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By OCD; Dr. Oberding at 11:30 am, Apr 26, 2016

January 29, 2016

Reference No. 082149

Dr. Tomas Oberding  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Dear Dr. Oberding:

**Re: 2014/2015 Annual Groundwater Monitoring Report  
ETC Field Services LLC  
Boyd Compressor Station  
AP-106  
Lea County, New Mexico**

On behalf of ETC Field Services LLC, GHD Services, Inc. is pleased to submit the 2014/2015 Annual Groundwater Monitoring Report for the Boyd Compressor Station site. The report details all 2014 and 2015 groundwater monitoring and assessment activities performed at the referenced site.

If you have any questions or require additional information, please feel free to contact us at (505) 884-0672, or [christine.mathews@ghd.com](mailto:christine.mathews@ghd.com) or [bernard.bockisch@ghd.com](mailto:bernard.bockisch@ghd.com).

Sincerely,

GHD

Christine Mathews,  
Project Scientist/Coordinator

Bernard Bockisch  
Project Manager

CM/mc/1

cc: Stacy Boultinghouse, Energy Transfer Company (electronic only)



# 2014/2015 Annual Groundwater Monitoring Report

Boyd Compressor Station  
Lea County, New Mexico  
AP-106

ETC Field Services LLC

# Table of Contents

1.	Introduction.....	1
1.1	Introduction .....	1
1.2	Background.....	1
2.	Groundwater Monitoring Summary, Methodology, and Analytical Results.....	2
2.1	Groundwater Monitoring Summary.....	2
2.2	Groundwater Monitoring Methodology.....	2
2.3	Groundwater Monitoring Analytical Results.....	2
3.	Pumping Event.....	3
4.	Conclusions and Recommendations.....	4
4.1	Conclusions .....	4
4.2	Recommendations.....	4

# Figure Index

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Groundwater Gradient Map – August 2014
Figure 4	Groundwater Gradient Map – October 2014
Figure 5	Groundwater Gradient Map – January 2015
Figure 6	Groundwater Gradient Map – April 2015
Figure 7	Groundwater Gradient Map – September 2015
Figure 8	Groundwater Gradient Map – December 2015
Figure 9	Chloride Concentrations in MW-1 vs. Time
Figure 10	Chloride Concentrations in Groundwater

# Table Index

Table 1	Monitoring Well Specifications and Groundwater Elevations
Table 2	Groundwater Analytical Results Summary
Table 3	Pumping Event Chloride Concentrations

# Appendices

Appendix A	Groundwater Laboratory Analytical Reports
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# 1. Introduction

## 1.1 Introduction

This report presents the results of groundwater monitoring during 2014 and 2015 at the ETC Field Services LLC (ETC) Boyd Compressor Station (Site). The Site is located approximately seven miles south of Jal, New Mexico and one mile west of New Mexico Highway 18. The Site is regulated by the New Mexico Oil Conservation Division (NMOCD). Field work was conducted by Apex TITAN, Inc. (Apex) from July 2014 through April of 2015 and by GHD Services Inc. (GHD) from September 2015 to present.

## 1.2 Background

The Site is an inactive compressor station located in Section 26, Township 22 South, Range 37 East in Lea County, New Mexico (Figure 1). Property affected by a release at the Site is owned by Mr. R.D. Simms of Eunice, New Mexico.

Soil investigation at the Site began on September 18, 2007 using a hand auger. Soil samples collected at two locations indicated hydrocarbon impacts. Historical records indicate that soil boring SB-1 was located in the vicinity of existing monitoring well MW-1, although the location of soil boring SB-2 is unclear.

Basin Environmental Services (Basin) oversaw the removal of an 80 barrel (bbl) and a 460 bbl tank on June 17, 2008. During removal, corrosion was observed around the bolts used to join the two halves of one of the tanks. The corrosion appeared to have allowed release of liquids from the tank into surrounding soil.

Decommissioning of the compressor station began June 18, 2008. A soil excavation occurred in conjunction with Site decommissioning due to impacted soil encountered during hand auger and tank removal activities. Excavated soil was stockpiled onsite and sampled. Soil exceeding NMOCD guidelines was hauled offsite.

The NMOCD approved backfilling of the excavation in December 2008. The excavation was backfilled to a depth of 10 feet (ft) below ground surface (bgs) and a 20- mil polyethylene liner measuring 20ft by 20ft was then installed. The upper 10ft of the excavation was backfilled to grade.

In January 2009, four groundwater monitoring wells were installed to a total depth of approximately 65 ft bgs. Monitoring well MW-1 was installed immediately south (downgradient) of the excavation and monitoring wells MW-2, MW-3, and MW-4 were installed north, southwest, and southeast of the excavation, respectively. Monitoring wells MW-2, MW-3, and MW-4 are located approximately 70 ft away from MW-1.

The compressor station operated under New Mexico Discharge Plan & Permit GW 269. The discharge permit was rescinded by the NMOCD in February 2012, and Abatement Plan number AP 106 was issued.

Site monitoring wells have been sampled on a roughly quarterly basis since installation, most recently by Apex on January 23, 2015 and April 20, 2015, and by GHD on September 30, 2015 and December 15, 2015.

Consulting duties were transferred from Apex to GHD during August 2015. This report details groundwater monitoring conducted by Apex from August 2014 to April 2015 and by GHD during September and December 2015.

## 2. Groundwater Monitoring Summary, Methodology, and Analytical Results

### 2.1 Groundwater Monitoring Summary

During each groundwater monitoring event groundwater elevation measurements were recorded from Site monitoring wells. A summary of historical groundwater elevations for the Site is presented in Table 1.

Groundwater flow direction is towards the south and is consistent with historical Site data. Groundwater gradient was calculated for each monitoring period and ranged between 0.00092 feet per foot (ft/ft) at its lowest in April 2015 and 0.00138 ft/ft at its highest in October 2014. A groundwater gradient map has been prepared for each groundwater monitoring event and are included as Figure 3 through Figure 8.

### 2.2 Groundwater Monitoring Methodology

During groundwater monitoring events conducted by GHD, monitoring wells were purged of at least three casing volumes of water using a dedicated, disposable, polyethylene bailer prior to sampling. Groundwater quality parameters including pH, temperature, oxidation reduction potential, total dissolved solids, and conductivity were collected using a calibrated multi-parameter groundwater quality meter and were recorded on GHD groundwater sampling field forms.

Groundwater samples were placed in laboratory prepared bottles, packed on ice and delivered or shipped under chain-of-custody documentation to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico. Groundwater samples were analyzed for chloride by EPA Method 300.0 and for total dissolved solids (TDS) by SM2540C.

Details regarding the groundwater monitoring methodology employed by Apex for the August 2014 through April 2015 monitoring events were not readily available to GHD at the time of this report.

A summary of laboratories and analytical methods pertaining to Apex conducted groundwater monitoring events are listed below;

- August 2014 – Xenco Laboratories (Xenco) located in East Odessa, Texas. Groundwater samples from monitor wells MW-1 through MW-4 were analyzed for BTEX by Method 8021B and for Chlorides by EPA Method 300.0
- October 2014, January 2015, and April 2015 – Trace Analysis Laboratories (Trace) located in Midland, Texas. Groundwater samples from monitor wells MW-1 through MW-4 were analyzed for BTEX by 8021B and for chlorides by EPA Method 300.0.

### 2.3 Groundwater Monitoring Analytical Results

Laboratory analytical results indicate that groundwater samples collected from all site monitoring wells are below laboratory detection limits for BTEX. All Site wells have been below laboratory

detection limits or below NMWQCC standard for BTEX since monitoring began in 2009. During 2014 and the first half of 2015, Apex conducted groundwater monitoring events included BTEX as part of the suite of analyses. Due to detections consistently being below NMWQCC standards or laboratory detection limits, GHD discontinued analysis of BTEX as of September 2015.

Groundwater collected from MW-1 has consistently exceeded the NMWQCC standard for chloride. During the December 2015 monitoring event the concentration of chloride in MW-1 was 1,700 milligrams per liter (mg/L). The NMWQCC standard for chloride is 250 mg/L. It should be noted however that analytical results from samples collected from MW-1 show a decreasing trend in chloride concentrations over time. See Figure 9 for a graph of chloride concentrations versus time.

All other Site wells have consistently been below the NMWQCC standard for chloride since initiation of monitoring in 2009. A chloride concentration map depicting chloride concentrations for each 2014 and 2015 sampling event is included as Figure 10. A summary of the historical groundwater laboratory analytical results is presented in Table 2. Corresponding laboratory analytical reports from 2014 and 2015 monitoring events are included as Appendix A.

### 3. Pumping Event

A groundwater pumping event was performed by GHD Services Inc. between October 26 and October 29, 2015. The pumping event consisted of pumping approximately 4,900 gallons of groundwater from monitoring well MW-1 at an average of approximately 3.08 gallons per minute for a total of 26.5 hours. Pumping was performed for 1.5 hours on October 26, 10 hours each day on October 27 and 28, and for 5 hours on October 29, 2015. During the pumping event chloride concentrations were field screened using HACH chloride test strips. Confirmatory samples were collected for laboratory analysis approximately every five hours during pumping. A summary of field and analytical data from the pumping event is presented in Table 3.

Both the field screening and laboratory analytical results showed a decreasing trend in chloride concentrations of approximately 500 mg/L to 600 mg/L over the duration of the event. An assessment of the analytical and field data indicates the following:

- The analytical data generally showed a decrease in chloride concentrations each day while pumping was occurring.
- An increase (rebound) in chloride concentrations was observed at the beginning of each day when pumping was resumed after well recharge overnight. This rebound is to be expected because pumping was not performed overnight, allowing chloride concentrations to move towards equilibrium.
- Chloride concentrations at the end of each subsequent day are generally lower than concentrations observed at the end of pumping the previous day. Chloride concentrations were 600 mg/l lower at the end of the three day event.

Chloride concentrations observed in MW-1 during the December sampling event were equivalent to the chloride concentration observed at the beginning of the pumping event (1700 mg/l). However, these concentrations were significantly lower than those observed during the September 30, 2015 event (3100 mg/l).

## 4. Conclusions and Recommendations

### 4.1 Conclusions

Based on the above referenced information, GHD makes the following conclusions:

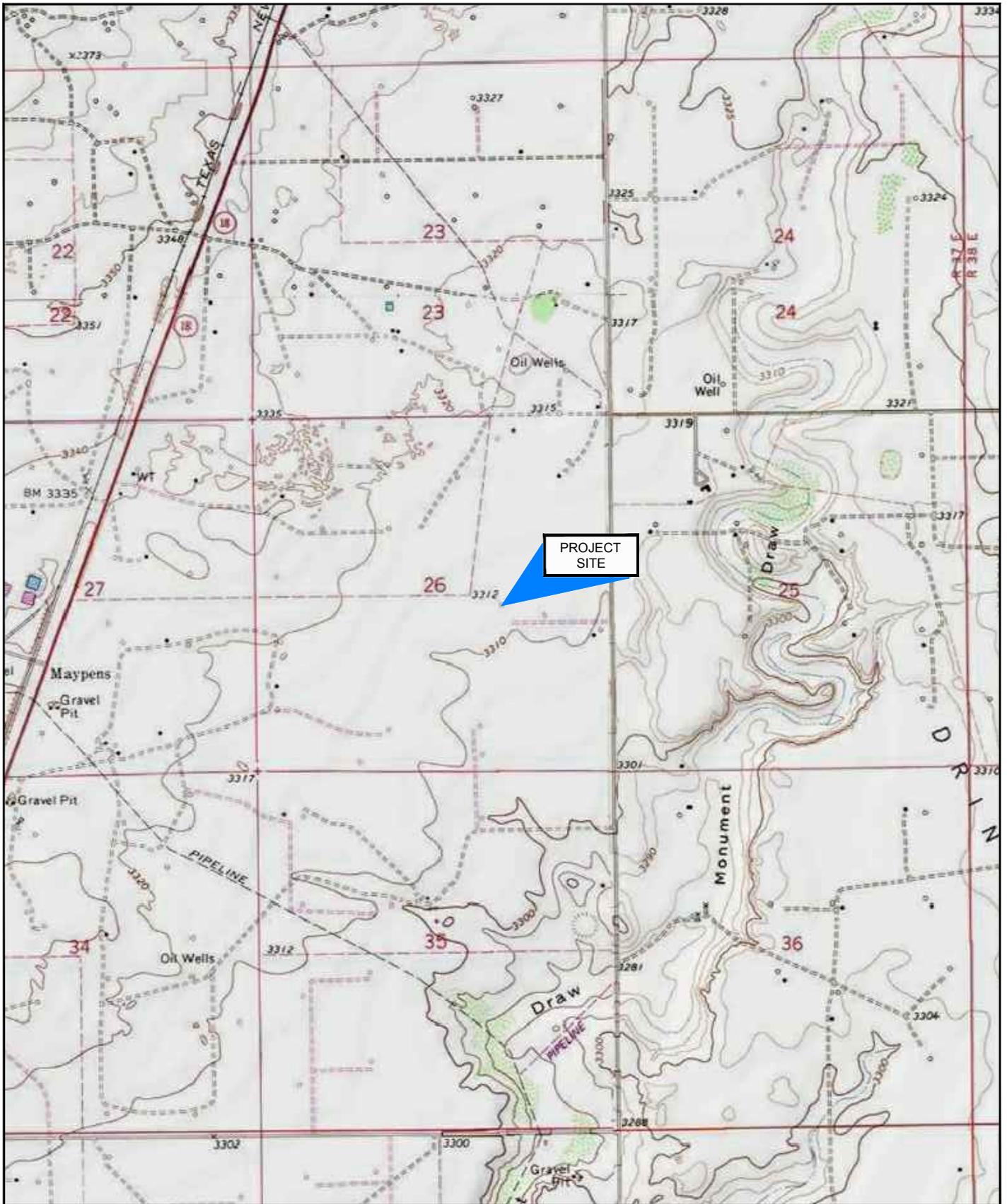
- Groundwater collected from three Site wells (MW-2, MW-3, and MW-4) have consistently been below laboratory detection limits or below NMWQCC standard for all constituents of concern since sampling began.
- Chloride concentrations in samples collected from MW-1 have consistently exceeded the NMWQCC standard.
- Concentrations of BTEX constituents have consistently been below laboratory detection limits.

### 4.2 Recommendations

Due to the above conclusions, GHD recommends:

- Discontinue sampling Site wells for BTEX constituents (See Section 2.3).
- Continue sampling Site monitoring wells for chloride only. Sampling should continue on a quarterly basis.
- Continue to evaluate chloride concentrations to determine if the decrease is a seasonal or long-term trend. Based upon the evaluation of 2016 sampling data, determine whether an additional pumping event would be beneficial.

