	ent Barron II
	Lab Id:	428606-001	428606-002	428606-003	428606-004	
Analycic Domoctod	Field Id:	I-WM	MW-2	MW-3	MW-4	
naicanhau sistimu	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Sep-28-11 13:45	Sep-28-11 12:30	Sep-28-11 13:45	Sep-28-11 13:30	
VOAs by SW-846 8260B	Extracted:	Oct-03-11 13:17	Oct-03-11 13:18	Oct-03-11 13:19	Oct-03-11 13:20	
SUB: E871002	Analyzed:	Oct-03-11 19:54	Oct-03-11 20:16	Oct-03-11 20:38	Oct-03-11 21:00	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Sec-Butylbenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Styrene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
tert-Butylbenzene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Tetrachloroethylene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Toluene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
trans-1,2-dichloroethene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
trans-1,3-dichloropropene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Trichloroethene		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Trichlorofluoromethane		ND 0.00500	ND 0.00500	ND 0.00500	ND 0.00500	
Vinyl Chloride		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	

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Odessa Laboratory Manager

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Brent Barron II

### **Flagging Criteria**

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

LOQ Limit of Quantitation

PQL Practical Quantitation Limit MQL Method Quantitation Limit

**DL** Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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### Project Name: Boyd Compressor Station

ork Orders : 428606 Lab Batch #: 871572	, Sample: 428606-001 / SMP	Bate	Project I	D: Water		
Units: mg/L	Date Analyzed: 10/03/11 18:14		RROGATE R		STUDY	
SVOA	s by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl		0.0364	0.0495	74	43-116	
2-Fluorophenol		0.0195	0.0495	39	21-100	
Nitrobenzene-d5		0.0335	0.0495	68	35-114	
Phenol-d6		0.0127	0.0495	26	10-94	
Terphenyl-D14		0.0389	0.0495	79	33-141	
2,4,6-Tribromophenol		0.0387	0.0495	78	10-123	
Lab Batch #: 871572	Sample: 428606-002 / SMP	Bate	h: <sup>1</sup> Matrix	Water	1999 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
Units: mg/L	Date Analyzed: 10/03/11 18:38	SU	RROGATE R	ECOVERY S	STUDY	
SVOA	s by EPA 8270C	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
2-Fluorobiphenyl	· ·	0.0380	0.0505	75	43-116	
2-Fluorophenol		0.0211	0.0505	42	21-100	
Nitrobenzene-d5		0.0352	0.0505	70	35-114	
Phenol-d6		0.0141	0.0505	28	10-94	
Terphenyl-D14		0.0414	0.0505	82	33-141	
2,4,6-Tribromophenol		0.0402	0.0505	80	10-123	
Lab Batch #: 871572	Sample: 428606-003 / SMP	Bate	:h: <sup>]</sup> Matrix	Water		
Units: mg/L	Date Analyzed: 10/03/11 19:02	SU	RROGATE R	ECOVERY S	STUDY	
SVOA	s by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl		0.0340	0.0481	71	43-116	
2-Fluorophenol		0.0175	0.0481	36	21-100	
Nitrobenzene-d5		0.0316	0.0481	66	35-114	
Phenol-d6		0.0114	0.0481	24	10-94	
Terphenyl-D14		0.0407	0.0481	85	33-141	
2,4,6-Tribromophenol	· · · · ·	0.0356	0.0481	74	10-123	

\* 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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Labo	ral	tories	

Project Name: Boyd Compressor Station

rk Orders : 428606 Lab Batch #: 871572 Units: mg/L	5, Sample: 428606-004 / SMP Date Analyzed: 10/03/11 19:26	Batc	Project II h: <sup>1</sup> Matrix RROGATE R	:Water	STUDY	
	as by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl		0.0360	0.0495	73	· 43-116	
2-Fluorophenol		0.0200	0.0495	40	21-100	
Nitrobenzene-d5		0.0335	0.0495	68	35-114	
Phenol-d6		0.0124	0.0495	25 .	10-94	
Terphenyl-D14		0.0403	0.0495	81	33-141	
2,4,6-Tribromophenol		0.0363	0.0495	73	10-123	
Lab Batch #: 871684	Sample: 428606-001 / SMP	Batc	h: <sup>1</sup> Matrix	Water		
Units: mg/L	Date Analyzed: 10/03/11 19:54	SU	RROGATE R	ECOVERY S	STUDY	
VOAs	by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene		0.0468	0.0500	94	74-124	
Dibromofluoromethane	· · ·	0.0551	0.0500	110	75-131	
1,2-Dichloroethane-D4		0.0519	0.0500	104	63-144	
Toluene-D8	•	0.0476	0.0500	95	80-117	
ab Batch #: 871684	Sample: 428606-002 / SMP	Batc	h: 1 Matrix	:Water		
Units: mg/L	Date Analyzed: 10/03/11 20:16	SU	RROGATE R	ECOVERY S	STUDY	
VOAs	by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	· .	0.0473	0.0500	95	74-124	
Dibromofluoromethane		0.0554	0.0500	111	75-131	
1,2-Dichloroethane-D4		0.0503	0.0500	101	63-144	
Toluene-D8		·····	ŧ		L	

\* 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

results are based on MDL and validated for QC purposes.



Project Name: Boyd Compressor Station

ork Orders : 428606 Lab Batch #: 871684	, Sample: 428606-003 / SMP	Bate	Project I h: 1 Matrix	D: :: Water		
Units: mg/L	Date Analyzed: 10/03/11 20:38	SU	RROGATE R	ECOVERY S	STUDY	
VOAs	by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
4-Bromofluorobenzene		0.0467	0.0500	93	74-124	
Dibromofluoromethane		0.0559	0.0500	112	75-131	
1,2-Dichloroethane-D4		0.0507	0.0500	101	63-144	
Toluene-D8		0.0460	0.0500	92	80-117	
Lab Batch #: 871684	Sample: 428606-004 / SMP	Bate	:h: <sup>1</sup> Matrix	:Water		
Units: mg/L	Date Analyzed: 10/03/11 21:00	SL	RROGATE R	ECOVERY	STUDY	
VOAs	by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
4-Bromofluorobenzene		0.0486	0.0500	97	74-124	
Dibromofluoromethane		0.0550	0.0500	110	75-131	
1,2-Dichloroethane-D4		0.0461	0.0500	92	63-144	
Toluene-D8		0.0475	0.0500	95	80-117	
Lab Batch #: 871684	Sample: 612285-1-BLK / BI	CK Bate	ch: <sup>1</sup> Matrix	:Water		
Units: mg/L	Date Analyzed: 10/03/11 13:12	SL	JRROGATE R	ECOVERY	STUDY	
VOAs	by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	<b>y</b>	0.0482	0.0500	96	74-124	
Dibromofluoromethane		0.0543	0.0500	109	75-131	
1,2-Dichloroethane-D4		0.0495	0.0500	99	63-144	
Toluene-D8		0.0461	0.0500	92	80-117	

\* 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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### Project Name: Boyd Compressor Station