# Figures



Source: USGS 7.5 Minute Quad "Rattlesnake Canyon and Eunice SE, New Mexico"

Lat/Long: 32.362468° North, 103.130500° West

0 1000 2000ft



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)



ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

082149-00

Jan 26, 2016

SITE LOCATION MAP

FIGURE 1

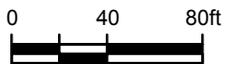


**LEGEND**

-  Monitoring Well Location
-  Approximate Subsurface Pipeline
-  Fence Line

Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

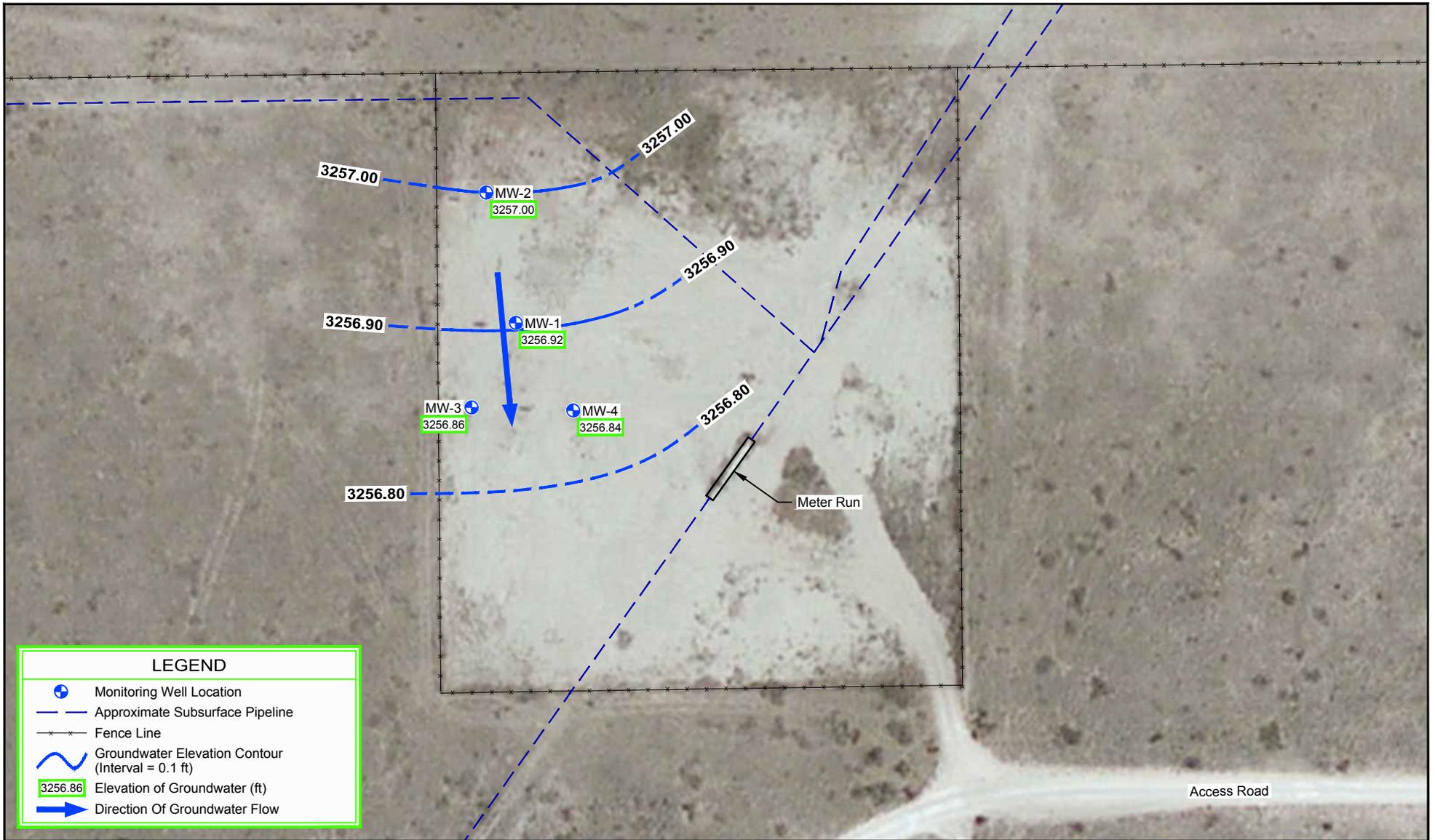


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

**SITE MAP**

082149-00  
Jan 26, 2016

**FIGURE 2**



0 40 80ft

Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

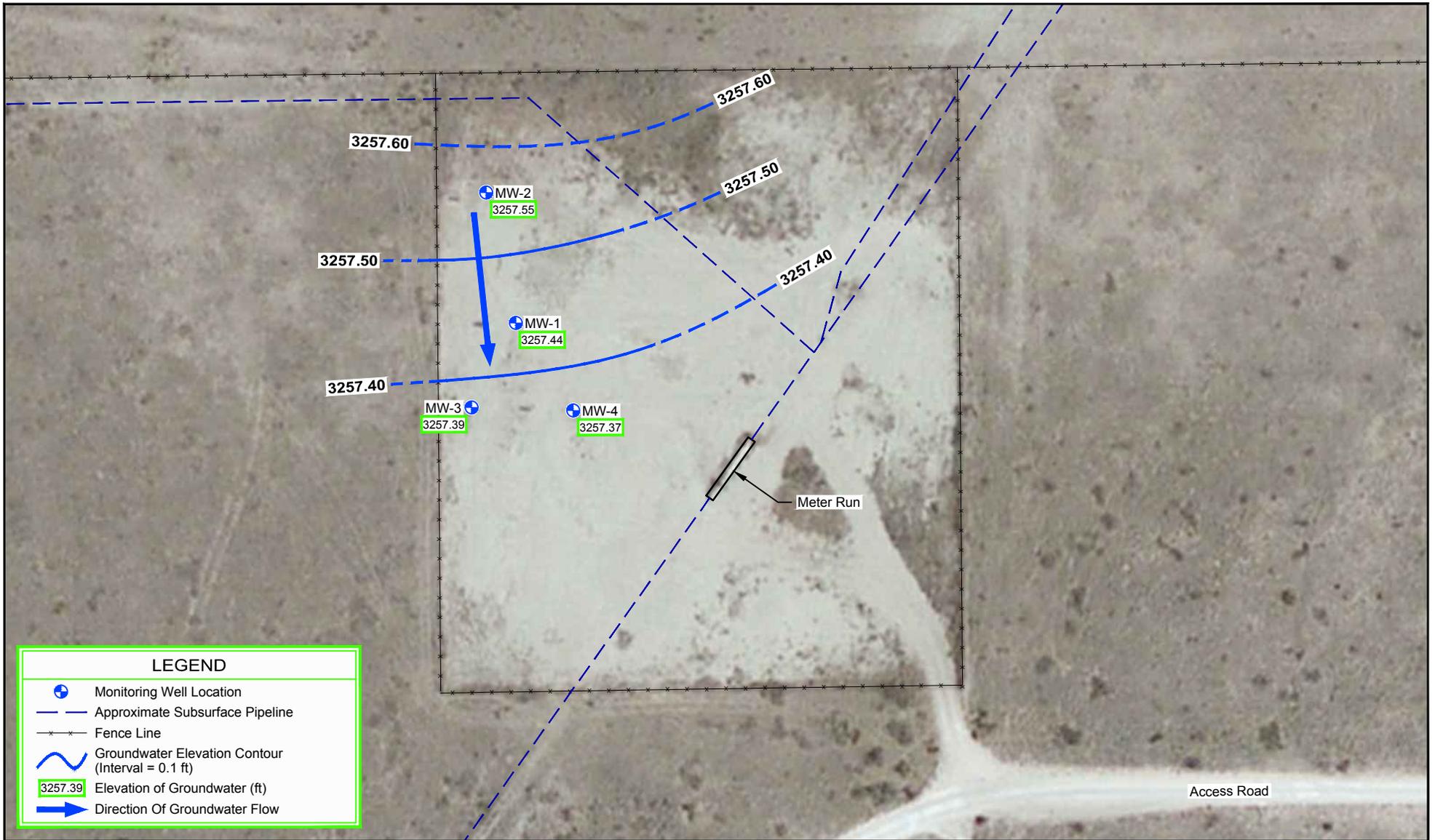


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

GROUNDWATER GRADIENT MAP - AUGUST 2014

082149-00  
Jan 26, 2016

FIGURE 3



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

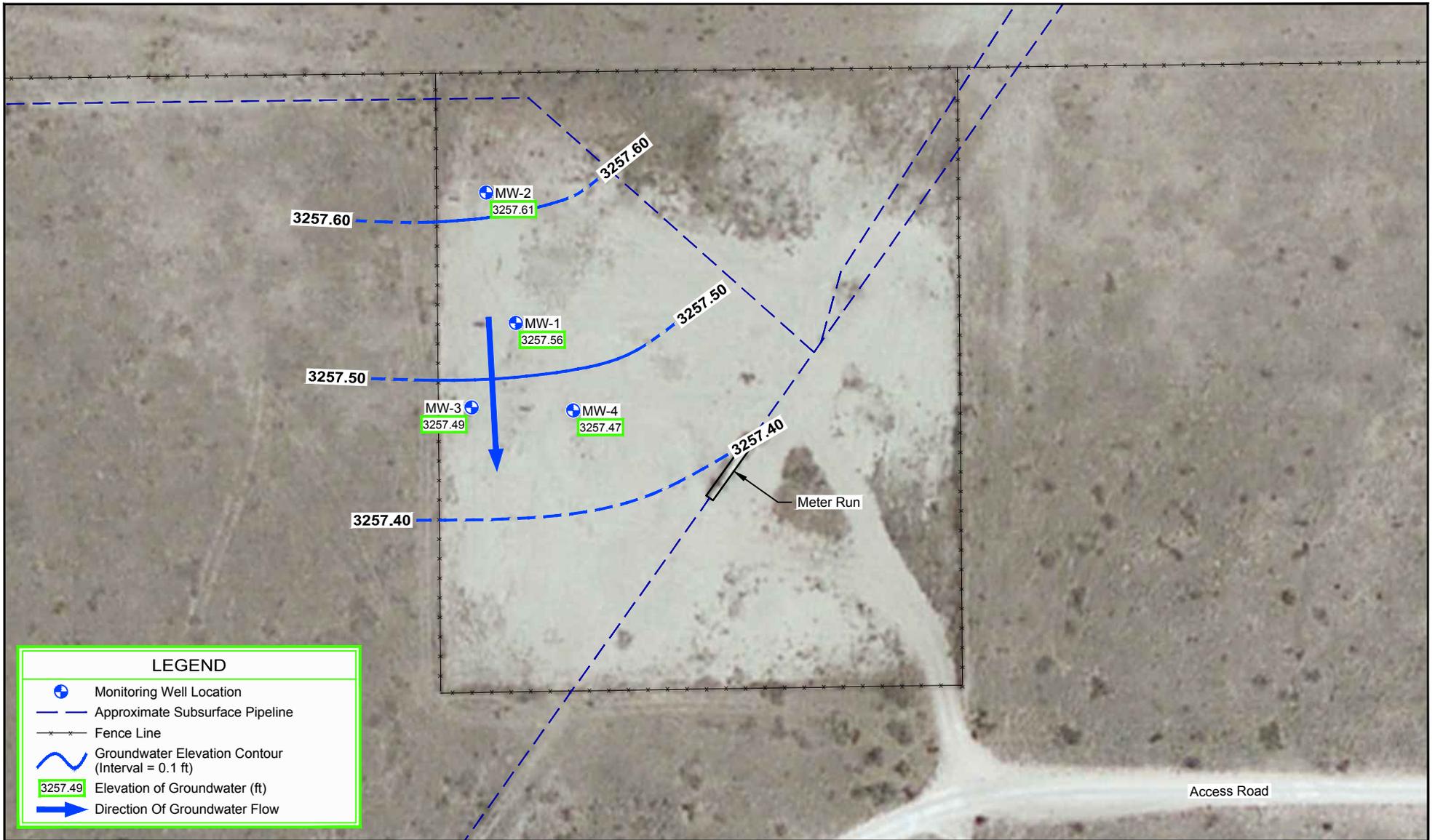


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

GROUNDWATER GRADIENT MAP - OCTOBER 2014

082149-00  
Jan 26, 2016

FIGURE 4



Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

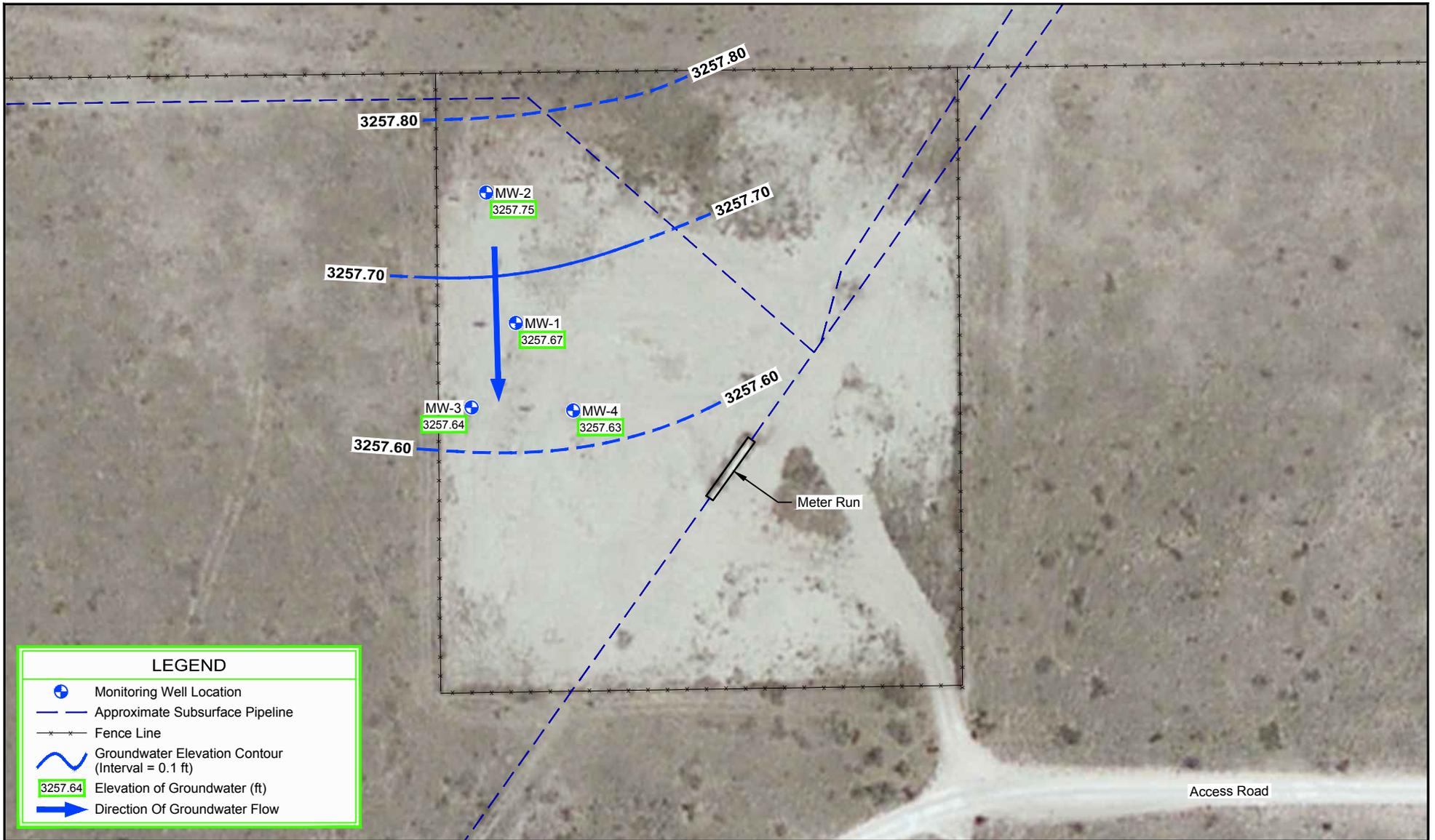


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

GROUNDWATER GRADIENT MAP - JANUARY 2015

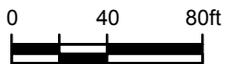
082149-00  
Jan 26, 2016

FIGURE 5



Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

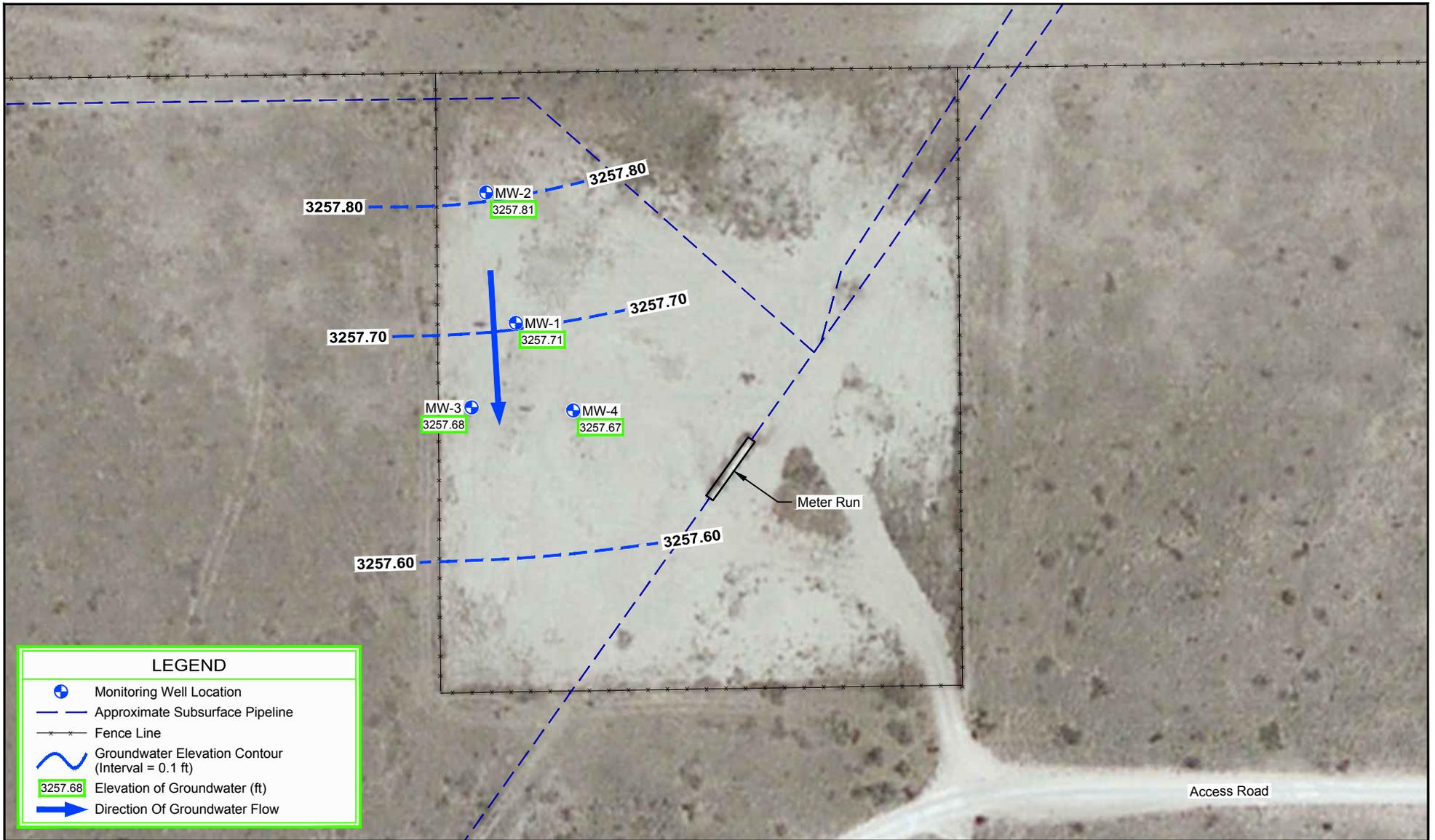


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

GROUNDWATER GRADIENT MAP - APRIL 2015

082149-00  
Jan 26, 2016

FIGURE 6



Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West

0 40 80ft

Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)

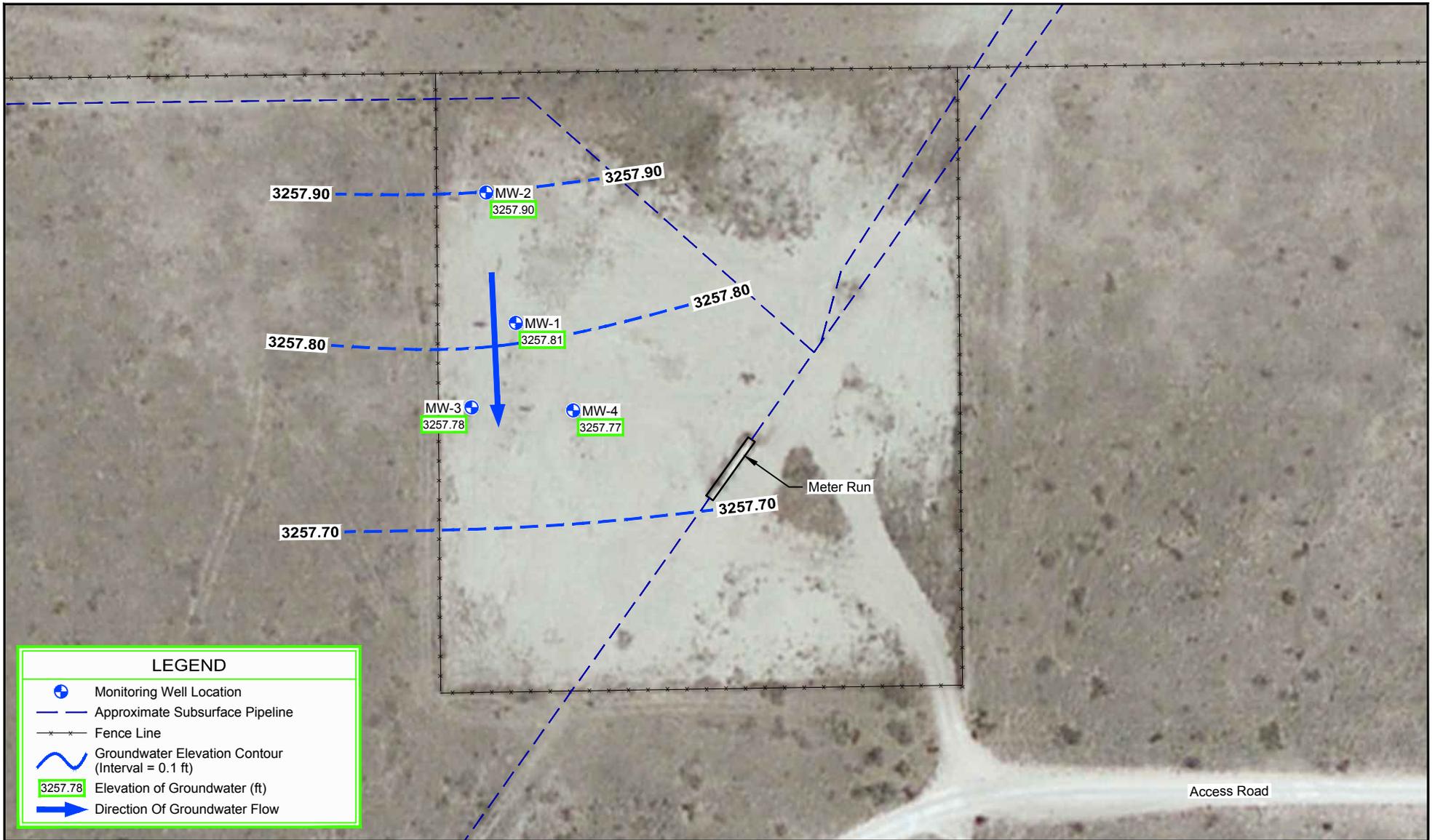


ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

GROUNDWATER GRADIENT MAP - SEPTEMBER 2015

082149-00  
Jan 26, 2016

FIGURE 7



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)



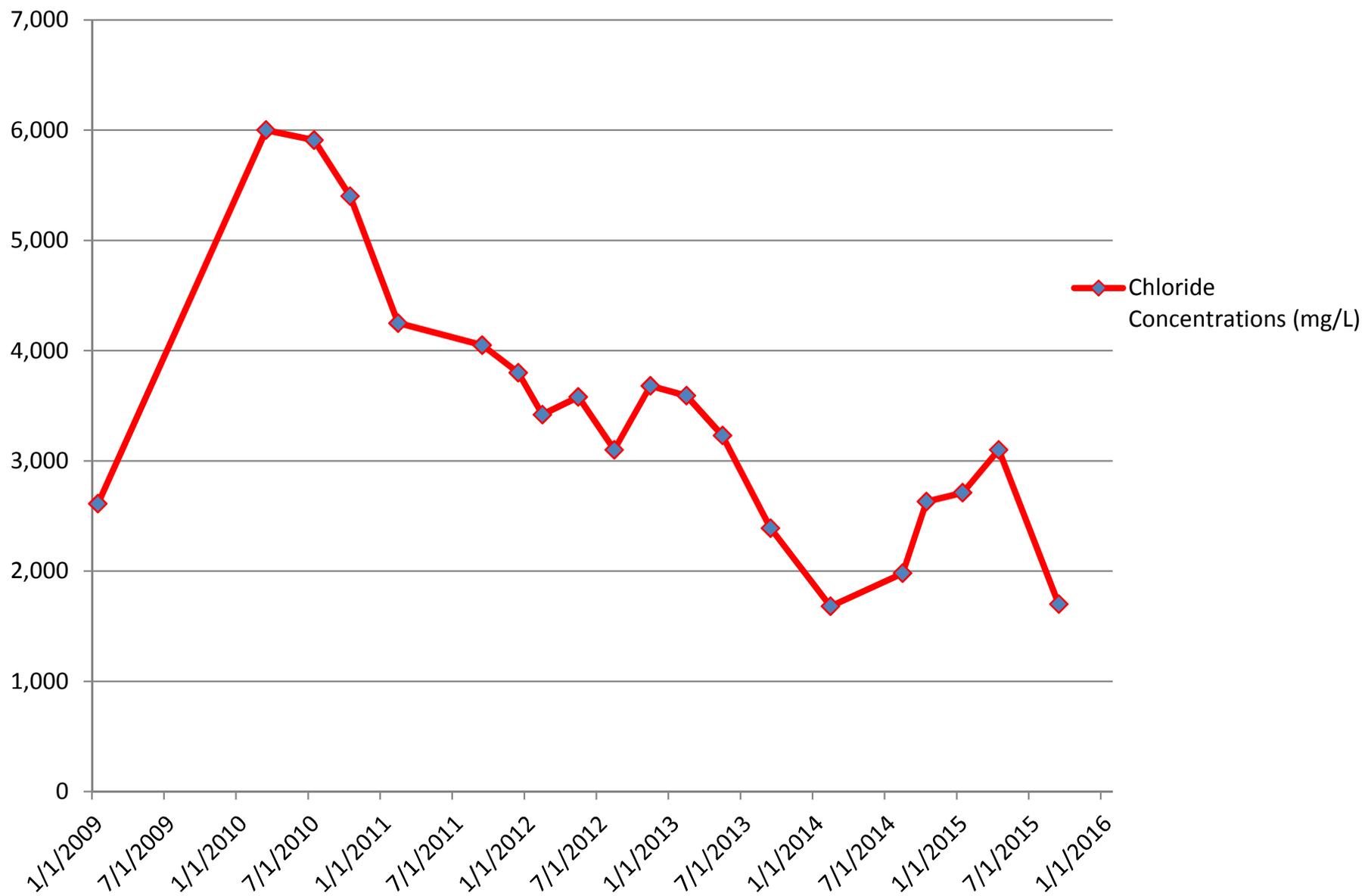
ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

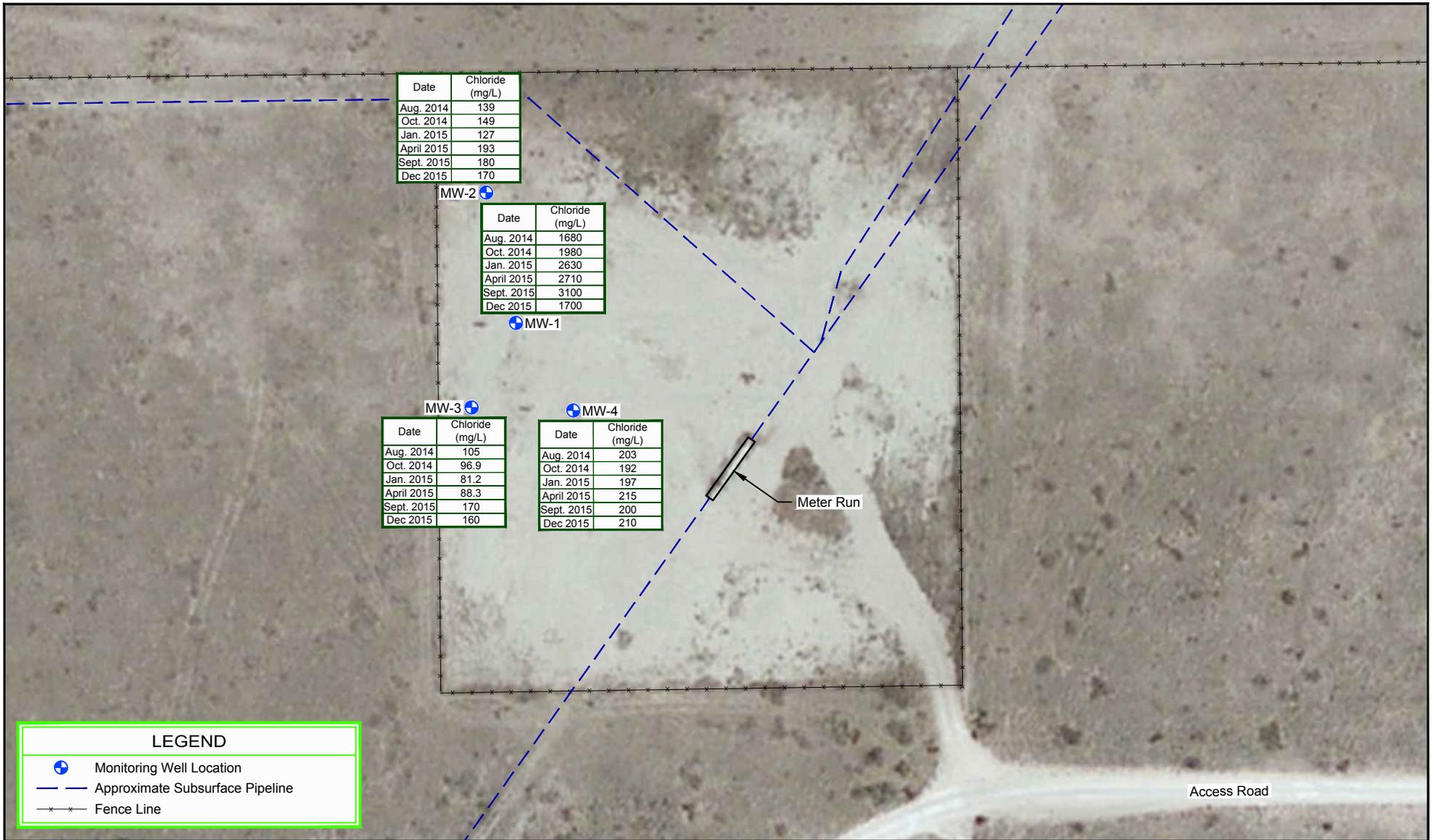
GROUNDWATER GRADIENT MAP - DECEMBER 2015

082149-00  
Jan 26, 2016

FIGURE 8

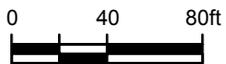
### Figure 9 - Chloride Concentrations in MW-1 vs. Time





Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West



Coordinate System:  
NAD 1983 StatePlane-  
New Mexico East (US Feet)



ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
BOYD COMPRESSOR STATION

CHLORIDE CONCENTRATIONS IN GROUNDWATER

082149-00  
Jan 26, 2016

FIGURE 10

# Tables

TABLE 1

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS  
 ETC FIELD SERVICES LLC  
 BOYD COMPRESSOR STATION  
 LEA COUNTY, NEW MEXICO

Well Number	Casing Well Elevation	Total Depth	Date Measured	Depth to LNAPL	Depth to Water	LNAPL Thickness	Corrected Groundwater Elevation
MW-1	3,316.67	69.35	6/26/2009	-	58.95	-	3,257.72
			3/25/2010	-	59.07	-	3,257.60
			6/28/2010	-	59.32	-	3,257.35
			10/29/2010	-	59.12	-	3,257.55
			2/8/2011	-	59.17	-	3,257.50
			9/28/2011	-	59.36	-	3,257.31
			12/1/2011	-	59.36	-	3,257.31
			2/9/2012	-	59.45	-	3,257.22
			5/16/2012	-	58.00	-	3,258.67
			8/31/2012	-	58.01	-	3,258.66
			11/2/2012	-	59.50	-	3,257.17
			2/7/2013	-	59.67	-	3,257.00
			5/10/2013	-	59.48	-	3,257.19
			9/4/2013	-	59.71	-	3,256.96
			8/12/2014	-	59.75	-	3,256.92
			10/23/2014	-	59.23	-	3,257.44
			1/23/2015	-	59.11	-	3,257.56
4/20/2015	-	59.00	-	3,257.67			
9/30/2015	-	58.96	-	3,257.71			
12/15/2015	-	58.86	-	3,257.81			
MW-2	3,317.02	69.64	6/26/2009	-	59.16	-	3,257.86
			3/25/2010	-	59.32	-	3,257.70
			6/28/2010	-	59.97	-	3,257.05
			10/29/2010	-	57.36	-	3,259.66
			2/8/2011	-	59.4	-	3,257.62
			9/28/2011	-	59.57	-	3,257.45
			12/1/2011	-	60.65	-	3,256.37
			2/9/2012	-	59.65	-	3,257.37
			5/16/2012	-	59.65	-	3,257.37
			8/31/2012	-	59.60	-	3,257.42
			11/2/2012	-	59.75	-	3,257.27
			2/7/2013	-	59.84	-	3,257.18
			5/10/2013	-	59.86	-	3,257.16
			9/4/2013	-	59.00	-	3,258.02
			8/12/2014	-	60.02	-	3,257.00
			10/23/2014	-	59.47	-	3,257.55
			1/23/2015	-	59.41	-	3,257.61
4/20/2015	-	59.27	-	3,257.75			
9/30/2015	-	59.21	-	3,257.81			
12/15/2015	-	59.12	-	3,257.90			

TABLE 1

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS  
 ETC FIELD SERVICES LLC  
 BOYD COMPRESSOR STATION  
 LEA COUNTY, NEW MEXICO

Well Number	Casing Well Elevation	Total Depth	Date Measured	Depth to LNAPL	Depth to Water	LNAPL Thickness	Corrected Groundwater Elevation
MW-3	3,317.52	69.50	6/26/2009	-	59.16	-	3,258.36
			3/25/2010	-	59.92	-	3,257.60
			6/28/2010	-	59.97	-	3,257.55
			10/29/2010	-	60.16	-	3,257.36
			2/8/2011	-	59.40	-	3,258.12
			9/28/2011	-	60.23	-	3,257.29
			12/1/2011	-	65.20	-	3,252.32
			2/9/2012	-	60.30	-	3,257.22
			5/16/2012	-	60.30	-	3,257.22
			8/31/2012	-	60.30	-	3,257.22
			11/2/2012	-	59.97	-	3,257.55
			2/7/2013	-	60.55	-	3,256.97
			5/10/2013	-	60.48	-	3,257.04
			9/4/2013	-	60.80	-	3,256.72
			8/12/2014	-	60.66	-	3,256.86
			10/23/2014	-	60.13	-	3,257.39
1/23/2015	-	60.03	-	3,257.49			
4/20/2015	-	59.88	-	3,257.64			
9/30/2015	-	59.84	-	3,257.68			
12/15/2015	-	59.74	-	3,257.78			
MW-4	3,317.06	68.95	6/26/2009	-	59.36	-	3,257.70
			3/25/2010	-	59.50	-	3,257.56
			6/28/2010	-	59.12	-	3,257.94
			10/29/2010	-	59.58	-	3,257.48
			2/8/2011	-	59.61	-	3,257.45
			9/28/2011	-	59.78	-	3,257.28
			12/1/2011	-	59.25	-	3,257.81
			2/9/2012	-	59.85	-	3,257.21
			5/16/2012	-	59.85	-	3,257.21
			8/31/2012	-	59.80	-	3,257.26
			11/2/2012	-	59.80	-	3,257.26
			2/7/2013	-	60.10	-	3,256.96
			5/10/2013	-	60.63	-	3,256.43
			9/4/2013	-	60.21	-	3,256.85
			8/12/2014	-	60.22	-	3,256.84
			10/23/2014	-	59.69	-	3,257.37
1/23/2015	-	59.59	-	3,257.47			
4/20/2015	-	59.43	-	3,257.63			
9/30/2015	-	59.39	-	3,257.67			
12/15/2015	-	59.29	-	3,257.77			

Notes:

LNAPL = Light non-aqueous phase liquid

TABLE 2

**GROUNDWATER ANALYTICAL RESULTS SUMMARY**  
**ETC FIELD SERVICES LLC**  
**BOYD COMPRESSOR STATION**  
**LEA COUNTY, NEW MEXICO**

Sample Location	Sample Type	Sample Date	Methods: EPA SW 846-8021b							E 300	SM2540C
			Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P-Xylenes (mg/L)	O-Xylenes (mg/L)	Total Xylene (mg/L)	Total BTEX (mg/L)	Chloride (mg/L)	TDS (mg/L)
<b>NMWQCC Groundwater Standards</b>			<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>		<b>-</b>	<b>250</b>	<b>1000</b>	
MW-1	Original Dup	1/15/2009	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	2,610	-
		3/25/2010	0.0015	0.0019	<0.0010	<0.0020	<0.0010	<0.0010	0.0034	-	-
		7/1/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	6,000	-
		10/29/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	5,910	-
		2/8/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	5,400	-
		9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	4,250	-
		12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	4,050	-
		2/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	3,800	-
		5/16/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	3,420	-
		8/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	3,580	-
		11/2/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	3,100	-
		2/7/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	3680	-
		5/10/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	3590	-
		9/4/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	3230	-
		2/28/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00600	2390	-
		8/12/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00600	1680	-
		10/23/2014	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00600	1980	-
		1/23/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00600	2630	-
		4/20/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00600	2710	-
9/30/2015	-	-	-	-	-	-	-	3100	5860		
12/15/2015	-	-	-	-	-	-	-	1700	3680		
12/15/2015	-	-	-	-	-	-	-	1900	3510		

TABLE 2

**GROUNDWATER ANALYTICAL RESULTS SUMMARY**  
**ETC FIELD SERVICES LLC**  
**BOYD COMPRESSOR STATION**  
**LEA COUNTY, NEW MEXICO**

Sample Location	Sample Type	Sample Date	Methods: EPA SW 846-8021b							E 300	SM2540C
			Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P-Xylenes (mg/L)	O-Xylenes (mg/L)	Total Xylene (mg/L)	Total BTEX (mg/L)	Chloride (mg/L)	TDS (mg/L)
<b>NMWQCC Groundwater Standards</b>			<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>			<b>-</b>	<b>250</b>	<b>1000</b>
MW-2	Original Dup	1/15/2009	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	145	-
		3/25/2010	<0.0010	0.0013	<0.0010	<0.0020	<0.0010	<0.0010	0.0013	--	-
		7/1/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	130	-
		10/29/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	141	-
		2/8/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	126	-
		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	-
		2/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	129	-
		5/16/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	135	-
		8/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	132	-
		11/2/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	164	-
		2/7/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	169	-
		5/10/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	144	-
		9/4/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	155	-
		2/28/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	161	-
		8/12/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	139	-
		10/23/2014	<0.00100	<0.00100	<0.00100	-	-	<0.00100	< 0.00400	149	-
		1/23/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	127	-
4/20/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	193	-		
9/30/2015	-	-	-	-	-	-	-	180	-		
9/30/2015	-	-	-	-	-	-	-	190	835		
12/15/2015	-	-	-	-	-	-	-	170	880		

TABLE 2

**GROUNDWATER ANALYTICAL RESULTS SUMMARY**  
**ETC FIELD SERVICES LLC**  
**BOYD COMPRESSOR STATION**  
**LEA COUNTY, NEW MEXICO**

Sample Location	Sample Type	Sample Date	Methods: EPA SW 846-8021b							E 300	SM2540C	
			Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P-Xylenes (mg/L)	O-Xylenes (mg/L)	Total Xylene (mg/L)	Total BTEX (mg/L)	Chloride (mg/L)	TDS (mg/L)	
<b>NMWQCC Groundwater Standards</b>			<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>			<b>-</b>	<b>250</b>	<b>1000</b>	
MW-3		1/15/2009	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	150	-	
		3/25/2010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	-	-
		7/1/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	124	-
		10/29/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	124	-
		2/8/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	109	-
		9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	<0.010	138	-
		12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	115	-
		2/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	107	-
		5/16/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	110	-
		8/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	109	-
		11/2/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	126	-
		2/7/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	127	-	
		5/10/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	100	-	
		9/4/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	115	-	
		2/28/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	117	-	
		8/12/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	105	-	
		10/23/2014	<0.00100	<0.00100	<0.00100	-	-	<0.00100	< 0.00400	97	-	
1/23/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	81	-			
4/20/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	88	-			
9/30/2015	-	-	-	-	-	-	-	170	740			
12/15/2015	-	-	-	-	-	-	-	160	852			

TABLE 2

**GROUNDWATER ANALYTICAL RESULTS SUMMARY**  
**ETC FIELD SERVICES LLC**  
**BOYD COMPRESSOR STATION**  
**LEA COUNTY, NEW MEXICO**

Sample Location	Sample Type	Sample Date	Methods: EPA SW 846-8021b							E 300	SM2540C	
			Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P-Xylenes (mg/L)	O-Xylenes (mg/L)	Total Xylene (mg/L)	Total BTEX (mg/L)	Chloride (mg/L)	TDS (mg/L)	
<b>NMWQCC Groundwater Standards</b>			<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>		<b>-</b>	<b>250</b>	<b>1000</b>		
MW-4		1/15/2009	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	208	-	
		3/25/2010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	-	-
		7/1/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	187	-
		10/29/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	196	-
		2/8/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	180	-
		9/28/2011	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.010	<0.010	221	-
		12/1/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	206	-
		2/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	214	-
		5/16/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	195	-
		8/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	216	-
		11/2/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	216	-
		2/7/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	227	-	
		5/10/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	201	-	
		9/4/2013	<0.00100	<0.00200	<0.00100	-	-	<0.00200	<0.00600	195	-	
		2/28/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	199	-	
		8/12/2014	<0.00100	<0.00200	<0.00100	-	-	<0.00100	<0.00500	203	-	
		10/23/2014	<0.00100	<0.00100	<0.00100	-	-	<0.00100	< 0.00400	192	-	
1/23/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	197	-			
4/20/2015	<0.00100	<0.00100	<0.00100	-	-	<0.00100	<0.00400	215	-			
9/30/2015	-	-	-	-	-	-	-	200	930			
12/15/2015	-	-	-	-	-	-	-	210	980			

Notes:

NMWQCC = New Mexico Water Quality Control Commission

**TABLE 3**

**PUMPING EVENT CHLORIDE CONCENTRATIONS  
ETC FIELD SERVICES LLC  
BOYD COMPRESSOR STATION  
LEA COUNTY, NEW MEXICO**

<b>Sample</b>	<b>Date</b>	<b>Time</b>	<b>Chloride (mg/L)</b>
Field 1	10/27/2015	745	1488
CM-001		745	1700
Field 2		950	1488
Field 3		1150	1263
Field 4		1350	1163
CM-002		1350	1500
Field 5		1550	1163
Field 6		1730	1263
CM-003		1730	1500
Field 7	10/28/2015	720	1488
CM-004		720	1600
Field 8		915	1263
Field 9		1120	1263
Field 10		1215	1163
CM-005		1220	1400
Field 11		1530	1163
Field 12		1715	1163
CM-006		1715	1300
Field 13	10/29/2015	625	1263
CM-007		625	1500
Field 14		1030	1071
Field 15		1130	1071
CM-008		1130	1100
Field 16		1200	1071

Notes:

- 1) Highlighted cells indicate laboratory analytical result

# Appendices

# **Appendix A**

## **Groundwater Laboratory Analytical Reports**

# Analytical Report 491314

for  
**APEX/Titan**

**Project Manager: Lyle Alsobrook**  
**Boyd Compressor Station**

**19-AUG-14**

Collected By: Client



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135)  
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



19-AUG-14

Project Manager: **Lyle Alsobrook**

**APEX/Titan**

505 N. Big Spring Ste. 301 A

Midland, TX 79701

Reference: XENCO Report No(s): **491314**

**Boyd Compressor Station**

Project Address: Lea County, NM

**Lyle Alsobrook:**

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(s) 491314. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 491314 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,

---

**Kelsey Brooks**

Project Manager

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*Certified and approved by numerous States and Agencies.*

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# Sample Cross Reference 491314



## APEX/Titan, Midland, TX

Boyd Compressor Station

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
MW-4	W	08-12-14 09:35		491314-001
MW-3	W	08-12-14 10:18		491314-002
Field Duplicate	W	08-12-14 11:00		491314-003
MW-1	W	08-12-14 11:30		491314-004
MW-2	W	08-12-14 12:25		491314-005



# CASE NARRATIVE



*Client Name: APEX/Titan*

*Project Name: Boyd Compressor Station*

Project ID:  
Work Order Number(s): 491314

Report Date: 19-AUG-14  
Date Received: 08/12/2014

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analysis Summary 491314

APEX/Titan, Midland, TX



**Project Id:**

**Contact:** Lyle Alsobrook

**Project Location:** Lea County, NM

**Project Name:** Boyd Compressor Station

**Date Received in Lab:** Tue Aug-12-14 03:49 pm

**Report Date:** 19-AUG-14

**Project Manager:** Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	491314-001	491314-002	491314-003	491314-004	491314-005	
	<i>Field Id:</i>	MW-4	MW-3	Field Duplicate	MW-1	MW-2	
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	
	<i>Sampled:</i>	Aug-12-14 09:35	Aug-12-14 10:18	Aug-12-14 11:00	Aug-12-14 11:30	Aug-12-14 12:25	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Aug-15-14 17:00					
	<i>Analyzed:</i>	Aug-16-14 02:36	Aug-16-14 02:52	Aug-16-14 03:09	Aug-16-14 03:25	Aug-16-14 03:42	
	<i>Units/RL:</i>	mg/L      RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					
<b>Inorganic Anions by EPA 300/300.1</b>	<i>Extracted:</i>	Aug-14-14 17:12	Aug-14-14 17:58	Aug-14-14 18:20	Aug-14-14 18:43	Aug-14-14 19:06	
	<i>Analyzed:</i>	Aug-14-14 17:12	Aug-14-14 17:58	Aug-14-14 18:20	Aug-14-14 18:43	Aug-14-14 19:06	
	<i>Units/RL:</i>	mg/L      RL					
Chloride		203      20.0	105      20.0	105      20.0	1680      100	139      20.0	

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

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Kelsey Brooks  
Project Manager

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

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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



# Form 2 - Surrogate Recoveries

Project Name: Boyd Compressor Station

Work Orders : 491314,

Lab Batch #: 948384

Sample: 491314-001 / SMP

Project ID:

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/16/14 02:36

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 948384

Sample: 491314-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/16/14 02:52

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 948384

Sample: 491314-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/16/14 03:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 948384

Sample: 491314-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/16/14 03:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 948384

Sample: 491314-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/16/14 03:42

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0266	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

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



# Form 2 - Surrogate Recoveries

Project Name: Boyd Compressor Station

Work Orders : 491314,

Project ID:

Lab Batch #: 948384

Sample: 660133-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/15/14 21:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

Lab Batch #: 948384

Sample: 660133-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/15/14 21:40

### SURROGATE RECOVERY STUDY

BTEX 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	0.0297	0.0300	99	80-120	

Lab Batch #: 948384

Sample: 660133-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/15/14 21:57

### SURROGATE RECOVERY STUDY

BTEX 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	0.0298	0.0300	99	80-120	

Lab Batch #: 948384

Sample: 491033-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/15/14 22:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 948384

Sample: 491033-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/15/14 22:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# BS / BSD Recoveries



Project Name: Boyd Compressor Station

Work Order #: 491314

Project ID:

Analyst: ARM

Date Prepared: 08/15/2014

Date Analyzed: 08/15/2014

Lab Batch ID: 948384

Sample: 660133-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00100	0.100	0.104	104	0.100	0.104	104	0	70-125	25	
Toluene	<0.00200	0.100	0.103	103	0.100	0.103	103	0	70-125	25	
Ethylbenzene	<0.00100	0.100	0.110	110	0.100	0.109	109	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.215	108	0.200	0.212	106	1	70-131	25	
o-Xylene	<0.00100	0.100	0.104	104	0.100	0.103	103	1	71-133	25	

Analyst: JUM

Date Prepared: 08/14/2014

Date Analyzed: 08/14/2014

Lab Batch ID: 948346

Sample: 660022-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Chloride	<1.00	25.0	25.8	103	25.0	25.8	103	0	90-110	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 #:** 491314

**Lab Batch #:** 948346

**Date Analyzed:** 08/14/2014

**QC- Sample ID:** 491314-001 S

**Reporting Units:** mg/L

**Date Prepared:** 08/14/2014

**Batch #:** 1

**Project ID:**

**Analyst:** JUM

**Matrix:** Water

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	203	500	745	108	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: Boyd Compressor Station

Work Order #: 491314

Project ID:

Lab Batch ID: 948384

QC- Sample ID: 491033-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 08/15/2014

Date Prepared: 08/15/2014

Analyst: ARM

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.104	104	0.100	0.110	110	6	70-125	25	
Toluene	<0.00200	0.100	0.103	103	0.100	0.109	109	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.116	116	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.211	106	0.200	0.227	114	7	70-131	25	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.109	109	7	71-133	25	

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 Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



# CHAIN OF CUSTODY

Page \_\_\_ Of \_\_\_

Setting the Standard since 1990

Stafford, Texas (281-240-4200)

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Lakeland, Florida (863-646-8526)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

Xenco Quote # \_\_\_\_\_ Xenco Job # **491314**

Client / Reporting Information		Project Information												Analytical Information										Matrix Codes
Company Name / Branch: <b>APEX TITAN</b>		Project Name/Number: <b>Boyd Compressor Station</b>												A = Air S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge WW = Waste Water W = Wipe O = Oil WW = Waste Water										Field Comments
Company Address: <b>505 N. Big Spring, Midland, TX 75791</b>		Project Location: <b>Lea County, NM.</b>																						
Email: <b>Ktoby@apexcos.com</b>		Phone No:		Invoice To:																				
Project Contact: <b>Lyle Alsobrook</b>		PO Number:																						
Samplers's Name: <b>Karolanne Toby</b>																								
No.	Field ID / Point of Collection	Collection				# of bottles	Number of preserved bottles										BTEX	Chlorides						
		Sample Depth	Date	Time	Matrix		HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE										
1	MW-4		8/12/14	9:35	GW		X										X	X						
2	MW-3			10:18																				
3	Field Duplicate			11:00																				
4	MW-1			11:30																				
5	MW-2		8/12/14	12:25	GW		X										X	X						
6																								
7																								
8																								
9																								
10																								
Turnaround Time ( Business days)		Data Deliverable Information												Notes:										
<input type="checkbox"/> Same Day TAT		<input type="checkbox"/> 5 Day TAT		<input type="checkbox"/> Level II Std QC				<input type="checkbox"/> Level IV (Full Data Pkg /raw data)				<div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block;">           ★ Bill Regency Field Services Directly         </div>												
<input type="checkbox"/> Next Day EMERGENCY		<input type="checkbox"/> 7 Day TAT		<input type="checkbox"/> Level III Std QC+ Forms				<input type="checkbox"/> TRRP Level IV																
<input type="checkbox"/> 2 Day EMERGENCY		<input type="checkbox"/> Contract TAT		<input type="checkbox"/> Level 3 (CLP Forms)				<input type="checkbox"/> UST / RG -411																
<input type="checkbox"/> 3 Day EMERGENCY		<input type="checkbox"/> TRRP Checklist																						
TAT Starts Day received by Lab, if received by 3:00 pm												FED-EX / UPS: Tracking #												
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																								
Relinquished by Sampler: <b>Karolanne Toby</b>		Date Time: <b>8/12/14</b>		Received By: <b>[Signature]</b>		Relinquished By:		Date Time: <b>8/12/14</b>		Received By: <b>[Signature]</b>														
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:														
Relinquished by:		Date Time:		Received By:		Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo. Corr. Factor <b>40</b>										

BTEX 80218  
Chlorides

NFE vt  
8/12/14

★ Bill Regency Field Services Directly

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



**Client:** APEX/Titan

**Date/ Time Received:** 08/12/2014 03:49:00 PM

**Work Order #:** 491314

**Acceptable Temperature Range:** 0 - 6 degC  
**Air and Metal samples Acceptable Range:** Ambient  
**Temperature Measuring device used :**

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	0
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	No
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No

**\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

**Checklist completed by:** *Kelsey Brooks* Date: 08/12/2014  
Kelsey Brooks

**Checklist reviewed by:** *Kelsey Brooks* Date: 08/12/2014  
Kelsey Brooks



6701 Aberdeen Avenue, Suite 9      Lubbock, Texas 79424      800-378-1296      806-794-1296      FAX 806-794-1298  
200 East Sunset Road, Suite E      El Paso, Texas 79922      915-585-3443      FAX 915-585-4944  
5002 Basin Street, Suite A1      Midland, Texas 79703      432-689-6301      FAX 432-689-6313  
(BioAquatic) 2501 Mayes Rd., Suite 100      Carrollton, Texas 75006      972-242-7750  
E-Mail: lab@traceanalysis.com      WEB: www.traceanalysis.com

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Thomas Franklin  
APEX/Titan  
2351 W. Northwest Hwy.  
Suite 3321  
Dallas, Tx, 75220

Report Date: October 31, 2014

Work Order: 14102431



Project Location: Lea Co, NM  
Project Name: Regency/Boyd Compressor Station  
Project Number: 7030714G025.001

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
377868	MW-1	water	2014-10-23	15:15	2014-10-24
377869	MW-2	water	2014-10-23	12:20	2014-10-24
377870	MW-3	water	2014-10-23	13:05	2014-10-24
377871	MW-4	water	2014-10-23	14:15	2014-10-24

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

*Blair Leftwich*

---

Dr. Blair Leftwich, Director  
James Taylor, Assistant Director  
Brian Pellam, Operations Manager

# Report Contents

<b>Case Narrative</b>	<b>4</b>
<b>Analytical Report</b>	<b>5</b>
Sample 377868 (MW-1) . . . . .	5
Sample 377869 (MW-2) . . . . .	5
Sample 377870 (MW-3) . . . . .	6
Sample 377871 (MW-4) . . . . .	7
<b>Method Blanks</b>	<b>8</b>
QC Batch 116730 - Method Blank (1) . . . . .	8
QC Batch 116797 - Method Blank (1) . . . . .	8
QC Batch 116834 - Method Blank (1) . . . . .	8
<b>Laboratory Control Spikes</b>	<b>10</b>
QC Batch 116730 - LCS (1) . . . . .	10
QC Batch 116797 - LCS (1) . . . . .	10
QC Batch 116834 - LCS (1) . . . . .	11
<b>Matrix Spikes</b>	<b>12</b>
QC Batch 116730 - MS (1) . . . . .	12
QC Batch 116797 - MS (1) . . . . .	12
QC Batch 116834 - MS (1) . . . . .	13
<b>Calibration Standards</b>	<b>14</b>
QC Batch 116730 - CCV (1) . . . . .	14
QC Batch 116730 - CCV (2) . . . . .	14
QC Batch 116797 - CCV (1) . . . . .	14
QC Batch 116797 - CCV (2) . . . . .	14
QC Batch 116834 - CCV (1) . . . . .	15
QC Batch 116834 - CCV (2) . . . . .	15
<b>Appendix</b>	<b>16</b>
Report Definitions . . . . .	16
Laboratory Certifications . . . . .	16
Standard Flags . . . . .	16
Attachments . . . . .	17

# Case Narrative

Samples for project Regency/Boyd Compressor Station were received by TraceAnalysis, Inc. on 2014-10-24 and assigned to work order 14102431. Samples for work order 14102431 were received intact without headspace and at a temperature of 0.5 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	98702	2014-10-28 at 07:39	116730	2014-10-29 at 07:40
BTEX	S 8021B	98704	2014-10-29 at 08:10	116797	2014-10-30 at 11:51
Chloride (IC)	E 300.0	98782	2014-10-30 at 10:00	116834	2014-10-30 at 11:59

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14102431 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

# Analytical Report

## Sample: 377868 - MW-1

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 116730  
Prep Batch: 98702

Analytical Method: S 8021B  
Date Analyzed: 2014-10-29  
Sample Preparation: 2014-10-28

Prep Method: S 5030B  
Analyzed By: AK  
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr, Qs, U	5	<0.00100	mg/L	1	0.00100
Toluene	Qr, Qs, U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr, Qs, U	5	<0.00100	mg/L	1	0.00100
Xylene	Qr, Qs, U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0780	mg/L	1	0.100	78	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0846	mg/L	1	0.100	85	70 - 130

## Sample: 377868 - MW-1

Laboratory: Lubbock  
Analysis: Chloride (IC)  
QC Batch: 116834  
Prep Batch: 98782

Analytical Method: E 300.0  
Date Analyzed: 2014-10-30  
Sample Preparation:

Prep Method: N/A  
Analyzed By: RL  
Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>1980</b>	mg/L	100	2.50

## Sample: 377869 - MW-2

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 116797  
Prep Batch: 98704

Analytical Method: S 8021B  
Date Analyzed: 2014-10-30  
Sample Preparation:

Prep Method: S 5030B  
Analyzed By: AK  
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0868	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0911	mg/L	1	0.100	91	70 - 130

**Sample: 377869 - MW-2**

Laboratory: Lubbock  
 Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 116834      Date Analyzed: 2014-10-30      Analyzed By: RL  
 Prep Batch: 98782      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>149</b>	mg/L	10	2.50

**Sample: 377870 - MW-3**

Laboratory: Midland  
 Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
 QC Batch: 116797      Date Analyzed: 2014-10-30      Analyzed By: AK  
 Prep Batch: 98704      Sample Preparation:      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0845	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0790	mg/L	1	0.100	79	70 - 130

Report Date: October 31, 2014  
7030714G025.001

Work Order: 14102431  
Regency/Boyd Compressor Station

Page Number: 7 of 17  
Lea Co, NM

**Sample: 377870 - MW-3**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 116834      Date Analyzed: 2014-10-30      Analyzed By: RL  
Prep Batch: 98782      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	B	1,2,3,4,6	<b>96.9</b>	mg/L	10	2.50

**Sample: 377871 - MW-4**

Laboratory: Midland  
Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
QC Batch: 116797      Date Analyzed: 2014-10-30      Analyzed By: AK  
Prep Batch: 98704      Sample Preparation:      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0835	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0724	mg/L	1	0.100	72	70 - 130

**Sample: 377871 - MW-4**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 116834      Date Analyzed: 2014-10-30      Analyzed By: RL  
Prep Batch: 98782      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>192</b>	mg/L	10	2.50

## Method Blanks

### Method Blank (1) QC Batch: 116730

QC Batch: 116730 Date Analyzed: 2014-10-29 Analyzed By: AK  
Prep Batch: 98702 QC Preparation: 2014-10-28 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0804	mg/L	1	0.100	80	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0997	mg/L	1	0.100	100	70 - 130

### Method Blank (1) QC Batch: 116797

QC Batch: 116797 Date Analyzed: 2014-10-30 Analyzed By: AK  
Prep Batch: 98704 QC Preparation: 2014-10-29 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0887	mg/L	1	0.100	89	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0915	mg/L	1	0.100	92	70 - 130

Report Date: October 31, 2014  
7030714G025.001

Work Order: 14102431  
Regency/Boyd Compressor Station

Page Number: 9 of 17  
Lea Co, NM

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**Method Blank (1)**      QC Batch: 116834

QC Batch: 116834  
Prep Batch: 98782

Date Analyzed: 2014-10-30  
QC Preparation: 2014-10-30

Analyzed By: RL  
Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4,6	1.26	mg/L	2.5

---

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 116730  
Prep Batch: 98702

Date Analyzed: 2014-10-29  
QC Preparation: 2014-10-28

Analyzed By: AK  
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0979	mg/L	1	0.100	<0.000299	98	70 - 130
Toluene		5	0.101	mg/L	1	0.100	<0.000247	101	70 - 130
Ethylbenzene		5	0.102	mg/L	1	0.100	<0.000423	102	70 - 130
Xylene		5	0.310	mg/L	1	0.300	<0.000552	103	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.0978	mg/L	1	0.100	<0.000299	98	70 - 130	0	20
Toluene		5	0.0994	mg/L	1	0.100	<0.000247	99	70 - 130	2	20
Ethylbenzene		5	0.102	mg/L	1	0.100	<0.000423	102	70 - 130	0	20
Xylene		5	0.311	mg/L	1	0.300	<0.000552	104	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0834	0.0843	mg/L	1	0.100	83	84	70 - 130
4-Bromofluorobenzene (4-BFB)	0.117	0.120	mg/L	1	0.100	117	120	70 - 130

### Laboratory Control Spike (LCS-1)

QC Batch: 116797  
Prep Batch: 98704

Date Analyzed: 2014-10-30  
QC Preparation: 2014-10-29

Analyzed By: AK  
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0995	mg/L	1	0.100	<0.000299	100	70 - 130
Toluene		5	0.102	mg/L	1	0.100	<0.000247	102	70 - 130
Ethylbenzene		5	0.102	mg/L	1	0.100	<0.000423	102	70 - 130
Xylene		5	0.314	mg/L	1	0.300	<0.000552	105	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			Result	Units							
Benzene		5	0.0989	mg/L	1	0.100	<0.000299	99	70 - 130	1	20
Toluene		5	0.102	mg/L	1	0.100	<0.000247	102	70 - 130	0	20
Ethylbenzene		5	0.102	mg/L	1	0.100	<0.000423	102	70 - 130	0	20
Xylene		5	0.311	mg/L	1	0.300	<0.000552	104	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS		LCSD		Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
	Result	Result	Result	Result						
Trifluorotoluene (TFT)	0.0903	0.0910	mg/L	1	0.100	90	91	70 - 130		
4-Bromofluorobenzene (4-BFB)	0.114	0.114	mg/L	1	0.100	114	114	70 - 130		