Lab Batch #: 871572	Sample: 612125-1-BLK / B					
Units: mg/L	Date Analyzed: 10/03/11 15:00	SU	RROGATE RI	ECOVERY S	STUDY	
	by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl		0.0473	0.0500	95	43-116	
2-Fluorophenol		0.0454	0.0500	91	21-100	
Nitrobenzene-d5		0.0441	0.0500	88	35-114	
Phenol-d6		0.0458	<u>0.0500</u>	· 92	10-94	
Terphenyl-D14		0.0505	0.0500	101	33-141	
2,4,6-Tribromophenol		0.0435	0.0500	87	10-123	
Lab Batch #: 871684	Sample: 612285-1-BKS / B	KS Batc	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 10/03/11 11:44	SU	RROGATE RI	ECOVERY S	STUDY	
	y SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0474	0.0500	95	74-124	
Dibromofluoromethane		0.0552	0.0500	110	75-131	• • • • • • •
1,2-Dichloroethane-D4		0.0489	0.0500	98	63-144	
Toluene-D8	· · · ·	0.0476	.0,0500	95	80-117	
ab Batch #: 871572	Sample: 612125-1-BKS / B	KS Bate	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 10/03/11 15:24	SU	RROGATE RI	ECOVERY S	STUDY	
•	by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
2-Fluorobiphenyl	· · · · · · · · ·	0.0432	0.0500	· 86	.43-116	
2-Fluorophenol		0.0434	0.0500	87	21-100	
Nitrobenzene-d5		0.0409	0.0500	82	35-114	
Phenol-d6		0.0452	0.0500	90	10-94	
Terphenyl-D14		0.0462	0.0500	92	33-141	
2,4,6-Tribromophenol		0.0472	0.0500	94	10-123	

\* 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

results are based on MDL and validated for QC purposes.



**Project Name: Boyd Compressor Station** 

Vork Orders : 428606	-		Project ID			
Lab Batch #: 871684	Sample: 612285-1-BSD / B					
Units: mg/L	Date Analyzed: 10/03/11 12:05	SU	RROGATE RE	COVERY S	STUDY	
VOAs	by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene		0.0479	0.0500	96	74-124	
Dibromofluoromethane	· · · · · · · · · · · · · · · · · · ·	0.0555	0.0500	111	75-131	
1,2-Dichloroethane-D4		0.0494	0.0500	99	63-144	
Toluene-D8		0.0471	0.0500	94	80-117	
Lab Batch #: 871572	Sample: 612125-1-BSD / B	SD Batcl	h: <sup>1</sup> Matrix:	Water	<u> </u>	
Units: mg/L	Date Analyzed: 10/03/11 15:49	SU	RROGATE RE	COVERY S	STUDY	
SVOA	s by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl		0.0417	0.0500	83	43-116	
2-Fluorophenol	- · · · · · ·	0.0420	0.0500	84	21-100	
Nitrobenzene-d5		0.0400	0.0500	80	35-114	
Phenol-d6		0.0434	0.0500	87	10-94	
Terphenyl-D14		0.0443	0.0500	89	33-141	
2,4,6-Tribromophenol		0.0458	0.0500	92	10-123	
Lab Batch #: 871684	Sample: 428104-009 S / MS	S Batcl	h: <sup>1</sup> Matrix:	Ground Wate	r .	
Units: mg/L	Date Analyzed: 10/03/11 14:02	SU	RROGATE RE	COVERY	STUDY	
VOAs	by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
4-Bromofluorobenzene		0.0462	0.0500	92	74-124	
Dibromofluoromethane		0.0557	0.0500	111	.75-131	Į
1,2-Dichloroethane-D4		0.0464	0.0500	93	63-144	ļ
Toluene-D8		0.0471	0.0500	94	80-117	i i

\* 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: Boyd Compressor Station

ork Orders : 428606 Lab Batch #: 871684 Units: mg/L	, Sample: 428104-009 SD / M Date Analyzed: 10/03/11 14:23		Project I <u>ch: 1 Matriz</u> JRROGATE R	Ground Wate		
	by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene		0.0457	0.0500	91	74-124	
Dibromofluoromethane	j.	0.0540	0.0500	108	75-131	
1,2-Dichloroethane-D4		0.0456	0.0500	91	63-144	
Toluene-D8		0.0473	0.0500	95	80-117	

\* 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: Boyd Compressor Station**

Work Order #: 428606

### **Project ID:**

Lab Batch #: 872310 Date Analyzed: 10/13/2011	Sample: 612364- Date Prepared: 10/06/20		Matrix Analyst	: Water		•
Reporting Units: mg/L	Batch #: 1		BLANK SP		COVERY	STUDY
ICP-MS Metals by SW 6020A	Blank Result [A]	Spike Added {B}	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes			[C]	[D]		
Aluminum	<0.0100	1.00	0.861	86	80-120	
Boron	< 0.0100	0.200	0.204	102	80-120	
Cobalt	< 0.00500	0.200	0.183	94	80-120	ľ
Copper	<0.00200	0.200	0.189	95	80-120	
Iron	<0.150	1.00	0.946	95	80-120	
Manganese	<0.00200	0.200	0.190	95	80-120	
Molybdenum	< 0.00200	0.200	0.203	102	80-120	
Nickel	<0.00500	0.200	0.189	95	80-120	
Zinc	< 0.00300	0.200	0.187	94	80-120	İ

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



**BS / BSD-kecoveries** 



# **Project Name: Boyd Compressor Station**

Work Order #: 428606 Analyst: BRB Lab Batch ID: 871512 Units: mg/L

Date Prepared: 10/03/2011

Batch #: 1

Project ID: Date Analyzed: 10/03/2011 Matrix: Water **BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R.	Control Limits %RPD	Flag
Analytes	1	(B)	[C]	[ <b>a</b> ]	(E)	Result [F]	<u>5</u>				
Chloride	<0.500	10.0	10.6	106	10.0	10.6	106	· 0	80-120	50	

Relative Fercent 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 Page 21 of 37