**Laboratory Control Spike (LCS-1)**

QC Batch: 116834  
Prep Batch: 98782

Date Analyzed: 2014-10-30  
QC Preparation: 2014-10-30

Analyzed By: RL  
Prepared By: RL

Param	F	C	LCS		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
			Result	Units					
Chloride		1,2,3,4,6	25.1	mg/L	1	25.0	1.26	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			Result	Units							
Chloride		1,2,3,4,6	25.0	mg/L	1	25.0	1.26	95	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Matrix Spikes

### Matrix Spike (MS-1) Spiked Sample: 377928

QC Batch: 116730  
Prep Batch: 98702

Date Analyzed: 2014-10-29  
QC Preparation: 2014-10-28

Analyzed By: AK  
Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	Q <sub>s</sub>	Q <sub>s</sub>	5	0.0597	mg/L	1	0.100	<0.000299	60 70 - 130
Toluene	Q <sub>s</sub>	Q <sub>s</sub>	5	0.0590	mg/L	1	0.100	<0.000247	59 70 - 130
Ethylbenzene	Q <sub>s</sub>	Q <sub>s</sub>	5	0.0570	mg/L	1	0.100	<0.000423	57 70 - 130
Xylene	Q <sub>s</sub>	Q <sub>s</sub>	5	0.174	mg/L	1	0.300	<0.000552	58 70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit	
Benzene	Q <sub>r</sub>	Q <sub>r</sub>	5	0.0983	mg/L	1	0.100	<0.000299	98	70 - 130	49	20
Toluene	Q <sub>r</sub>	Q <sub>r</sub>	5	0.0994	mg/L	1	0.100	<0.000247	99	70 - 130	51	20
Ethylbenzene	Q <sub>r</sub>	Q <sub>r</sub>	5	0.0973	mg/L	1	0.100	<0.000423	97	70 - 130	52	20
Xylene	Q <sub>r</sub>	Q <sub>r</sub>	5	0.296	mg/L	1	0.300	<0.000552	99	70 - 130	52	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0831	0.0786	mg/L	1	0.1	83	79	70 - 130
4-Bromofluorobenzene (4-BFB)	0.111	0.110	mg/L	1	0.1	111	110	70 - 130

### Matrix Spike (MS-1) Spiked Sample: 377869

QC Batch: 116797  
Prep Batch: 98704

Date Analyzed: 2014-10-30  
QC Preparation: 2014-10-29

Analyzed By: AK  
Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.100	mg/L	1	0.100	<0.000299	100	70 - 130
Toluene		5	0.100	mg/L	1	0.100	<0.000247	100	70 - 130
Ethylbenzene		5	0.0996	mg/L	1	0.100	<0.000423	100	70 - 130
Xylene		5	0.300	mg/L	1	0.300	<0.000552	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.0998	mg/L	1	0.100	<0.000299	100	70 - 130	0	20
Toluene		5	0.103	mg/L	1	0.100	<0.000247	103	70 - 130	3	20
Ethylbenzene		5	0.102	mg/L	1	0.100	<0.000423	102	70 - 130	2	20
Xylene		5	0.307	mg/L	1	0.300	<0.000552	102	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0882	0.0860	mg/L	1	0.1	88	86	70 - 130
4-Bromofluorobenzene (4-BFB)	0.100	0.0921	mg/L	1	0.1	100	92	70 - 130

**Matrix Spike (MS-1)** Spiked Sample: 378037

QC Batch: 116834  
Prep Batch: 98782

Date Analyzed: 2014-10-30  
QC Preparation: 2014-10-30

Analyzed By: RL  
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	393	mg/L	10	250	110	113	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	377	mg/L	10	250	110	107	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Calibration Standards

### Standard (CCV-1)

QC Batch: 116730

Date Analyzed: 2014-10-29

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0981	98	80 - 120	2014-10-29
Toluene		5	mg/L	0.100	0.0994	99	80 - 120	2014-10-29
Ethylbenzene		5	mg/L	0.100	0.0981	98	80 - 120	2014-10-29
Xylene		5	mg/L	0.300	0.299	100	80 - 120	2014-10-29

### Standard (CCV-2)

QC Batch: 116730

Date Analyzed: 2014-10-29

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0936	94	80 - 120	2014-10-29
Toluene		5	mg/L	0.100	0.0950	95	80 - 120	2014-10-29
Ethylbenzene		5	mg/L	0.100	0.0912	91	80 - 120	2014-10-29
Xylene		5	mg/L	0.300	0.270	90	80 - 120	2014-10-29

### Standard (CCV-1)

QC Batch: 116797

Date Analyzed: 2014-10-30

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0965	96	80 - 120	2014-10-30
Toluene		5	mg/L	0.100	0.103	103	80 - 120	2014-10-30
Ethylbenzene		5	mg/L	0.100	0.0979	98	80 - 120	2014-10-30
Xylene		5	mg/L	0.300	0.298	99	80 - 120	2014-10-30

**Standard (CCV-2)**

QC Batch: 116797

Date Analyzed: 2014-10-30

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0990	99	80 - 120	2014-10-30
Toluene		5	mg/L	0.100	0.0989	99	80 - 120	2014-10-30
Ethylbenzene		5	mg/L	0.100	0.0978	98	80 - 120	2014-10-30
Xylene		5	mg/L	0.300	0.296	99	80 - 120	2014-10-30

**Standard (CCV-1)**

QC Batch: 116834

Date Analyzed: 2014-10-30

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	25.2	101	90 - 110	2014-10-30

**Standard (CCV-2)**

QC Batch: 116834

Date Analyzed: 2014-10-30

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	25.2	101	90 - 110	2014-10-30

## Appendix

### Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

### Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5	NELAP	T104704392-14-8	Midland
6		2014-018	Lubbock

### Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.

F Description

---

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

---

## Attachments

The scanned attachments will follow this page.  
Please note, each attachment may consist of more than one page.





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E-Mail: lab@traceanalysis.com      WEB: www.traceanalysis.com

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Thomas Franklin  
APEX/Titan  
2351 W. Northwest Hwy.  
Suite 3321  
Dallas, Tx, 75220

Report Date: February 20, 2015

Work Order: 15012327



Project Location: Lea Co, NM  
Project Name: Regency/Boyd Compressor Station  
Project Number: 7030714G025.001

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
385176	MW 1	water	2015-01-23	13:30	2015-01-23
385177	MW 2	water	2015-01-23	10:15	2015-01-23
385178	MW 3	water	2015-01-23	12:40	2015-01-23
385179	MW 4	water	2015-01-23	11:30	2015-01-23

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

*Blair Leftwich*

---

Dr. Blair Leftwich, Director  
James Taylor, Assistant Director  
Brian Pellam, Operations Manager

# Report Contents

<b>Case Narrative</b>	<b>4</b>
<b>Analytical Report</b>	<b>5</b>
Sample 385176 (MW 1) . . . . .	5
Sample 385177 (MW 2) . . . . .	5
Sample 385178 (MW 3) . . . . .	6
Sample 385179 (MW 4) . . . . .	7
<b>Method Blanks</b>	<b>8</b>
QC Batch 118957 - Method Blank (1) . . . . .	8
QC Batch 119497 - Method Blank (1) . . . . .	8
QC Batch 119506 - Method Blank (1) . . . . .	8
<b>Laboratory Control Spikes</b>	<b>9</b>
QC Batch 118957 - LCS (1) . . . . .	9
QC Batch 119497 - LCS (1) . . . . .	9
QC Batch 119506 - LCS (1) . . . . .	10
<b>Matrix Spikes</b>	<b>11</b>
QC Batch 118957 - MS (1) . . . . .	11
QC Batch 119497 - MS (1) . . . . .	11
QC Batch 119506 - MS (1) . . . . .	12
<b>Calibration Standards</b>	<b>13</b>
QC Batch 118957 - CCV (1) . . . . .	13
QC Batch 118957 - CCV (2) . . . . .	13
QC Batch 119497 - CCV (1) . . . . .	13
QC Batch 119497 - CCV (2) . . . . .	13
QC Batch 119506 - CCV (1) . . . . .	14
QC Batch 119506 - CCV (2) . . . . .	14
<b>Appendix</b>	<b>15</b>
Report Definitions . . . . .	15
Laboratory Certifications . . . . .	15
Standard Flags . . . . .	15
Attachments . . . . .	16

# Case Narrative

Samples for project Regency/Boyd Compressor Station were received by TraceAnalysis, Inc. on 2015-01-23 and assigned to work order 15012327. Samples for work order 15012327 were received intact without headspace and at a temperature of 3.8 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	100574	2015-01-28 at 15:00	118957	2015-01-30 at 07:57
Chloride (IC)	E 300.0	101060	2015-02-19 at 09:00	119497	2015-02-19 at 09:51
Chloride (IC)	E 300.0	101070	2015-02-19 at 12:00	119506	2015-02-19 at 15:57

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15012327 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

# Analytical Report

## Sample: 385176 - MW 1

Laboratory: Midland	Analytical Method: S 8021B	Prep Method: S 5030B
Analysis: BTEX	Date Analyzed: 2015-01-30	Analyzed By: AK
QC Batch: 118957	Sample Preparation: 2015-01-28	Prepared By: AK
Prep Batch: 100574		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	5	<0.00100	mg/L	1	0.00100
Toluene	u	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	5	<0.00100	mg/L	1	0.00100
Xylene	u	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0899	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0926	mg/L	1	0.100	93	70 - 130

## Sample: 385176 - MW 1

Laboratory: Lubbock	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2015-02-19	Analyzed By: RL
QC Batch: 119497	Sample Preparation:	Prepared By: RL
Prep Batch: 101060		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>2630</b>	mg/L	100	2.50

## Sample: 385177 - MW 2

Laboratory: Midland	Analytical Method: S 8021B	Prep Method: S 5030B
Analysis: BTEX	Date Analyzed: 2015-01-30	Analyzed By: AK
QC Batch: 118957	Sample Preparation: 2015-01-28	Prepared By: AK
Prep Batch: 100574		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0926	mg/L	1	0.100	93	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0948	mg/L	1	0.100	95	70 - 130

**Sample: 385177 - MW 2**

Laboratory: Lubbock  
 Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 119506      Date Analyzed: 2015-02-19      Analyzed By: RL  
 Prep Batch: 101070      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>127</b>	mg/L	10	2.50

**Sample: 385178 - MW 3**

Laboratory: Midland  
 Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
 QC Batch: 118957      Date Analyzed: 2015-01-30      Analyzed By: AK  
 Prep Batch: 100574      Sample Preparation: 2015-01-28      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0918	mg/L	1	0.100	92	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0948	mg/L	1	0.100	95	70 - 130

**Sample: 385178 - MW 3**

Laboratory: Lubbock  
 Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 119506      Date Analyzed: 2015-02-19      Analyzed By: RL  
 Prep Batch: 101070      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>81.2</b>	mg/L	5	2.50

**Sample: 385179 - MW 4**

Laboratory: Midland  
 Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
 QC Batch: 118957      Date Analyzed: 2015-01-30      Analyzed By: AK  
 Prep Batch: 100574      Sample Preparation: 2015-01-28      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	5	<0.00100	mg/L	1	0.00100
Toluene	u	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	5	<0.00100	mg/L	1	0.00100
Xylene	u	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0904	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0946	mg/L	1	0.100	95	70 - 130

**Sample: 385179 - MW 4**

Laboratory: Lubbock  
 Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 119506      Date Analyzed: 2015-02-19      Analyzed By: RL  
 Prep Batch: 101070      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>197</b>	mg/L	10	2.50

## Method Blanks

### Method Blank (1) QC Batch: 118957

QC Batch: 118957 Date Analyzed: 2015-01-30 Analyzed By: AK  
Prep Batch: 100574 QC Preparation: 2015-01-28 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0910	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.103	mg/L	1	0.100	103	70 - 130

### Method Blank (1) QC Batch: 119497

QC Batch: 119497 Date Analyzed: 2015-02-19 Analyzed By: RL  
Prep Batch: 101060 QC Preparation: 2015-02-19 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4,6	0.733	mg/L	2.5

### Method Blank (1) QC Batch: 119506

QC Batch: 119506 Date Analyzed: 2015-02-19 Analyzed By: RL  
Prep Batch: 101070 QC Preparation: 2015-02-19 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4,6	0.740	mg/L	2.5

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 118957  
Prep Batch: 100574

Date Analyzed: 2015-01-30  
QC Preparation: 2015-01-28

Analyzed By: AK  
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0991	mg/L	1	0.100	<0.000299	99	70 - 130
Toluene		5	0.0974	mg/L	1	0.100	<0.000247	97	70 - 130
Ethylbenzene		5	0.0969	mg/L	1	0.100	<0.000423	97	70 - 130
Xylene		5	0.294	mg/L	1	0.300	<0.000552	98	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.0996	mg/L	1	0.100	<0.000299	100	70 - 130	0	20
Toluene		5	0.0976	mg/L	1	0.100	<0.000247	98	70 - 130	0	20
Ethylbenzene		5	0.0980	mg/L	1	0.100	<0.000423	98	70 - 130	1	20
Xylene		5	0.297	mg/L	1	0.300	<0.000552	99	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0901	0.0881	mg/L	1	0.100	90	88	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0983	0.0951	mg/L	1	0.100	98	95	70 - 130

### Laboratory Control Spike (LCS-1)

QC Batch: 119497  
Prep Batch: 101060

Date Analyzed: 2015-02-19  
QC Preparation: 2015-02-19

Analyzed By: RL  
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	23.9	mg/L	1	25.0	0.733	93	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

*continued . . .*

*control spikes continued . . .*

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	23.6	mg/L	1	25.0	0.733	91	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 119506  
Prep Batch: 101070

Date Analyzed: 2015-02-19  
QC Preparation: 2015-02-19

Analyzed By: RL  
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	25.6	mg/L	1	25.0	0.74	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	25.6	mg/L	1	25.0	0.74	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Matrix Spikes

### Matrix Spike (MS-1) Spiked Sample: 385174

QC Batch: 118957  
Prep Batch: 100574

Date Analyzed: 2015-01-30  
QC Preparation: 2015-01-28

Analyzed By: AK  
Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0973	mg/L	1	0.100	<0.000299	97	70 - 130
Toluene		5	0.0957	mg/L	1	0.100	<0.000247	96	70 - 130
Ethylbenzene		5	0.0959	mg/L	1	0.100	<0.000423	96	70 - 130
Xylene		5	0.290	mg/L	1	0.300	0.0012	96	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.0992	mg/L	1	0.100	<0.000299	99	70 - 130	2	20
Toluene		5	0.0992	mg/L	1	0.100	<0.000247	99	70 - 130	4	20
Ethylbenzene		5	0.0978	mg/L	1	0.100	<0.000423	98	70 - 130	2	20
Xylene		5	0.298	mg/L	1	0.300	0.0012	99	70 - 130	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0912	0.0894	mg/L	1	0.1	91	89	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0973	0.0963	mg/L	1	0.1	97	96	70 - 130

### Matrix Spike (MS-1) Spiked Sample: 386734

QC Batch: 119497  
Prep Batch: 101060

Date Analyzed: 2015-02-19  
QC Preparation: 2015-02-19

Analyzed By: RL  
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	187	mg/L	5	125	58.8	102	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

*continued ...*

*matrix spikes continued . . .*

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	185	mg/L	5	125	58.8	101	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 387267

QC Batch: 119506  
Prep Batch: 101070

Date Analyzed: 2015-02-19  
QC Preparation: 2015-02-19

Analyzed By: RL  
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	2880	mg/L	100	2500	498	95	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	2920	mg/L	100	2500	498	97	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Calibration Standards

### Standard (CCV-1)

QC Batch: 118957

Date Analyzed: 2015-01-30

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.104	104	80 - 120	2015-01-30
Toluene		5	mg/L	0.100	0.102	102	80 - 120	2015-01-30
Ethylbenzene		5	mg/L	0.100	0.101	101	80 - 120	2015-01-30
Xylene		5	mg/L	0.300	0.306	102	80 - 120	2015-01-30

### Standard (CCV-2)

QC Batch: 118957

Date Analyzed: 2015-01-30

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0997	100	80 - 120	2015-01-30
Toluene		5	mg/L	0.100	0.0976	98	80 - 120	2015-01-30
Ethylbenzene		5	mg/L	0.100	0.0978	98	80 - 120	2015-01-30
Xylene		5	mg/L	0.300	0.294	98	80 - 120	2015-01-30

### Standard (CCV-1)

QC Batch: 119497

Date Analyzed: 2015-02-19

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	23.3	93	90 - 110	2015-02-19

### Standard (CCV-2)

QC Batch: 119497

Date Analyzed: 2015-02-19

Analyzed By: RL

Report Date: February 20, 2015  
7030714G025.001

Work Order: 15012327  
Regency/Boyd Compressor Station

Page Number: 14 of 16  
Lea Co, NM

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	24.1	96	90 - 110	2015-02-19

---

**Standard (CCV-1)**

QC Batch: 119506

Date Analyzed: 2015-02-19

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	25.5	102	90 - 110	2015-02-19

---

**Standard (CCV-2)**

QC Batch: 119506

Date Analyzed: 2015-02-19

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	25.9	104	90 - 110	2015-02-19

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## Appendix

### Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

### Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5	NELAP	T104704392-14-8	Midland
6		2014-018	Lubbock

### Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.