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**BS / BSD Recoveries** 



**Project Name: Boyd Compressor Station** 

Work Order #: 428606 Analyst: ZHO

Lab Batch ID: 871572

**Date Prepared:** 10/01/2011 **Batch #:** 1

Sample: 612125-1-BKS

Date Analyzed: 10/03/2011 Matrix: Water

**Project ID:** 

Units: mg/L		BLANI	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	PIKE / B	LANK S	PIKE DUPL	ICATE	RECOVI	ERY STUD	Y	
SVOAs by EPA 8270C	Blank Sample Result IAI	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	<u>[</u>	<b>[B</b> ]	[c]	ā	[E]	Result [F]	[0]	2			
1,2,4-Trichlorobenzene	<0.0100	0.0500	0.0425	85	0.0500	0.0404	81	S	56-104	25 <sub>-</sub>	
1,2-Dichlorobenzene	<0.0100	0.0500	0.0422	84	0.0500	0.0399	80	9	53-106	25	
1,3-Dichlorobenzene	<0.0100	0.0500	0.0420	84	0.0500	0.0395	6L	9	52-105	25	
1,4-Dichlorobenzene	<0.0100	0.0500	0.0417	83	0.0500	0.0392	78	و.	54-105	25	
2,4,5-Trichlorophenol	<0.0100	0.0500	0.0460	92	0.0500	0.0435	87	9	55-114	25	
2,4,6-Trichlorophenol	<0.0100	0.0500	0.0450	96	0.0500	0.0423	85	6	57-113	25	
2,4-Dichlorophenol	<0.0100	0.0500	0.0446	89	0.0500	0.0426	85	5	60-110	25	
2,4-Dimethylphenol	<0.0100	0.0500	0.0433	87	0.0500	0.0410	82	5	50-108	25	
2,4-Dinitrophenol	<0.0200	0.0500	0.0466	. 93	0.0500	0.0453	16	3	52-111	25	
2,4-Dinitrotoluene	<0.0100	0.0500	0.0470	94	0.0500	0.0445	68	5	60-116	25	
2,6-Dinitrotoluene	<0.0100	0.0500	0.0453	91	0.0500	0.0425	· 85	6	60-115	25	
2-Chloronaphthalene	<0.0100	0.0500	0.0415	83	0.0500	0.0393	62	s	58-105	25	
2-Chlorophenol	<0.0100	0.0500	0.0423	85	0.0500	0.0400	08	9	58-106	25	
2-Methylnaphthalene	<0.0100	0.0500	0.0437	87	0.0500	0.0415	83	5	57-106	25	
2-methylphenol	<0.0100	0.0500	0.0426	85	0.0500	0.0398	08	<u>1</u>	52-106	25	
2-Nitroaniline	<0.0200	0.0500	0.0397	62	0.0500	0.0379	91	5	55-120	25	
2-Nitrophenol	<0.0100	0.0500	0.0437	87	0.0500	0.0420	<del>8</del> 4	4	57-105	25	
3&4-Methylphenol	<0.0100	0.0500	0.0428	86	0.0500	0.0406	18	5	23-140	25	
3,3-Dichlorobenzidine	<0.0100	0.0500	0.0447	89	0.0500	0.0430	86	4	36-123	25	
3-Nitroaniline	<0.0200	0.0500	0.0446	68	0.0500	0.0424	58	5	49-120	25	

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



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**BS / BSD** kecoveries



Project Name: Boyd Compressor Station

Work Order #: 428606 Analyst: ZHO Lab Batch ID: 871572

Sample: 612125-1-BKS

**Date Prepared:** 10/01/2011 **Batch #:** 1

Project ID: Date Analyzed: 10/03/2011 Matrix: Water

Blank
Sample Result Added [A] [B]
<0.0100
<0.0100
<0.0100
<0.0200
<0.0100
<0.0200
<0.0100
<0.0100
<0.0100
<0.0200
<0.0100
<0.0100
<0.0100
<0.0100
<0.0100
<0.0100
<0.0500
<0.0100
<0.0100
<0.0100

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 Final 1.000

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### **BS / BSD Recoveries**



## **Project Name: Boyd Compressor Station**

Work Order #: 428606 Lab Batch ID: 871572 Analyst: ZHO

Units: mg/L

Date Prepared: 10/01/2011 Batch #: 1 Sample: 612125-1-BKS

Project ID: Date Analyzed: 10/03/2011

Matrix: Water

SVOAs by EPA 8270C	Blank Samnle Result	Spike Added	Blank Soike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flae
Analytes	[4]	[B]	Result [C]	%R [D]	E	Duplicate Result [F]	%R [G]	%	%R	%RPD	D
bis(2-chloroisopropyl) ether	<0.0100	0.0500	0.0351	70	0.0500	0.0333	67	5	54-111	25	
bis(2-ethylhexyl) phthalate	<0.0100	0.0500	0.0408	82	0.0500	0.0388	78	5	59-119	25	
Chrysene	<0.0100	0.0500	0.0441	88	0.0500	0.0420	84	5	58-116	25	
Dibenz(a,h)Anthracene	<0.0100	0.0500	0.0456	16	0.0500	0.0439	88	4	46-131	25	
Dibenzofuran	<0.0100	0.0500	0.0439	88	0.0500	0.0415	83	9	56-111	25	
Diethyl Phthalate	<0.0100	0.0500	0.0463	93	0.0500	0.0435	87	6	62-114	25	
Dimethyl Phthalate	<0.0100	0.0500	0.0452	90	0.0500	0.0428	86	5	59-113	25	
di-n-Butyl Phthalate	<0.0100	0.0500	0.0424	85	0.0500	0.0406	81	4	60-118	25	
di-n-Octyl Phthalate	<0.0100	0.0500	0.0398	80	0.0500	0.0379	76	5	49-129	25	
Fluoranthene	<0.0100	0.0500	0.0474	95	0.0500	0.0452	60	5	55-120	25	
Fluorene	<0.0100	0.0500	0.0450	96	0.0500	0.0426	85	5	56-114	25	
Hexachlorobenzene	<0.0100	0.0500	0.0461	92	0.0500	0.0441	88	4	601-09	25	
Hexachlorobutadiene	<0.0100	0.0500	0.0443	89	0.0500	0.0420	84	s	52-107	25	
Hexachlorocyclopentadiene	<0.0100	0.0500	0.0215	43	0.0500	0.0209	42	3	32-115	25	
Hexachloroethane	<0.0100	0.0500	0.0402	80	0.0500	0.0379	76	ę	46-115	25	
Indeno(1,2,3-c,d)Pyrene	<0.0100	0.0500	0.0462	92	0.0500	0.0446	89	4	44-132	25	
Isophorone	<0.0100	0.0500	0.0407	81	0.0500	0.0386	77	5	57-107	25	
Naphthalene	<0.0100	0.0500	0.0419	84	0.0500	0.0400	. 80	5	53-110	25	
Nitrobenzene	<0.0100	0.0500	0.0393	79	0.0500	0.0371	74	9	56-107	25	
N-Nitrosodi-n-Propylamine	<0.0100	0.0500	0.0438	88	0.0500	0.0415	83	5	21-137	25	

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





**BS / BSE Recoveries** 



**Project Name: Boyd Compressor Station** 

Work Order #: 428606 Lab Batch ID: 871572 Analyst: ZHO

Date Prepared: 10/01/2011

Date Analyzed: 10/03/2011 Matrix: Water Project ID:

Flag

Control Limits %RPD

25 r2 25 25 25 25

5-94

67

0.0336

0.0500

72

0.0362

0.0500

<0.0100

Pyridine Pyrene Phenol

ngu D		
Units:		
	•	

Batch #: 1

Sample: 612125-1-BKS

mg/L

SVOAs by EPA 8270C	Blank Sample Result [A]	S A	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R
Analytes		[ <b>B</b> ]		[Q]	[E]	Result [F]	[6]		
N-Nitrosodiphenylamine	<0.0100	0.0500	0.0413	. 83	0.0500 -	0.0394	64	5	50-121
Pentachlorophenol	<0.0100	0.0500	0.0445	. 68	0.0500	0.0425	85	5	36-132
Phenanthrene	<0.0100	0.0500	0.0434	87	0.0500	0.0412	82	5	56-116
Phenol	<0.0100	0.0500	0.0404	81	0.0500	0.0382	76	· 6	1 <sup>9</sup> -89
Pyrene	<0.0100	0.0500	0.0436	87	0.0500	0.0412	82	6	57-119

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



**BS / BSD Recoveries** 



## **Project Name: Boyd Compressor Station**

Work Order #: 428606 Analyst: CYE

Date Prepared: 10/03/2011

Project ID: Date Analyzed: 10/03/2011 Matrix: Water

Lab Batch ID: 871684 Sample: 612285-1-BKS	KS	Batch #: 1	#: 1					Matrix: Water	Vater		
Units: mg/L		BLANK	( /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE		RECOVE	RECOVERY STUDY	К	
VOAs by SW-846 8260B	Blank Sample Result IAl	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duolicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[	[B]	[c]	ā	E)	Result [F]	ভ	2			
1,1,1,2-Tetrachloroethane	<0.00500	0.0500	0.0571	114	0.0500	0.0568	114	1	75-125	.20	
1,1,1-Trichloroethane	<0.00500	0.0500	0.0603	121	0.0500	0.0586	117	3	75-125	20	
1,1,2,2-Tetrachloroethane	<0.00500	0.0500	0.0421	84	0.0500	0.0469	94	11	50-130	31	
1,1,2-Trichloroethane	<0.00500	0.0500	0.0440	88	0.0500	0.0470	94	7	75-127	20	
1,1-Dichloroethane	<0.00500	0.0500	0.0558	112	0.0500	0.0527	105	9	60-130	20	
1,1-Dichloroethene	<0.00500	0.0500	0.0578	116	0.0500	0.0550	110	5	59-172	22	
1,1-Dichloropropene	<0.00500	0.0500	0.0563	113	0.0500	0.0537	107	5	75-125	20	
1,2,3-Trichlorobenzene	<0.00500	0.0500	0.0454	91	0.0500	0.0481	96	9	75-137	20	
1,2,3-Trichloropropane	<0.00500	0.0500	0.0524	105	0.0500	0.0571	114	6	75-125	20	
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0466	63	0.0500	0.0483	67	4	75-135	20	
1,2,4-Trimethylbenzene	<0.00500	0.0500	0.0554	111	0.0500	0.0534	107	4	75-125	. 20	
1,2-Dibromo-3-Chloropropane	<0.00500	0.0500	0.0409	82	0.0500	0.0487	26	17	59-125	28	
1,2-Dibromoethane	<0.00500	0.0500	0.0482	96	0.0500	0.0508	102	5	73-125	20	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0542	108	0.0500	0.0537	107	1	75-125	20	
1,2-Dichlorocthaue	<0.00500	0.0500	0.0541	108	0.0500	0.0538	108	i	68-127	20	
1,2-Dichloropropane	<0.00500	0.0500	0.0463	93	0.0500	0.0459	92	I	74-125	20	
1,3,5-Trimethylbenzene	<0.00500	0.0500	0.0549	110	0.0500	0.0535	107	3	70-125	20	
1,3-Dichlorobenzene	<0.00500	0.0500	0.0558	112	0.0500	0.0551	110	1	75-125	20	
1,3-Dichloropropane	<0.00500	0.0500	0.0461	92	0.0500	0.0477	95	3	75-125	20	
1,4-Dichlorobenzene	<0.00500	0.0500	0.0560	112	0.0500	0.0541	108	S	75-125	20	

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

Page 2



**BS / BSE Recoveries** 



**Project Name: Boyd Compressor Station** 

Work Order #: 428606 Analyst: CYE

Lab Batch ID: 871684

Date Prepared: 10/03/2011 Sample: 612285-1-BKS Batch #: 1

Date Analyzed: 10/03/2011 Matrix: Water

Project ID:

mg/L	
Units:	

Flag I Control Limits %RPD 3 20 12 3 20 20 20 20 20 20 20 20 20 20 20 33 20 21 21 3 Control Limits %R 60-140 74-125 60-130 73-125 75-125 75-125 70-130 62-125 70-130 74-125 60-140 60-130 70-130 75-125 73-125 66-142 70-130 60-130 69-127 60-133 RPD % Ч. 0 9 0 δ 4 m 0 2 2 m 4 m 2 2 **Blk**. Spk Dup. G %R 110 104 105 109 110 109 95 119 111 104 124 103 89 83 105 95 111 <u>[</u> 100 6 Blank Spike Duplicate Result [F] 0.0546 0.0518 0.0526 0.0546 0.0619 0.0516 0.0414 0.0456 0.0499 0.0551 0.0475 0.0597 0.0557 0.0522 0.0444 0.0550 0.0523 0.0477 0.0557 0.0514 Spike Added 0.0500 Ξ Blank Spike %R [D] 106 <u>8</u> 113 2 112 102 108 129 105 117 113 5 114 797 95 88 95 111 10 101 0.0475 0.0509 0.0539 0.0439 0.0475 0.0556 0.0498 0.0503 Blank Spike Result [C] 0.0566 0.0531 0.0483 0.0520 0.0587 0.0559 0.0644 0.0523 0.0564 0.0536 0.0506 0.0571 0.0500 Spike Added [B] Blank Sample Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.0100 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 <0.0100 ₹ VOAs by SW-846 8260B Dichlorodifluoromethane cis-1,3-Dichloropropene Dibromochloromethane Bromodichloromethane cis-1,2-Dichloroethene Bromochloromethane Carbon Tetrachloride 2,2-Dichloropropane Dibromomethane 4-Chlorotoluene 2-Chlorotoluene Analytes Bromomethane Chloromethane Bromobenzene Chlorobenzene Ethylbenzene Chloroethane Bromoform Chloroform Benzene

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

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### **BS / BSD Recoveries**



## **Project Name: Boyd Compressor Station**

Work Order #: 428606 Lab Batch ID: 871684 Analyst: CYE

Units: mg/L

Date Prepared: 10/03/2011 Batch #: 1

Sample: 612285-1-BKS

Date Analyzed: 10/03/2011

Project ID:

Matrix: Water

VOAs by SW-846 8260B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Bik. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[¥]	[ <b>8</b> ]		<b>1</b> 01	[E]	Result [F]	10 X	0/	NoX	WILD .	
Hexachlorobutadiene	<0.00500	0.0500	0.0484	16	0.0500	0.0477	95	1	75-125	20	
isopropylbenzene	<0.00500	0.0500	0.0532	106	0.0500	0.0508	102	5	75-125	20	
m,p-Xylenes	<0.0100	0.100	0.107	107	0.100	0.104	104	3	75-125	20	
Methylene Chloride	<0.00500	0.0500	0.0515	103	0.0500	0.0504	101	· 2	75-125	35	
MTBE	<0.00500	0.100	0.105	105	0.100	0.109	109	4	75-125	20	
Naphthalene	<0.0100	0.0500	0.0500	100	0.0500	0.0559	112	11	65-135	20	
n-Butylbenzene	<0.00500	0.0500	0.0514	103	0.0500	0.0500	100	3	75-125	. 20	
n-Propylbenzene	<0.00500	0.0500	0.0558	112	0.0500	0.0548	110	2	75-125	20	
o-Xylene	<0.00500	0.0500	0.0542	108	0.0500	0.0531	106	2	75-125	20	
p-Cymene (p-lsopropyltoluene)	<0.00500	0.0500	0.0573	115	0.0500	0.0547	109	5	75-125	20	
Sec-Butylbenzene	<0.00500	0.0500	0.0535	107	0.0500	0.0520	104	3	75-125	20	
Styrene	<0.00500	0.0500	0.0520	104	0.0500	0.0511	102	2	60-130	51	
tert-Butylbenzene	<0.00500	0.0500	0.0561	112	0.0500	0.0539	108	4	75-125	20	
Tetrachloroethylene	<0.00500	0.0500	0.0530	106	0.0500	0.0504	101	5	60-130	20	
Toluene	<0.00500	0.0500	0.0497	66	0.0500	0.0478	96	4	59-139	21	
trans-1,2-dichloroethene	<0.00500	0.0500	0.0565	113	0.0500	0.0551	110	3	60-130	20	
trans-1,3-dichloropene	<0.00500	0.0500	0.0425	85	0.0500	0.0442	88	4	66-125	20	
Trichloroethene	<0.00500	0.0500	0.0545	109	0.0500	0.0532	106	2	62-137	24	
Trichlorofluoromethane	<0.00500	0.0500	0.0662	132	0.0500	0.0630	126	5	67-125	20	н
Vinyl Chloride	<0.00200	0.0500	0.0499	100	0.0500	0.0466	93	7	75-125	20	