F	Description
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

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## Attachments

The scanned attachments will follow this page.  
Please note, each attachment may consist of more than one page.





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## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Thomas Franklin  
 APEX/Titan  
 2351 W. Northwest Hwy.  
 Suite 3321  
 Dallas, Tx, 75220

Report Date: April 30, 2015

Work Order: 15042018



Project Location: Lea Co, NM  
 Project Name: Regency/Boyd Compressor Station  
 Project Number: 7030714G025.001

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
391266	MW-1	water	2015-04-20	13:25	2015-04-20
391267	MW-2	water	2015-04-20	11:35	2015-04-20
391268	MW-3	water	2015-04-20	12:15	2015-04-20
391269	MW-4	water	2015-04-20	12:55	2015-04-20

## Notes

- **Work Order 15042018:** Straight from the fields

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

*Blair Leftwich*

---

Dr. Blair Leftwich, Director  
James Taylor, Assistant Director  
Brian Pellam, Operations Manager

# Report Contents

<b>Case Narrative</b>	<b>4</b>
<b>Analytical Report</b>	<b>5</b>
Sample 391266 (MW-1) . . . . .	5
Sample 391267 (MW-2) . . . . .	5
Sample 391268 (MW-3) . . . . .	6
Sample 391269 (MW-4) . . . . .	7
<b>Method Blanks</b>	<b>8</b>
QC Batch 120986 - Method Blank (1) . . . . .	8
QC Batch 121167 - Method Blank (1) . . . . .	8
<b>Laboratory Control Spikes</b>	<b>9</b>
QC Batch 120986 - LCS (1) . . . . .	9
QC Batch 121167 - LCS (1) . . . . .	9
<b>Matrix Spikes</b>	<b>11</b>
QC Batch 120986 - MS (1) . . . . .	11
QC Batch 121167 - MS (1) . . . . .	11
<b>Calibration Standards</b>	<b>13</b>
QC Batch 120986 - CCV (1) . . . . .	13
QC Batch 120986 - CCV (2) . . . . .	13
QC Batch 121167 - CCV (1) . . . . .	13
QC Batch 121167 - CCV (2) . . . . .	13
<b>Appendix</b>	<b>15</b>
Report Definitions . . . . .	15
Laboratory Certifications . . . . .	15
Standard Flags . . . . .	15
Attachments . . . . .	16

# Case Narrative

Samples for project Regency/Boyd Compressor Station were received by TraceAnalysis, Inc. on 2015-04-20 and assigned to work order 15042018. Samples for work order 15042018 were received intact at a temperature of 8.4 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	102379	2015-04-22 at 10:13	120986	2015-04-23 at 10:15
Chloride (IC)	E 300.0	102525	2015-04-29 at 10:00	121167	2015-04-29 at 11:48

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15042018 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

# Analytical Report

## Sample: 391266 - MW-1

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 120986  
Prep Batch: 102379

Analytical Method: S 8021B  
Date Analyzed: 2015-04-23  
Sample Preparation: 2015-04-22

Prep Method: S 5030B  
Analyzed By: AK  
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	5	<0.00100	mg/L	1	0.00100
Toluene	u	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	5	<0.00100	mg/L	1	0.00100
Xylene	u	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0902	mg/L	1	0.100	90	70 - 130

## Sample: 391266 - MW-1

Laboratory: Lubbock  
Analysis: Chloride (IC)  
QC Batch: 121167  
Prep Batch: 102525

Analytical Method: E 300.0  
Date Analyzed: 2015-04-29  
Sample Preparation:

Prep Method: N/A  
Analyzed By: RL  
Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>2710</b>	mg/L	500	2.50

## Sample: 391267 - MW-2

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 120986  
Prep Batch: 102379

Analytical Method: S 8021B  
Date Analyzed: 2015-04-23  
Sample Preparation: 2015-04-22

Prep Method: S 5030B  
Analyzed By: AK  
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0937	mg/L	1	0.100	94	70 - 130

**Sample: 391267 - MW-2**

Laboratory: Lubbock  
 Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 121167      Date Analyzed: 2015-04-29      Analyzed By: RL  
 Prep Batch: 102525      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>193</b>	mg/L	10	2.50

**Sample: 391268 - MW-3**

Laboratory: Midland  
 Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
 QC Batch: 120986      Date Analyzed: 2015-04-23      Analyzed By: AK  
 Prep Batch: 102379      Sample Preparation: 2015-04-22      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0906	mg/L	1	0.100	91	70 - 130

Report Date: April 30, 2015  
7030714G025.001

Work Order: 15042018  
Regency/Boyd Compressor Station

Page Number: 7 of 16  
Lea Co, NM

**Sample: 391268 - MW-3**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 121167      Date Analyzed: 2015-04-29      Analyzed By: RL  
Prep Batch: 102525      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>88.3</b>	mg/L	5	2.50

**Sample: 391269 - MW-4**

Laboratory: Midland  
Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5030B  
QC Batch: 120986      Date Analyzed: 2015-04-23      Analyzed By: AK  
Prep Batch: 102379      Sample Preparation: 2015-04-22      Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	5	<0.00100	mg/L	1	0.00100
Toluene	u	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	5	<0.00100	mg/L	1	0.00100
Xylene	u	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0913	mg/L	1	0.100	91	70 - 130

**Sample: 391269 - MW-4**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 121167      Date Analyzed: 2015-04-29      Analyzed By: RL  
Prep Batch: 102525      Sample Preparation:      Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,6	<b>215</b>	mg/L	10	2.50

## Method Blanks

### Method Blank (1)      QC Batch: 120986

QC Batch: 120986      Date Analyzed: 2015-04-23      Analyzed By: AK  
Prep Batch: 102379      QC Preparation: 2015-04-22      Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0925	mg/L	1	0.100	92	70 - 130

### Method Blank (1)      QC Batch: 121167

QC Batch: 121167      Date Analyzed: 2015-04-29      Analyzed By: RL  
Prep Batch: 102525      QC Preparation: 2015-04-29      Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4,6	0.926	mg/L	2.5

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 120986  
Prep Batch: 102379

Date Analyzed: 2015-04-23  
QC Preparation: 2015-04-22

Analyzed By: AK  
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.117	mg/L	1	0.100	<0.000299	117	70 - 130
Toluene		5	0.103	mg/L	1	0.100	<0.000247	103	70 - 130
Ethylbenzene		5	0.0997	mg/L	1	0.100	<0.000423	100	70 - 130
Xylene		5	0.299	mg/L	1	0.300	<0.000552	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.112	mg/L	1	0.100	<0.000299	112	70 - 130	4	20
Toluene		5	0.100	mg/L	1	0.100	<0.000247	100	70 - 130	3	20
Ethylbenzene		5	0.0977	mg/L	1	0.100	<0.000423	98	70 - 130	2	20
Xylene		5	0.288	mg/L	1	0.300	<0.000552	96	70 - 130	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0959	0.0993	mg/L	1	0.100	96	99	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0934	0.0917	mg/L	1	0.100	93	92	70 - 130

### Laboratory Control Spike (LCS-1)

QC Batch: 121167  
Prep Batch: 102525

Date Analyzed: 2015-04-29  
QC Preparation: 2015-04-29

Analyzed By: RL  
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	22.6	mg/L	1	25.0	<0.349	90	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

*continued . . .*

*control spikes continued . . .*

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,6	22.7	mg/L	1	25.0	<0.349	91	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

# Matrix Spikes

## Matrix Spike (MS-1) Spiked Sample: 391266

QC Batch: 120986 Date Analyzed: 2015-04-23 Analyzed By: AK  
Prep Batch: 102379 QC Preparation: 2015-04-22 Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.116	mg/L	1	0.100	<0.000299	116	70 - 130
Toluene		5	0.104	mg/L	1	0.100	<0.000247	104	70 - 130
Ethylbenzene		5	0.0987	mg/L	1	0.100	<0.000423	99	70 - 130
Xylene		5	0.294	mg/L	1	0.300	<0.000552	98	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.113	mg/L	1	0.100	<0.000299	113	70 - 130	3	20
Toluene		5	0.102	mg/L	1	0.100	<0.000247	102	70 - 130	2	20
Ethylbenzene		5	0.0977	mg/L	1	0.100	<0.000423	98	70 - 130	1	20
Xylene		5	0.291	mg/L	1	0.300	<0.000552	97	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.101	0.102	mg/L	1	0.1	101	102	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0917	0.0941	mg/L	1	0.1	92	94	70 - 130

## Matrix Spike (MS-1) Spiked Sample: 392057

QC Batch: 121167 Date Analyzed: 2015-04-29 Analyzed By: RL  
Prep Batch: 102525 QC Preparation: 2015-04-29 Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,6	439	mg/L	10	250	188	100	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

*continued ...*

*matrix spikes continued . . .*

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			436	mg/L	10	250	188	99	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Calibration Standards

### Standard (CCV-1)

QC Batch: 120986

Date Analyzed: 2015-04-23

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.112	112	80 - 120	2015-04-23
Toluene		5	mg/L	0.100	0.0992	99	80 - 120	2015-04-23
Ethylbenzene		5	mg/L	0.100	0.0989	99	80 - 120	2015-04-23
Xylene		5	mg/L	0.300	0.286	95	80 - 120	2015-04-23

### Standard (CCV-2)

QC Batch: 120986

Date Analyzed: 2015-04-23

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.115	115	80 - 120	2015-04-23
Toluene		5	mg/L	0.100	0.101	101	80 - 120	2015-04-23
Ethylbenzene		5	mg/L	0.100	0.0990	99	80 - 120	2015-04-23
Xylene		5	mg/L	0.300	0.289	96	80 - 120	2015-04-23

### Standard (CCV-1)

QC Batch: 121167

Date Analyzed: 2015-04-29

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	22.5	90	90 - 110	2015-04-29

### Standard (CCV-2)

QC Batch: 121167

Date Analyzed: 2015-04-29

Analyzed By: RL

Report Date: April 30, 2015  
7030714G025.001

Work Order: 15042018  
Regency/Boyd Compressor Station

Page Number: 14 of 16  
Lea Co, NM

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,6	mg/L	25.0	22.7	91	90 - 110	2015-04-29

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## Appendix

### Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

### Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5	NELAP	T104704392-14-8	Midland
6		2014-018	Lubbock

### Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.

F Description

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Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

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## Attachments

The scanned attachments will follow this page.  
Please note, each attachment may consist of more than one page.

WQH: 15042018

CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Midland TX</u>		Laboratory: <u>Trace</u> Address: <u>Midland TX</u> Contact: _____ Phone: _____ Project Manager <u>Thomas Franklin</u> PO/SO #: _____		ANALYSIS REQUESTED  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">           Lab use only            Due Date: _____             Temp. of coolers when received (C°): <u>8.4</u> </div> <div style="display: flex; justify-content: space-around; width: 100px; margin-top: 5px;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span> </div> <div style="margin-top: 5px;">           Page <u>1</u> of <u>1</u> </div>									
		Sampler's Name <u>Thomas K Franklin</u> Sampler's Signature <u>[Signature]</u>											
Proj. No. <u>70307146025.001</u>		Project Name <u>Lee Co NM</u>		No/Type of Containers <u>12-VOA 4-250ml</u>									
Project Name <u>Regency - Boyd Comp. Station</u>													
Matrix	Date	Time	Coed	Garb	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	4/20/15	1325		X	MW-1			X		X		X	391206
↓	↓	1135		↓	MW-2			↓		↓		↓	391207
↓	↓	1215		↓	MW-3			↓		↓		↓	391208
↓	↓	1255		↓	MW-4			↓		↓		↓	391209
<div style="position: absolute; top: 20px; left: 20px; font-size: 2em; opacity: 0.5;">NFE</div> <div style="position: absolute; top: 40px; left: 40px; font-size: 2em; opacity: 0.5;">TFF</div> <div style="position: absolute; top: 60px; left: 60px; font-size: 2em; opacity: 0.5;">4-20-15</div>													
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush													
Relinquished by (Signature) <u>[Signature]</u>		Date: <u>4-20-15</u> Time: <u>16:43</u>		Received by (Signature) <u>[Signature]</u>		Date: <u>4/20/15</u> Time: <u>16:43</u>		NOTES: <u>Samples from the field</u> <u>Direct bill Regency</u>					
Relinquished by (Signature) _____		Date: _____ Time: _____		Received by (Signature) _____		Date: _____ Time: _____							
Relinquished by (Signature) _____		Date: _____ Time: _____		Received by (Signature) _____		Date: _____ Time: _____							
Relinquished by (Signature) _____		Date: _____ Time: _____		Received by (Signature) _____		Date: _____ Time: _____							

Matrix Container: WW - Wastewater, VOA - 40 ml vial; W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil; A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

October 14, 2015

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110

TEL: (505) 884-0672

FAX

RE: Boyd

OrderNo.: 1510120

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/5/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510120

Date Reported: 10/14/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-093015-SP-MW1

**Project:** Boyd

**Collection Date:** 9/30/2015 5:05:00 PM

**Lab ID:** 1510120-001

**Matrix:** AQUEOUS

**Received Date:** 10/5/2015 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	3100	250	*	mg/L	500	10/10/2015 11:33:23 AM	B29470
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	5860	100	*D	mg/L	1	10/7/2015 7:06:00 PM	21690

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510120

Date Reported: 10/14/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-093015-SP-MW2

**Project:** Boyd

**Collection Date:** 9/30/2015 5:30:00 PM

**Lab ID:** 1510120-002

**Matrix:** AQUEOUS

**Received Date:** 10/5/2015 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	180	5.0		mg/L	10	10/9/2015 2:17:08 PM	R29463
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	835	100	*D	mg/L	1	10/7/2015 7:06:00 PM	21690