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





### Form 3 - MS Recoveries



### **Project Name: Boyd Compressor Station**

Work Order #: 428606						
ab Batch #: 871512			Pre	oject ID:		
Date Analyzed: 10/03/2011	Date Prepared: 10/03	3/2011	Α	nalyst: B	RB	
QC- Sample ID: 428778-001 S	Batch #: 1		Γ	Matrix: W	ater	
Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY					DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]		•		
Chloride	5090	5000	10600	110	80-120	

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

BR Below Reporting Limit

# Form 3 - MS / MSD Recoveries



Work Order #: 428606

Date Analyzed: 10/13/2011 Lab Batch ID: 872310

**Reporting Units:** mg/L

Project ID:

Matrix: Water -Batch #:

> QC- Sample ID: 428612-001 S Date Prepared: 10/06/2011

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Analyst: AMB

				T WIW / D		MAINIA STINE / MAINIA STINE DUFLICATE AEUVENT STUDI	E NEV	A LNJ V	IMDIC		
ICP-MS Metals by SW 6020A 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
Aluminum	<0.0100	1.00	0.830	83	1.00	0.833	83	0	75-125	25	
Boron	0.267	0.200	0.489	111	0.200	0.492	113	1	75-125	25	
Cobalt	<0.00500	0.200	0.182	16	0.200	0.185	93	2	75-125	25	
Copper	0.00757	0.200	0.188	06	0.200	0.191	92	2	75-125	25	
Iron	<0.150	1.00	0.935	- 94	1.00	0.949	95	1	75-125	25	
Manganese	0.00468	0.200	0.190	93	0.200	0.192	94	1	75-125	25	
Molybdenum	0.00498	0.200	0.209	102	0.200	0.215	105	3	75-125	25	
Nickel	<0.00500	0.200	0.182	16	0.200	0.184	92	1	75-125	25	
Zinc	0.612	0.200	0.747	68	0.200	0.740	64	1	75-125	25	×

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

ND = Nuí Deicuied, J = Preseni Below Reporting Limit, B = Presen in Biank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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

Final 1.000

Page 3



MSD Recoveries Form 3 - MS



Work Order #: 428606

Date Analyzed: 10/03/2011 Lab Batch ID: 871684 **Reporting Units:** mg/L

**Project Name: Boyd Compressor Station** 

Project ID:

QC- Sample ID: 428104-009 S Date Prepared: 10/03/2011

ł

Matrix: Ground Water Analyst: CYE Batch #:

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		Ξ	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
VOAs by SW-846 8260B	Parent Sample Result	Spike Added	Spiked Sample Résult [C]	รีรั	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Auaiyues		[ <b>R</b> ]		[a]	E		<u>छ</u>				
1,1,1,2-Tetrachloroethane	<0.00500	0.0500	0.0659	132	0.0500	0.0549	110	18	75-125	20	×
1,1,1-Trichloroethane	<0.00500	0.0500	0.0713	143	0.0500	0.0597	119	18	75-125	20	×
1,1,2,2-Tetrachloroethane	<0.00500	0.0500	0.0502	100	0.0500	0.0438	88	14	50-130	31	
1,1,2-Trichloroethane	<0.00500	0.0500	0.0522	104	0.0500	0.0444	89	16	75-127	20	
1,1-Dichloroethane	<0.00500	0.0500	0.0632	126	0.0500	0.0531	106	17	60-130	20	
1,1-Dichloroethene	<0.00500	0.0500	0.0689	138	0.0500	0.0571	114	19	59-172	22	
1,1-Dichloropropene	<0.00500	0.0500	0.0659	132	0.0500	0.0556	111	17	· 75-125	20	×
1,2,3-Trichlorobenzene	<0.00500	0.0500	0.0564	113	0.0500	0.0498	100	12	75-137	20	
1,2,3-Trichloropropane	<0.00500	0.0500	0.0574	115	0.0500	0.0509	102	12 .	75-125	20	
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0570	114	0.0500	0:0503	101	12	75-135	20	
1,2,4-Trimethylbenzene	<0.00500	0.0500	0.0643	129	0.0500	0.0531	106	19	75-125	20	x
1,2-Dibronto-3-Chloropropane	<0.00500	0.0500	0.0475	95	0.0500	0.0423	85	12	59-125	28	
1,2-Dibromoethane	<0.00500	0.0500	0.0558	112	0.0500	0.0490	86	13	73-125	20	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0626	125	0.0500	0.0543	109 .	14	75-125	20	
1,2-Dichloroethane	<0.00500	0.0500	0.0616	123	0.0500	0.0520	104	17	68-127	20	
1,2-Dichloropropane	<0.00500	0.0500	0.0523	105	0.0500	0.0453	61	14	74-125	20	
1,3,5-Trimethylbenzene	<0.00500	0.0500	0.0645	129	0.0500	0.0533	107	19	70-125	20	x
1,3-Dichlorobenzene	<0.00500	0.0500	0.0670	134	0.0500	0.0562	112	18	75-125	20	×
1,3-Dichloropropane	<0.00500	0.0500	0.0519	104	0.0500	0.0454	91	13	75-125	20	
1,4-Dichlorobenzene	<0.00500	0.0500	0.0652	130	0.0500	0.0554	111	16	75-125	20	×
2,2-Dichloropropane	<0.00500	0.0500	0.0684	137	0.0500	0.0568	114	19	60-140	20	
2-Chlorotoluene	<0.00500	0.0500	0.0663	133	0.0500	0.0557	111	17	73-125 ·	20	×
4-Chlorotoluene	<0.00500	0.0500	0.0623	125	0.0500	0.0527	105	17	74-125	20	

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

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

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

Final 1.000

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**XENCO** Laboratories

Form 3 - MS / MSD Recoveries

**Project Name: Boyd Compressor Station** 



Lab Batch ID: 871684 Date Analyzed: 10/03/2011

QC- Sample ID: 428104-009 S Date Prepared: 10/03/2011

1 Matrix: Ground Wat CYE

> Batch #: Analyst:

	Water
	Ground
Project ID:	Matrix:
Pro	<b>F</b> -4

VOAs by SW-846 8260B	Parent Sample	Spike	Spiked Sample Result	0.0	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Acsur [A]	Added [B]	<u>5</u>	¥%	Added [E]	Kesult [F]	1 <u>G</u>	•	%°K	WKD	
Benzene	<0.00500	0.0500	0.0565	113	0.0500	0.0476	95	17	66-142	21	
Bromobenzene	<0.00500	0.0500	0.0602	120	0.0500	0.0511	102	16	60-130	20	
Bromochloromethane	<0.00500	0.0500	0.0685	137	0.0500	0.0554	111	21	73-125	20	XF
Bromodichloromethane	<0.00500	0.0500	0.0640	128	0.0500	0.0523	105	20	75-125	20	×
Bromoform	<0.00500	0.0500	0.0580	116	0.0500	0.0484	67	18	75-125	20	
Bromomethane	<0.00500	0.0500	0.0524	105	0.0500	0.0498	100	5	70-130	20	
Carbon Tetrachloride	<0.00500	0.0500	0.0759	152	0.0500	0.0629	126	19	62-125	20	x
Chlorobenzene	<0.00500	0.0500	0.0613	123	0.0500	0.0520	104	16	60-133	21	
Chloroethane	<0.0100	0.0500	0.0472	94	0.0500	0.0463	93	2	70-130	20	
Chloroform	<0.00500	0.0500	0.0649	130	0.0500	0.0537	107	19	74-125	20	x
Chloromethane	<0.0100	0.0500	0.0426	85 85	0.0500	0.0415	83	3	70-130	20	
cis-1,2-Dichloroethene	<0.00500	0.0500	0.0633	127	0.0500	0.0529	106	18	60-130	20	
cis-1,3-Dichloropropene	<0.00500	0.0500	0.0537	107	0.0500	0.0449	06	18	60-140	20	
Dibromochloromethane	<0.00500	0.0500	0.0620	124	0.0500	0.0519	104	18	60-130	20	
Dibromomethane	<0.00500	0.0500	0.0581	116	0.0500	0.0483	26	18	69-127	23	
Dichlorodifluoromethane	<0.00500	0.0500	0.0505	101	0.0500	0.0491	98	3	70-130	23	
Ethylbenzene	<0.00500	0.0500	0.0600	120	0.0500	0:0507	101	17	75-125	20	
Hexachlorobutadiene	<0.00500	0.0500	0.0599	120	0.0500	0.0522	104	14	75-125	20	
isopropylbenzene	<0.00500	0.0500	0.0619	124	0.0500	0.0530	106	15	75-125	20	
m,p-Xylenes	<0.0100	0.100	0.125	125	0.100	0.106	106	16	75-125	20	
Methylene Chloride	0.00765	0.0500	0.0663	117	0.0500	0.0559	<u> 16</u>	17	75-125	35	
MTBE	<0.00500	0.100	0.104	104	0.100	0.101	101	3	75-125	20	
Naphthalene	<0.0100	0.0500	0.0603	121	0.0500	0.0537	107	12	65-135	20	

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



Page 3



**MSD** Recoveries Form 3 - MG

**Project Name: Boyd Compressor Station** 

Work Order #: 428606

Date Analyzed: 10/03/2011 Lab Batch ID: 871684 Reporting Units: mg/L

**QC- Sample ID:** 428104-009 S **Date Prepared:** 10/03/2011

Matrix: Ground Water \*\*\*\*

Project ID:

Batch #: 1 Analyst: CYE

VOAs by SW-846 8260B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Límits	Flag
Analytes	Result [A]	Added [B]	D	8% [D]	Added [E]	Result [F]	8% 10 10 10	%	%R	%RPD	1
n-Butylbenzene	<0.00500	0.0500	0.0622	124	0.0500	0.0526	105	17	75-125	20	
n-Propylbenzene	<0.00500	0.0500	0.0671	134	0.0500	0.0566	113	17	75-125	20	х
o-Xylene	<0.00500	0.0500	0.0636	127	0.0500	0.0532	106	18	75-125	20	X
p-Cymene (p-Isopropyltoluene)	<0.00500	0.0500	0.0675	135	0.0500	0.0575	115	16	75-125	20	Х
Sec-Butylbenzene	<0.00500	0.0500	0.0648	. 130	0.0500	0.0550	110	16	75-125	20	, X
Styrene	<0.00500	0.0500	0.0580	116	0.0500	0.0468	94	21	60-130	51 ·	
tert-Butylbenzene	<0.00500	0.0500	0.0668	134	0.0500	0.0559	112	18	75-125	20	х
Tetrachloroethylene	<0.00500	0.0500	0.0635	127	0.0500	0.0555	111	13	60-130	20	
Toluene	<0.00500	0.0500	0.0577	115	0.0500	0.0488	86	17	59-139	21	
trans-1,2-dichloroethene	<0.00500	0.0500	0.0665	133	0.0500	0.0556	111	18	60-130	20	х
trans-1,3-dichloropropene	<0.00500	0.0500	0.0494	66	0.0500	0.0413	83	18	66-125	20	
Trichloroethene	<0.00500	0.0500	0.0647	129	0.0500	0.0545	109	17	62-137	24	
Trichlorofluoromethane	<0.00500	0.0500	0.0656	131	0.0500	0.0672	134	2	67-125	20	х
Vinyl Chloride	<0.00200	0.0500	0.0489	98	0.0500	0.0503	101	3	75-125	20	

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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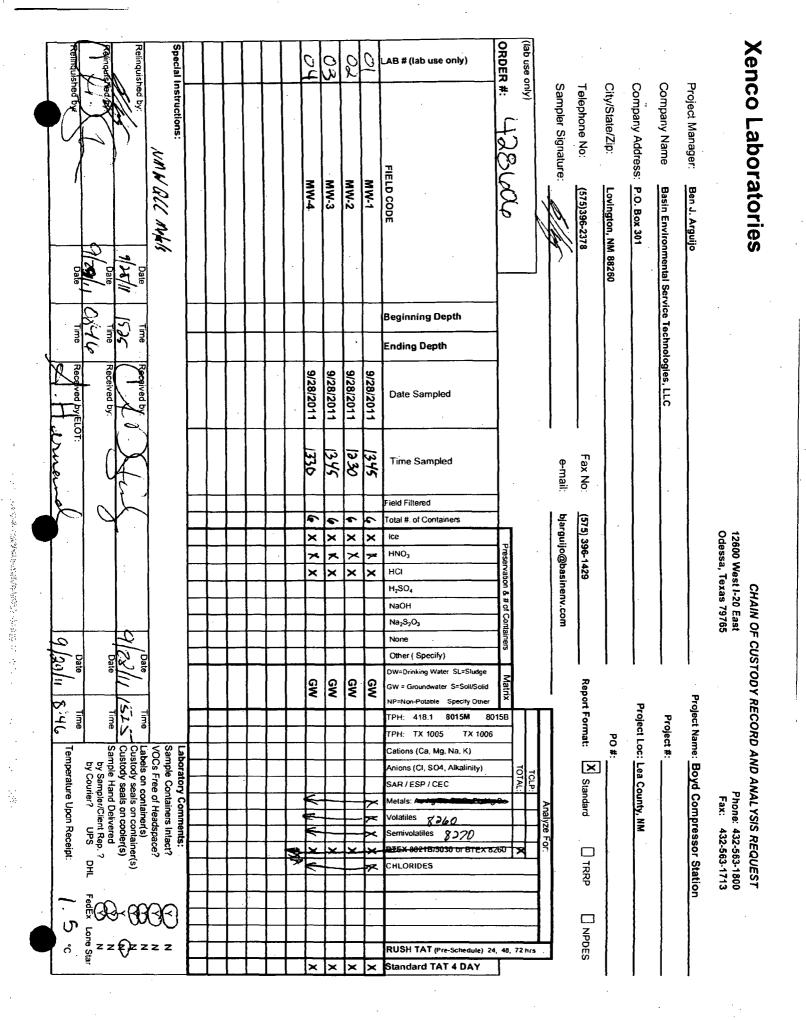
### Sample Duplicate Recovery



### **Project Name: Boyd Compressor Station**

Work Order #: 428606					
Lab Batch #: 871512			Project I	D:	
Date Analyzed: 10/03/2011 14:31 Date Prepar	ed: 10/03/201	i Ana	lýst: BRB		
QC- Sample ID: 428605-001 D Batch	n#: 1	Mat	rix: Water		
Reporting Units: mg/L	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300	Parent Sample Result [A]	Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Chloride	312	246	24	20	F
Lab Batch #: 871512					
Date Analyzed: 10/03/2011 14:31 Date Prepar	ed: 10/03/201	l · Ana	lyst: BRB		
QC- Sample ID: 428778-001 D Batch	n #: 1	Mat	rix: Water		
Reporting Units: mg/L	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	5090	5070	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



Page 35 of 37



「日本で、「本本語語で、ことに語言語語語語語語」を認めていた。

**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

U Q.A. **Client:** 8:46 Date/Time: 11 4281120 Lab ID # : Initials:

### Sample Receipt Checklist

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

### **Nonconformance Documentation**

Contact:	Contacted by:	Date/Time:	······································
Regarding:			·
Corrective Action Taker	n:		
<u> </u>			
i			
Check all that apply: [	□ Cooling process has begun shortly after condition acceptable by NELAC 5.		re .

□ Initial and Backup Temperature confirm out of temperature conditions

□ Client understands and would like to proceed with analysis

### Analytical Report 433031

### for

### Southern Union Gas Services- Monahans

Project Manager: Rose Slade Boyd Compressor Station

### 20-DEC-11

### Collected By: Client



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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)



20-DEC-11

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

Reference: XENCO Report No: 433031 Boyd Compressor Station Project Address: Lea County, NM

### **Rose Slade**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 433031. 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. 433031 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 433031



### Southern Union Gas Services- Monahans, Monahans, TX

Boyd Compressor Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	12-01-11 12:20		433031-001
MW-2	W	12-01-11 13:00		433031-002
MW-3	W	12-01-11 13:40		433031-003
MW-4	. <b>W</b>	12-01-11 13:45		433031-004



· · ·

Page 3 of 14

### CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: Boyd Compressor Station



Project ID: Work Order Number: 433031 Report Date: 20-DEC-11 Date Received: 12/09/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-876848 BTEX by EPA 8021B SW8021BM

Batch 876848, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 433031-003.

0.5	
U.	

Contact: Rose Slade

**Project Id:** 

Certificate of Analysis Jummary 433031 Southern Union Gas Services-Monahans, Monahans, TX Project Name: Boyd Compressor Station



Date Received in Lab: Fri Dec-09-11 12:30 pm Report Date: 20-DEC-11

Project Location: Lea County, NM					Report Date: 20-DEC-11	0-DEC-11	
					Project Manager: Brent Barron II	rent Barron II	
	Lab Id:	433031-001	433031-002	433031-003	433031-004		
Americ Damacted	Field Id:	I-WM	MW-2	MW-3	MW-4		
naisanhay sistinuty	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	Dec-01-11 12:20	Dec-01-11 13:00	Dec-01-11 13:40	Dec-01-11 13:45		
Anions by E300	Extracted:						
	Analyzed:	Dec-14-11 12:18	Dec-14-11 12:18	Dec-14-11 12:18	Dec-14-11 12:18		
	Units/RL:	mg/L <sub>.</sub> RL	mg/L RL	mg/L RL	mg/L RL		
Chloride	·	4050 100	126 10.0	115 10.0	206 10.0		
BTEX by EPA 8021B	Extracted:	Dec-09-11 15:45	Dec-09-11 15:45	Dec-09-11 15:45	Dec-09-11 15:45		×
	Analyzed:	Dec-10-11 05:39	Dec-10-11 06:01	Dec-10-11 06:23	Dec-10-11 06:46		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200		
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	•	
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Total BTEX		ND 0.00100	00100 <sup>-0</sup> ON	ND 0.00100	ND 0.00100		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and reaults expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratorics 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

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### Flagging Criteria

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

\* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit

PQL Practical Quantitation Limit MQL Method Quantitation Limit

LOD Limit of Detection

od Quantitation Limit LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

^ NELAC or State program does not offer Accreditation at this time.

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X	E	Ń		0
La	bo	ra	tor	ies

Project Name: Boyd Compressor Station

rk Orders : 433031 Lab Batch #: 876848	, Sample: 433031-001 / SMP	Batel	Project II h: 1 Matrix:	•		
	Date Analyzed: 12/10/11 05:39		RROGATE RI		STUDY	
BTE	X 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		0.0251	0.0300	84	80-120	
Lab Batch #: 876848	Sample: 433031-002 / SMP	Batch	h: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 12/10/11 06:01	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0273	0.0300	.91	80-120	
4-Bromofluorobenzene	ł	0.0249	0.0300	83	80-120	
Lab Batch #: 876848	Sample: 433031-003 / SMP	Batch	h: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 12/10/11 06:23		RROGATE RI	ECOVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
,4-Difluorobenzene	· · · · ·	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene		0.0234	0.0300	78	80-120	*
Lab Batch #: 876848	Sample: 433031-004 / SMP	Batch	h: 1 Matrix	Water	•	
Units: mg/L	Date Analyzed: 12/10/11 06:46	SUI	RROGATE RI	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0262	0.0300	87	80-120	
Lab Batch #: 876848	Sample: 615303-1-BLK / BL		h: 1 Matrix:		•	
Units: mg/L	Date Analyzed: 12/10/11 05:17	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0280	0.0300	93	80-120	•
4-Bromofluorobenzene	ę	0.0266	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

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



Project Name: Boyd Compressor Station

Work Orders : 433031			Project II			
Lab Batch #: 876848	Sample: 615303-1-BKS / B					
Units: mg/L	Date Analyzed: 12/10/11 03:47	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		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0280	0.0300	93	80-120	
Lab Batch #: 876848	Sample: 615303-1-BSD / B	SD Batcl	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 12/10/11 04:09	SU	RROGATE RE	<b>COVERY</b> S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0276	0.0300	92	80-120	······
4-Bromofluorobenzene		0.0261	0.0300	87	80-120	· · · ·
Lab Batch #: 876848	Sample: 433031-001 S / MS	S Batel	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 12/10/11 09:44	SU	RROGATE RI	<b>COVERY</b>	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0280	0.0300	93	80-120	
4-Bromofluorobenzene		0.0263	0.0300	88	80-120	
Lab Batch #: 876848	Sample: 433031-001 SD / N	MSD Bate	h: 1 Matrix:	:Water		
Units: mg/L	Date Analyzed: 12/10/11 10:06	SU.	RROGATE RI	<b>ECOVERY</b> S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found T[A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0301	0.0300	· 100	80-120	
4-Bromofluorobenzene		0.0275	0.0300	92	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



**BS / BSD Recoveries** 

**Project Name: Boyd Compressor Station** 

Work Order #: 433031 Lab Batch ID: 876848 Analyst: ASA

Sample: 615303-1-BKS

Date Prepared: 12/09/2011 Batch #: 1

Project ID: Date Analyzed: 12/10/2011 Matrix: Water

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Units: mg/L		BLANI	K /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE I	RECOVE	CRY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[8]	[c]	[ <b>0</b> ]	[E]	Result [F]	<u>נ</u>				
Benzene	<0.00100	0.100	0.116	116	0.100	0.112	112	4	70-125	25	
Toluene	<0.00200	0.100	0.115	115	0.100	0.112	112	- 3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.118	118	0.100	0.118	118	0	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.228	114	0.200	0.229	115	0	70-131	25	
o-Xylene	<0.00100	0.100	0.115	115	0.100	0.115	115	0	71-133	25	
Analyst: BRB	Da	te Prepare	Date Prepared: 12/14/2011	1			Date Ar	alyzed: 1	Date Analyzed: 12/14/2011		
Lab Batch ID: 877276 Sample: 877276-1-BKS	KS	Batch #: 1	1 :#: 1					Matrix: Water	Vater		
Units: mg/L		BLAN	K /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE I	RECOVE	ERY STUD	γ	