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**

Lab Order **1510120**

Date Reported: **10/14/2015**

**CLIENT:** GHD

**Client Sample ID:** GW-082149-093015-SP-MW3

**Project:** Boyd

**Collection Date:** 9/30/2015 4:42:00 PM

**Lab ID:** 1510120-003

**Matrix:** AQUEOUS

**Received Date:** 10/5/2015 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	170	5.0		mg/L	10	10/9/2015 2:29:32 PM	R29463
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	740	200	*D	mg/L	1	10/7/2015 7:06:00 PM	21690

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510120

Date Reported: 10/14/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-093015-SP-MW4

**Project:** Boyd

**Collection Date:** 9/30/2015 4:00:00 PM

**Lab ID:** 1510120-004

**Matrix:** AQUEOUS

**Received Date:** 10/5/2015 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	200	50		mg/L	100	10/9/2015 3:06:46 PM	R29463
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	930	100	*D	mg/L	1	10/7/2015 7:06:00 PM	21690

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510120

Date Reported: 10/14/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-093015-SP-DUP

**Project:** Boyd

**Collection Date:** 9/30/2015

**Lab ID:** 1510120-005

**Matrix:** AQUEOUS

**Received Date:** 10/5/2015 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	190	5.0		mg/L	10	10/9/2015 3:44:00 PM	R29463
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	865	100	*D	mg/L	1	10/7/2015 7:06:00 PM	21690

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510120

14-Oct-15

**Client:** GHD  
**Project:** Boyd

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R29463</b>		RunNo: <b>29463</b>							
Prep Date:	Analysis Date: <b>10/9/2015</b>		SeqNo: <b>896158</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R29463</b>		RunNo: <b>29463</b>							
Prep Date:	Analysis Date: <b>10/9/2015</b>		SeqNo: <b>896159</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.7	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>B29470</b>		RunNo: <b>29470</b>							
Prep Date:	Analysis Date: <b>10/10/2015</b>		SeqNo: <b>896424</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>B29470</b>		RunNo: <b>29470</b>							
Prep Date:	Analysis Date: <b>10/10/2015</b>		SeqNo: <b>896425</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.4	90	110			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510120

14-Oct-15

**Client:** GHD  
**Project:** Boyd

Sample ID <b>MB-21690</b>	SampType: <b>MBLK</b>	TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>								
Client ID: <b>PBW</b>	Batch ID: <b>21690</b>	RunNo: <b>29379</b>								
Prep Date: <b>10/6/2015</b>	Analysis Date: <b>10/7/2015</b>	SeqNo: <b>893351</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID <b>LCS-21690</b>	SampType: <b>LCS</b>	TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>21690</b>	RunNo: <b>29379</b>								
Prep Date: <b>10/6/2015</b>	Analysis Date: <b>10/7/2015</b>	SeqNo: <b>893352</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	998	20.0	1000	0	99.8	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: CRA Albuquerque

Work Order Number: 1510120

RcptNo: 1

Received by/date: [Signature] 10/05/15

Logged By: Lindsay Mangin 10/5/2015 10:05:00 AM [Signature]

Completed By: Lindsay Mangin 10/5/2015 10:29:56 AM [Signature]

Reviewed By: [Signature] 10/05/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? Client

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			

# Chain-of-Custody Record

Client: GHD - Albuquerque

Mailing Address: 6121 Indian School Rd NE Ste 200

Albuquerque, NM, 87110

Phone #: 505-884-0672

email or Fax#: Bernard.Bockisch@ghd.com

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation  
 NELAP  Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:

Standard  Rush \_\_\_\_\_

Project Name: Boyd

Project #: 082149

Project Manager: Bernie Bockisch 505-280-0572

Sampler: Steve Perez

On Ice:  Yes  No

Sample Temperature: 4.1



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE 300.0	TPS 2540C	Air Bubbles (Y or N)
1/30/15	1705	GW	GW-082149-093015-SP-MW1	1	ICE	1510120-001												X	X	
	1730		GW-082149-093015-SP-MW2	1		-002												X	X	
	1642		GW-082149-093015-SP-MW3	1		-003												X	X	
	1600		GW-082149-093015-SP-MW4	1		-004												X	X	
			GW-082149-093015-SP-DUP	1		-005												X	X	

Date: 01/03/15 Time: \_\_\_\_\_ Relinquished by: Steven Perez

Received by: Melisa Cummy Date: 10/5/15 Time: 8:30 am

Remarks:

Date: 10/05/15 Time: 1005 Relinquished by: Melisa Cummy

Received by: [Signature] Date: 10/05/15 Time: 1005

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

November 05, 2015

Christine Mathews

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110

TEL: (505) 884-0672

FAX

RE: Boyd Compressor Station

OrderNo.: 1511001

Dear Christine Mathews:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/30/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1511001

Date Reported: 11/5/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: Boyd Compressor Station

Lab Order: 1511001

Lab ID: 1511001-001 Collection Date: 10/27/2015 7:45:00 AM
Client Sample ID: GW-082149-102715-CM-001 Matrix: AQUEOUS

Table with 8 columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 1700, 50, \*, mg/L, 100, 11/3/2015 2:30:05 PM, R2999€

Lab ID: 1511001-002 Collection Date: 10/27/2015 1:50:00 PM
Client Sample ID: GW-082149-102715-CM-002 Matrix: AQUEOUS

Table with 8 columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 1500, 50, \*, mg/L, 100, 11/3/2015 3:19:42 PM, R2999€

Lab ID: 1511001-003 Collection Date: 10/27/2015 5:30:00 PM
Client Sample ID: GW-082149-102715-CM-003 Matrix: AQUEOUS

Table with 8 columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 1500, 50, \*, mg/L, 100, 11/3/2015 3:44:31 PM, R2999€

Lab ID: 1511001-004 Collection Date: 10/28/2015 7:20:00 AM
Client Sample ID: GW-082149-102815-CM-004 Matrix: AQUEOUS

Table with 8 columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 1600, 50, \*, mg/L, 100, 11/3/2015 4:09:20 PM, R2999€

Lab ID: 1511001-005 Collection Date: 10/28/2015 12:20:00 PM
Client Sample ID: GW-082149-102815-CM-005 Matrix: AQUEOUS

Table with 8 columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 1400, 50, \*, mg/L, 100, 11/3/2015 4:34:10 PM, R2999€

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Qualifiers: \* Value exceeds Maximum Contaminant Level. B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix E Value above quantitation range
H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit P Sample pH Not In Range
R RPD outside accepted recovery limits RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** GHD  
**Project:** Boyd Compressor Station

**Lab Order:** 1511001

**Lab ID:** 1511001-006 **Collection Date:** 10/28/2015 5:15:00 PM  
**Client Sample ID:** GW-082149-102815-CM-006 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	1300	50	*	mg/L	100	11/3/2015 4:58:59 PM	R2999€

**Lab ID:** 1511001-007 **Collection Date:** 10/29/2015 6:25:00 AM  
**Client Sample ID:** GW-082149-102915-CM-007 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	1500	50	*	mg/L	100	11/3/2015 5:48:38 PM	R2999€

**Lab ID:** 1511001-008 **Collection Date:** 10/29/2015 11:30:00 AM  
**Client Sample ID:** GW-082149-102915-CM-008 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	1100	50	*	mg/L	100	11/3/2015 6:13:27 PM	R2999€

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511001

05-Nov-15

**Client:** GHD  
**Project:** Boyd Compressor Station

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R29996</b>		RunNo: <b>29996</b>							
Prep Date:	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>913817</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R29996</b>		RunNo: <b>29996</b>							
Prep Date:	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>913818</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.3	90	110			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

**Sample Log-In Check List**

Client Name: GHD

Work Order Number: 1511001

RcptNo: 1

Received by/date: AT 10/30/15

Logged By: **Anne Thorne** 10/30/2015 1:20:00 PM *Anne Thorne*

Completed By: **Anne Thorne** 11/2/2015 *Anne Thorne*

Reviewed By: *[Signature]* 11/02/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? Client

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Not Present			



**CONESTOGA-ROVERS & ASSOCIATES**

# CHAIN OF CUSTODY RECORD

Address: 6121 Indian School Rd NE #206 ABQ, NM  
 Phone: 505-884-0672 Fax: \_\_\_\_\_

COC NO.: 45010  
 PAGE 1 OF 1  
 (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 082149  
 Project Name: Boyd Compressor Station  
 Project Location: Near Eunice, NM  
 Chemistry Contact: Angie Bawn  
 Sampler(s): C. Matthews

Laboratory Name: Hall Environmental Analysis Lab  
 Lab Contact: Andy Freeman  
 Lab Location: ABQ, NM  
 Lab Quote No: \_\_\_\_\_

SSOW ID: \_\_\_\_\_  
 Cooler No: \_\_\_\_\_  
 Carrier: Hand Delivered  
 Airbill No: \_\_\_\_\_  
 Date Shipped: \_\_\_\_\_

Serial	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	CONTAINER QUANTITY & PRESERVATION										MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:
						Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO <sub>3</sub> )	Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample			
1	GW-082149-102715-CM-001	10-27-15	0745	WG	G	1											1511001-001
2	GW-082149-102715-CM-002	10-27-15	1350	WG	G	1											002
3	GW-082149-102715-CM-003	10-27-15	1730	WG	G	1											003
4	GW-082149-102815-CM-004	10-28-15	0720	WG	G	1											004
5	GW-082149-102815-CM-005	10-28-15	1220	WG	G	1											005
6	GW-082149-102815-CM-006	10-28-15	1715	WG	G	1											006
7	GW-082149-102915-CM-007	10-29-15	0625	WG	G	1											007
8	GW-082149-102915-CM-008	10-29-15	1130	WG	G	1											008

TAT Required in business days (use separate COCs for different TATs):  
 1 Day  2 Days  3 Days  1 Week  2 Week  Other: Standard

Total Number of Containers: 8  
 All Samples in Cooler must be on COC

Notes/ Special Requirements: Send to Christine.Matthews@ghd.com  
Bernie.Boeckisch@ghd.com

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>GHD</u>	<u>10/30/15</u>	<u>1320</u>	<u>[Signature]</u>	<u>HEAL</u>	<u>10/30/15</u>	<u>1320</u>

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

December 30, 2015

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110

TEL: (505) 884-0672

FAX

RE: Boyd Compressor Station

OrderNo.: 1512857

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/17/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512857

Date Reported: 12/30/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-121515-CK-MW-1

**Project:** Boyd Compressor Station

**Collection Date:** 12/15/2015 2:55:00 PM

**Lab ID:** 1512857-001

**Matrix:** AQUEOUS

**Received Date:** 12/17/2015 1:47:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1700	100	*	mg/L	200	12/23/2015 4:50:01 PM	R31072
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	3680	40.0	*D	mg/L	1	12/21/2015 9:02:00 AM	22872

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512857

Date Reported: 12/30/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-121515-CK-MW-2

**Project:** Boyd Compressor Station

**Collection Date:** 12/15/2015 2:30:00 PM

**Lab ID:** 1512857-002

**Matrix:** AQUEOUS

**Received Date:** 12/17/2015 1:47:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	170	10		mg/L	20	12/18/2015 4:36:07 PM	R30979
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	880	40.0	*D	mg/L	1	12/21/2015 9:02:00 AM	22872

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512857

Date Reported: 12/30/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-121515-CK-MW-3

**Project:** Boyd Compressor Station

**Collection Date:** 12/15/2015 3:20:00 PM

**Lab ID:** 1512857-003

**Matrix:** AQUEOUS

**Received Date:** 12/17/2015 1:47:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	160	10		mg/L	20	12/18/2015 5:00:57 PM	R30979
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	852	40.0	*D	mg/L	1	12/21/2015 9:02:00 AM	22872

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512857

Date Reported: 12/30/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-121515-CK-MW-4

**Project:** Boyd Compressor Station

**Collection Date:** 12/15/2015 3:45:00 PM

**Lab ID:** 1512857-004

**Matrix:** AQUEOUS

**Received Date:** 12/17/2015 1:47:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	210	10		mg/L	20	12/18/2015 5:50:35 PM	R30979
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	980	40.0	*D	mg/L	1	12/21/2015 9:02:00 AM	22872

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512857

Date Reported: 12/30/2015

**CLIENT:** GHD

**Client Sample ID:** GW-082149-121515-CK-DUP

**Project:** Boyd Compressor Station

**Collection Date:** 12/15/2015

**Lab ID:** 1512857-005

**Matrix:** AQUEOUS

**Received Date:** 12/17/2015 1:47:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1900	100	*	mg/L	200	12/23/2015 5:02:26 PM	R31072
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	3510	40.0	*D	mg/L	1	12/21/2015 9:02:00 AM	22872

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512857

30-Dec-15

**Client:** GHD  
**Project:** Boyd Compressor Station

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R30979</b>		RunNo: <b>30979</b>							
Prep Date:	Analysis Date: <b>12/18/2015</b>		SeqNo: <b>947498</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R30979</b>		RunNo: <b>30979</b>							
Prep Date:	Analysis Date: <b>12/18/2015</b>		SeqNo: <b>947504</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.1	0.50	5.000	0	102	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R31072</b>		RunNo: <b>31072</b>							
Prep Date:	Analysis Date: <b>12/23/2015</b>		SeqNo: <b>950656</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R31072</b>		RunNo: <b>31072</b>							
Prep Date:	Analysis Date: <b>12/23/2015</b>		SeqNo: <b>950658</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.1	90	110			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512857

30-Dec-15

**Client:** GHD  
**Project:** Boyd Compressor Station

Sample ID <b>MB-22872</b>	SampType: <b>MBLK</b>	TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>								
Client ID: <b>PBW</b>	Batch ID: <b>22872</b>	RunNo: <b>30970</b>								
Prep Date: <b>12/18/2015</b>	Analysis Date: <b>12/21/2015</b>	SeqNo: <b>947106</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID <b>LCS-22872</b>	SampType: <b>LCS</b>	TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>22872</b>	RunNo: <b>30970</b>								
Prep Date: <b>12/18/2015</b>	Analysis Date: <b>12/21/2015</b>	SeqNo: <b>947107</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: GHD

Work Order Number: 1512857

RoptNo: 1

Received by/date:	<i>AG</i>	<i>12/17/15</i>	
Logged By:	Ashley Gallegos	12/17/2015 1:47:00 PM	<i>AG</i>
Completed By:	Ashley Gallegos	12/17/2015 2:41:17 PM	<i>AG</i>
Reviewed By:	<i>[Signature]</i>	<i>12/18/15</i>	

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? Client

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			

# Chain-of-Custody Record

Client: **GHD**

Mailing Address: **6121 INDIAN SCHOOL NE,  
STE 300, APO, NM, 87110**

Phone #: **505-884-0672**

email or Fax#: **BERNARD.Boockisch@GHD.COM**

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation  
 NELAP  Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard  Rush

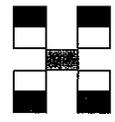
Project Name: **BOYD COMPRESSOR STATION**

Project #: **082149**

Project Manager: **BERNIE BOOCKISCH**

Sampler: **CALE KAMOU**  
On Ice:  Yes  No

Sample Temperature: **9.1**



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE 300.0	TDS SM 2540C	Air Bubbles (Y or N)	
12-15-15	1455	GW	GW-082149-121515-CK-MW-1	500ml PLASTIC	NONE	1512857 -001													X	X	
	1430		GW-082149-121515-CK-MW-2			-002													X	X	
	1520		GW-082149-121515-CK-MW-3			-003													X	X	
	1545		GW-082149-121515-CK-MW-4			-004													X	X	
			GW-082149-121515-CK-DUP			-005													X	X	

Date: **12-17-15** Time: **1347** Relinquished by: *[Signature]*  
Received by: *[Signature]* Date: **12/17/15** Time: **1347**

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_  
Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.