Flag

Control Limits %RPD

Control Limits %R

RPD %

Blk. Spk Dup. %R [G]

Blank Spike Duplicate Result [F]

Spike Added

Blank Spike %R [D]

Blank Spike Result [C]

Spike Added

Blank Sample Result [A]

Anions by E300

Analytes

Chloride

20

80-120

110

11.0

10.0 Ξ

109

10.9

10.0 8

<0.500

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

Final 1.000

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### Form 3 - MS Recoveries



### **Project Name: Boyd Compressor Station**

### Work Order #: 433031 **Project ID:** Lab Batch #: 877276 Date Prepared: 12/14/2011 Analyst: BRB Date Analyzed: 12/14/2011 QC- Sample ID: 433232-001 S Batch #: 1 Matrix: Water MATRIX / MATRIX SPIKE RECOVERY STUDY Reporting Units: mg/L Parent **Inorganic Anions by EPA 300** Spiked Sample Control Sample Spike Result %R Limits Flag Result %R Added [C] [D] **[A]** [B] Analytes Chloride 82.0 200 285 102 80-120

 $\begin{array}{l} Matrix \ Spike \ Percent \ Recovery \ [D] = 100^{*}(C\text{-}A)/B \\ Relative \ Percent \ Difference \ [E] = 200^{*}(C\text{-}A)/(C\text{+}B) \\ \ All \ Results \ are \ based \ on \ MDL \ and \ Validated \ for \ QC \ Purposes \\ \end{array}$ 

**BRL** - Below Reporting Limit



Form 3 - MSM MSD Recoveries



Work Order # : 433031

Date Analyzed: 12/10/2011 Lab Batch ID: 876848

Reporting Units: mg/L

QC- Sample ID: 433031-001 S

Date Prepared: 12/09/2011

Project ID:

Matrix: Water ----

Analyst: ASA Batch #:

Reporting Units: mg/L		W	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E / MATI	RIX SPII	KE DUPLICA	TE RECO	<b>VERY S</b>	TUDY		
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	Controf Limits %RPD	Flag
Benzene	<0.00100	0.100	0.105	105	0.100	0.110	110	S	70-125	25	
Toluene	<0.00200	00 İ 00	0.105	105	0.100	0.110	110	s.	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	- 0.114	114	4	71-129	25 -	
m_p-Xylenes	<0.00200	0.200	0.210	105	0.200	0.223	112	6	70-131	25	
o-Xylene	<0.00100	0.100	0.105	105	0.100	0.112	112	6	71-133	25	

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

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

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

Final 1.000

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### **Sample Duplicate Recovery**

7

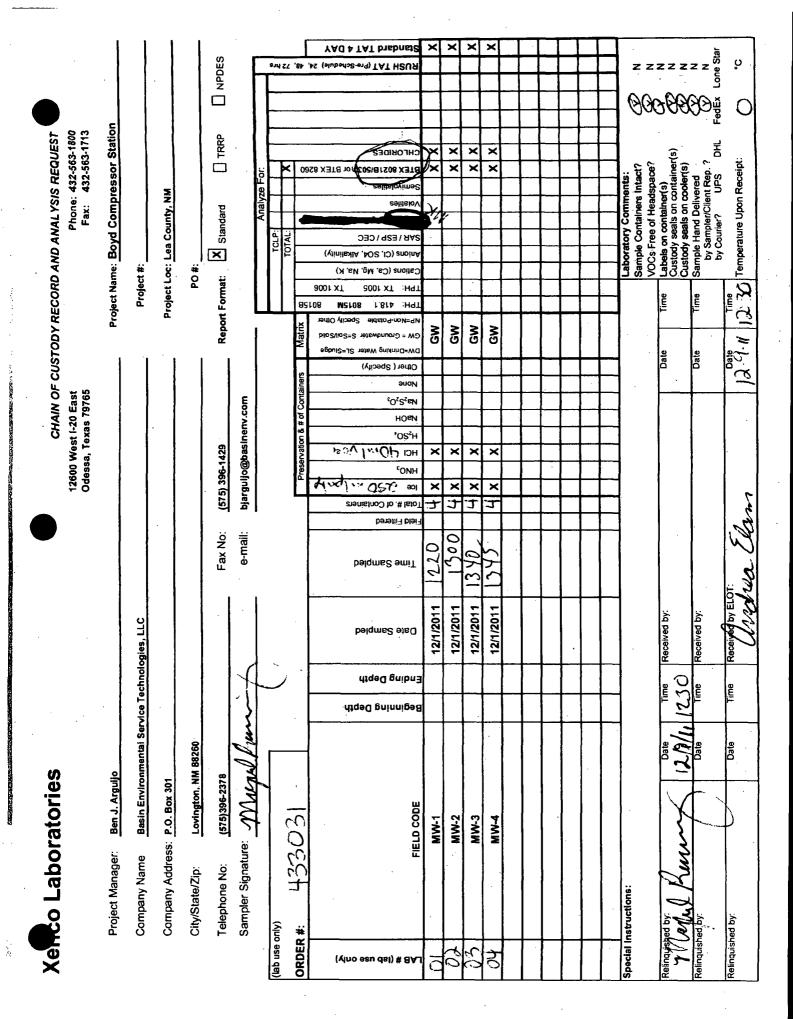


### **Project Name: Boyd Compressor Station**

### Work Order #: 433031

Lab Batch #: 877276 Date Analyzed: 12/14/2011 12:18 Date QC- Sample ID: 433232-001 D	Prepared: 12/14/2011 Batch #: 1	Ana	Project I lyst:BRB trix: Water		
Reporting Units: mg/L	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	82.0	83.6	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 Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa. Philadelphia Phoenix, Sen Antonio, Tampa

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

Prelogin / Nonconformance Report - Sample Log-In

Client:	Basin Ens.	
Date/Time:	12911 12:30	
Lab ID #:_	433031	
Intilities	· · · · · · · · · · · · · · · · · · ·	

### Sample Receipt Checklist

1. Samples on ice?	Blue	Charlos>	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody easis intact on shipping container (cooler) and bottles?	Yes	No	NA	
4. Chain of Custody present?	( Ser	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	10	·	
7. Chain of custody signed when relinquished / received?	Mes)	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	NA	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated tasks)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	(NA)	
17. VOC sample have zero head space?	(Yes)	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 N	ó.	Cooler 5 No.	
ling O°C lines °C lines	°C lbs	. <b>.</b>	lbrs	<u>م</u>

Nonconformance Documentation

Contacted by:\_

Conta	and a
<b>WULLING</b>	
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Regarding:

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**Corrective Action Taken:** 

Check all that apply: Cooling process has begun shortly after sampling event and out of tamperature condition acceptable by NELAC 55.8.2.1.a.1.

Linitial and Backup Temperature confirm out of temperature conditions

Client understands and would like to proceed with analysis

Final 1.000

Date/Time: