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3RP - 1034

XTO ENERGY, INC

12/2/2016

Federal 18 #1T Remediation System
2016 3rd Quarter Report

Submitted By:
Logan Hixon
EHS Coordinator
XTO Energy, Inc.
505-333-3683

Submitted to:
Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico
505-334-6178 Ext 116

September 2016

Table of Contents

Introduction

The purpose of this report is to summarize the current on-site activities involving venting gas and producing water from a former coal bed methane gas well at the Federal 18 #1T. The casing of this well has been modified to vent gas and purge water from the Ojo Alamo Formation. The setup and initial installation of this system is detailed in a report submitted to Brandon Powell, New Mexico Oil Conservation Division (OCD), in November, 2010. This quarterly report details operations for the quarter.

History

The vacuum system at the Federal 18 #1T is being operated as part of an on going effort between the OCD and XTO Energy, Inc. (XTO) to vent gas from the Nacimiento formation just above the Ojo Alamo Formation. Gas was recently found in the Nacimiento formation which could have come from several contributing sources. The Federal 1 #18 (30-045-09466), located in Section 10 of Township 30N, Range 13W and approximately 2,600' to the south-west of water well SJ-01737, was plugged in 1988 by Southern Union Oil Company. This well only had an initial surface casing of 200' when it was drilled in 1959. Section 18 also has one (1) additional well plugged by XTO Energy, Inc. in 2010. Section 19 of Township 30N, Range 12W has two (2) historically plugged wells. Approximately 4,400' to the south of water well SJ-01737, the Dansby #2 (30-045-09402) was plugged by Don Trader, Inc. in 1954 with a total depth of 1980' and a surface casing of only 100', and the second was a well plugged by Amoco Production in 1988. There are also three (3) additional wells plugged by Texacoma in 1997 in Section 19. There are additionally numerous oil and gas wells being operated by local exploration and production companies in the area. In Section 18, there are three (3) wells being operated by XTO Energy, Inc., and two (2) wells being operated by ConocoPhillips as Burlington Resources. In Section 19, there are nine (9) wells being operated by XTO Energy, Inc. In Section 7, there are seven (7) wells being operated by XTO Energy, Inc, and four (4) wells being operated by Robert L Bayless Producers, LLC. Furthermore, there is naturally occurring gas in the formation according to statements from local water well drillers, and a casing leak was discovered at the New Mexico Federal N #3E well site, (located in Unit D, Section 18, Township 30N, Range 12W, San Juan County, New Mexico). This leak was identified as a result of discovery of gas in a local water well (SJ 1737) in April, 2010. Bradenhead pressures were observed at several XTO wells in the area. The New Mexico Federal N #3E, the New Mexico Federal N #3F and the New Mexico Federal N #3 all had bradenhead pressure tests performed. The bradenhead pressure from the New Mexico Federal N #3E was 17 psi, indicating a leak in the casing. The casing leak was repaired, and the New Mexico Federal N #3E was put back into operation. In agreement with the OCD, a nearby gas well scheduled to be plugged, Federal 18 #1T, was modified to act as a venting well by setting a plug at approximately 513 feet. Perforations were made in the casing at 437 feet and 457 feet in order to assess the groundwater and vent gas from the Nacimiento.

On September 24, 2010, a swab rig was used to determine if the well would produce water using the perforations. The swab rig recovered approximately 2 barrels of water, indicating that the perforations would produce water. A sample collected during the swab returned results above

Water Quality Control Commission (WQCC) standards for benzene, total xylenes, and total chlorides; see attached ***Federal 18 #1T Water Results Table***. Due to the low pH and high chlorides, it was inferred that the acid used to dissolve cement during perforation activities may have infiltrated the aquifer, causing the increased levels shown in the sampling results. XTO recommended pumping the aquifer until sampling results were below the WQCC standards for BTEX and chlorides.

A pump was installed in the Federal 18 #1T on November 9, 2010 at approximately 485 feet. During the pump installation, the water level was checked using a Keck ET Long water level indicator. The static water level was found to be approximately 402.20 feet. The pump was initially set to operate four (4) times a day for 15 minutes, purging approximately 260 gallons per day. During swab and pump installation activities, no gas was found flowing from the well.

On November 11, 2010, a small vacuum pump was installed at the Federal 18 #1T to determine if gas could be vented. The discharge from the vacuum was checked using a MSA 4-Gas Monitor, which confirmed that methane, was being vented from the vacuum pump discharge. The vacuum pump operates at a discharge rate of three (3) standard cubic feet per minute (scfm), which is equivalent to approximately six (6) actual cubic feet per minute (acfm) based on elevation. This volume was calculated using the conversion factors provided by the vacuum pump manufacturer, Becker. The vacuum pump initially held a vacuum of approximately -12 inches of mercury on the casing of the Federal 18 #1T during operation. Both the vacuum pump and the water pump were powered by a portable generator placed on-site.

The water pump was plumbed into the existing water lines on site, so that all water would pump into the 210 barrel water tank left on-site from production activities. Water piping above ground was wrapped with heat trace and insulation to prevent freezing.

The system was electrified on February 3, 2011 to prevent down time due to generator maintenance issues.

3rd Quarter Activities

During the 3rd quarter of 2016, the system ran continuously with no down time. As of September 30, 2016, approximately 18,160.4 cubic feet (MCF) of gas has been vented from the Federal 18 #1T casing, with the system venting approximately 60.4 MCF per week during operation, while maintaining an average casing pressure of -10 inches of mercury on the Federal 18 #1T casing.

A total of 774,180.6 gallons of water have been removed from the Federal 18 #1T as of September 11, 2016. The attached ***Federal 18 #1T Water Results Table*** shows that that benzene concentrations have had a reduction in the quarter with one (1) sampling event (August 29, 2016) returning results above the WQCC standard at 19 ppb. Chloride levels have remained constant through the quarter, remaining steady at 14.8 ppm. pH values remained constant in the quarter, returning results of 7.02. TDS continues to be above WQCC standards at 2590 ppm, but background levels (1,400 ppm) in water well SJ 1737 are historically above WQCC standards as well.

The pressure at well SJ 1737 was checked over the course of the quarter. The pressure was checked by shutting in the casing for a minimum of one week prior to reading the pressure gauge. The pressure readings are outlined in the attached ***Well SJ 1731 Casing Pressures Table***. The pressure remained fairly constant over the course of the quarter. The casing pressure in the water well SJ 1737 has shown an overall decrease from 9 oz. in January of 2011 to 1 oz. September 11, 2016. An overall decreasing trend has existed in the water well casing since 2011.

Recommendations

Groundwater samples will continue to be collected quarterly to monitor the benzene concentration in this well. Chlorides, pH, TDS and EC remained constant over the 3rd quarter, and are very close to the background levels obtained in water well 1737. XTO proposes the continued operation of the vacuum pump and water pump at the Federal 18 #1T, Groundwater samples will continue to be collected on a quarterly basis until benzene levels remain below the WQCC standards for four (4) consecutive quarters. An alternative sampling schedule may be recommended at that time.

Logan Hixon
EHS Coordinator
XTO Energy, Inc.
Western Division

ESC LAB SCIENCES
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ANALYTICAL REPORT

September 12, 2016

myESC
REAL TIME DATA ACCESS

XTO Energy - San Juan Division

Sample Delivery Group:	L856867
Samples Received:	08/31/2016
Project Number:	
Description:	Federal 18-1T

Report To: Logan Hixon
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By: Nancy F. McLain

Nancy McLain
Technical Service Representative

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

FARLH-082919:1230 L856867-01 GW

Collected by	Collected date/time	Received date/time
Logan Hixon	08/29/16 12:30	08/31/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG904443	1	09/02/16 02:32	09/02/16 03:23	JM
Volatile Organic Compounds (GC) by Method 8021B	WG904224	1	09/01/16 15:29	09/01/16 15:29	LRL
Wet Chemistry by Method 9040C	WG903614	1	09/01/16 11:56	09/01/16 11:56	MHM
Wet Chemistry by Method 9050A	WG904238	1	09/01/16 10:15	09/01/16 10:15	KK
Wet Chemistry by Method 9056A	WG906390	1	09/10/16 12:14	09/10/16 12:14	CM

All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy F. McLain

Nancy McLain
Technical Service Representative

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L856867-01	FARLH-082919:1230	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2410		10.0	1	09/02/2016 03:23	WG904443

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.02		1	09/01/2016 11:56	WG903614

Sample Narrative:
9040C L856867-01 WG903614: 7.02 at 17.0C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2590		1	09/01/2016 10:15	WG904238

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	14.8		1.00	1	09/10/2016 12:14	WG906390

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0190		0.000500	1	09/01/2016 15:29	WG904224
Toluene	ND		0.00500	1	09/01/2016 15:29	WG904224
Ethylbenzene	ND		0.000500	1	09/01/2016 15:29	WG904224
Total Xylene	0.00218	B	0.00150	1	09/01/2016 15:29	WG904224
(S) a,a,a-Trifluorotoluene(PID)	*105*		*55.0-122*		*09/01/2016 15:29*	WG904224

Method Blank (MB)

(MB) R3161326-1 09/02/16 03:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L856667-04 Original Sample (OS) • Duplicate (DUP)

(OS) L856667-04 09/02/16 03:23 • (DUP) R3161326-4 09/02/16 03:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	261	257	1	1.54		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3161326-2 09/02/16 03:23 • (LCSD) R3161326-3 09/02/16 03:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8280	8430	94.1	95.8	85.0-115			1.80	5

L856498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L856498-01 09/01/16 11:56 • (DUP) WG903614-3 09/01/16 11:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.56	7.54	1	0.265		1

L856879-02 Original Sample (OS) • Duplicate (DUP)

(OS) L856879-02 09/01/16 11:56 • (DUP) WG903614-4 09/01/16 11:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	2.06	2.05	1	0.487		1

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG903614-1 09/01/16 11:56 • (LCSD) WG903614-2 09/01/16 11:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.06	6.09	99.2	99.7	98.4-102			0.494	1

Method Blank (MB)

(MB) WG904238-1 09/01/16 10:15

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	2.66			

L856867-01 Original Sample (OS) • Duplicate (DUP)

(OS) L856867-01 09/01/16 10:15 • (DUP) WG904238-4 09/01/16 10:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2590	2600	1	0.888		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG904238-2 09/01/16 10:15 • (LCSD) WG904238-3 09/01/16 10:15

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	542	560	550	103	101	90.0-110			1.80	20

Method Blank (MB)

(MB) R3162732-1 09/10/16 08:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3162732-2 09/10/16 08:17 • (LCSD) R3162732-3 09/10/16 08:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	40.0	40.0	100	100	80-120			0	15

L856867-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L856867-01 09/10/16 12:14 • (MS) R3162732-4 09/10/16 12:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	14.8	63.8	98	1	80-120	

Method Blank (MB)

(MB) R3161144-3 09/01/16 07:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	0.000337	J	0.000180	0.00500
Ethylbenzene	0.000171	J	0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	*107*			*55.0-122*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3161144-1 09/01/16 06:18 • (LCSD) R3161144-2 09/01/16 06:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0495	0.0480	99.0	95.9	70.0-130			3.15	20
Toluene	0.0500	0.0488	0.0461	97.6	92.2	70.0-130			5.76	20
Ethylbenzene	0.0500	0.0489	0.0469	97.7	93.7	70.0-130			4.18	20
Total Xylene	0.150	0.148	0.141	98.5	93.8	70.0-130			4.89	20
(S) a,a,a-Trifluorotoluene(PID)				*106*	*105*	*55.0-122*				

L856820-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L856820-01 09/01/16 08:48 • (MS) R3161144-4 09/01/16 09:11 • (MSD) R3161144-5 09/01/16 09:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0405	0.0444	80.5	88.3	1	57.2-131			9.23	20
Toluene	0.0500	ND	0.0387	0.0423	76.7	84.1	1	63.7-134			9.08	20
Ethylbenzene	0.0500	ND	0.0392	0.0428	77.9	85.1	1	67.5-135			8.81	20
Total Xylene	0.150	ND	0.118	0.128	78.1	84.8	1	65.9-138			8.16	20
(S) a,a,a-Trifluorotoluene(PID)					*104*	*105*		*55.0-122*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [14]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

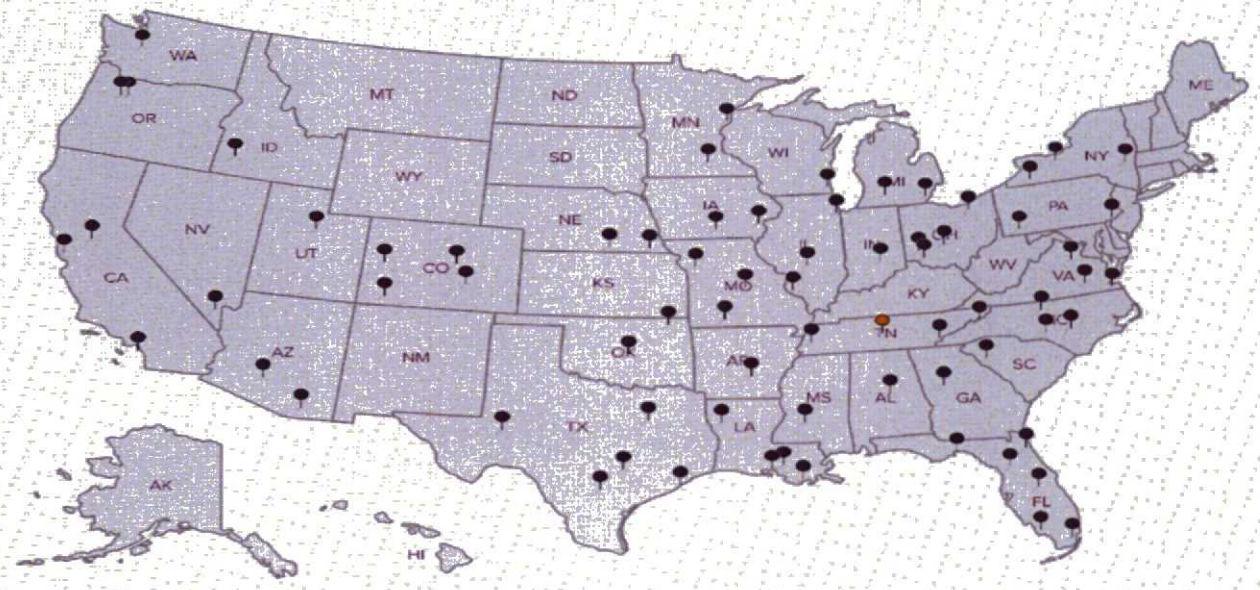
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [NA] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



H031 1008

XTO ENERGY
Western Division

Quote Number		Page ___ of ___
XTO Contact: Logan		XTO Contact Phone #: 505 386-8018
Email Results to: Logan, Jamie, Rex		
Well Site/Location: Federal 18-1T	API Number	Saturday Delivery (Y / N)
Collected By: Logan Hi	Samples on Ice (Y / N)	Turnaround: (X) Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Same Day; Date Needed ___
Company: XTO	Test Reason: 1/4 GW	
Signature	Gray Areas for Lab Use Only!	

Analysis/Container

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	BTEX 8021	EC	pH	TDS	Chlorides			Sample Number
FARLH-082916:1230	18-1T	GW	8-29	1230	Cool	3-500 ml 2-VOC	X	X	X	X	X			L856867-01

Lab Information

Office Abbreviations
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

Relinquished By: (Signature)	Date: 8-29-16	Time: 1530	Received By: (Signature)	Number of Bottles: 5	Sample Condition: GP
Relinquished By: (Signature)	Date:	Time:		Temperature: 0.1	Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature)	Date: 8/31/16 Time: 900	

Comments

6127 6739 3965

...the office and sampler-date-military time FARJM-MMDDYY-1200

(5)

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Checklist

Client: XTOXNM SDG# L85636

Cooler Received/Opened On: 8/31/16 By Caleb Busby

Temperature Upon Receipt: 3.1 °c

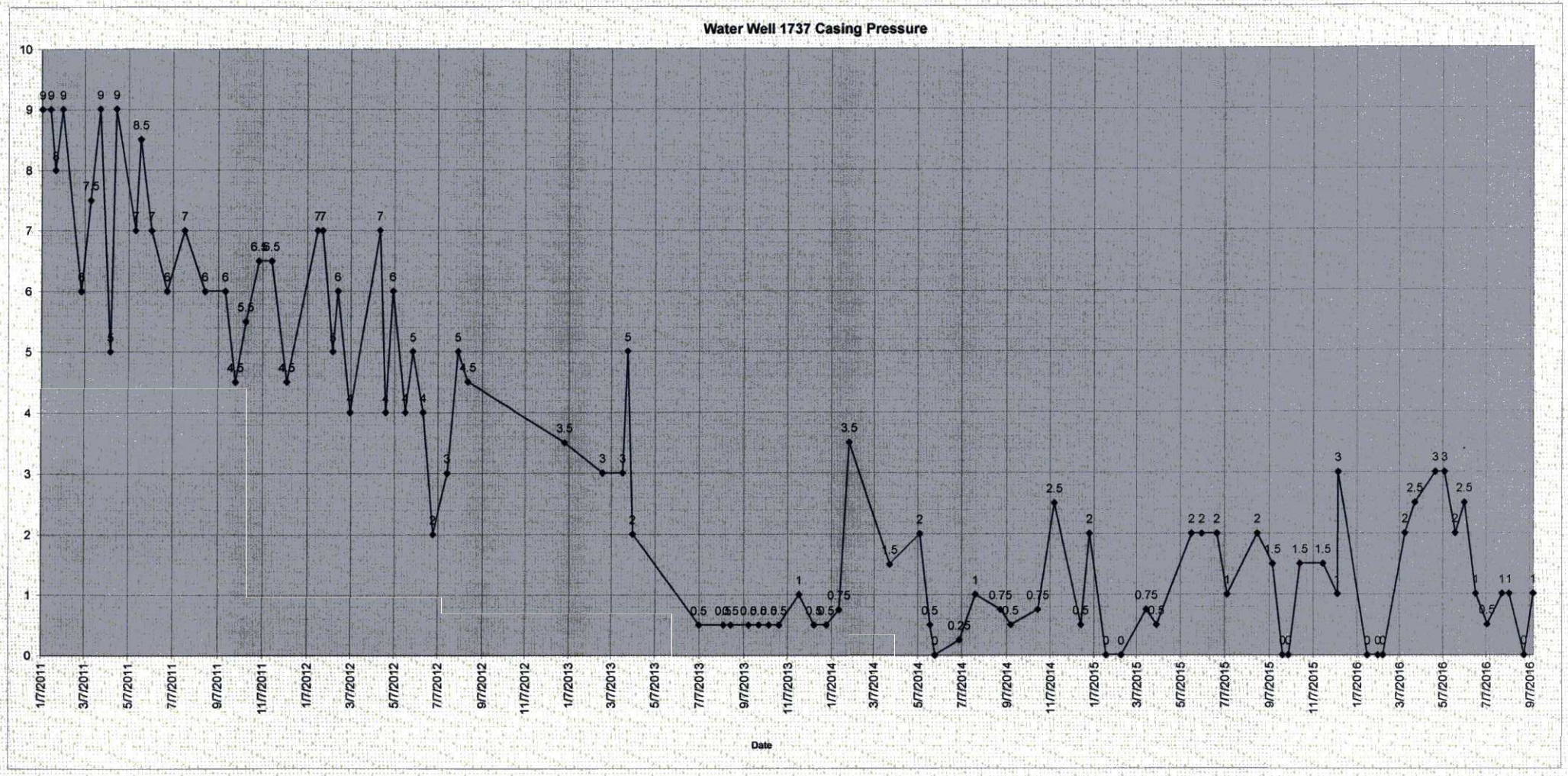
(Signature)

Cooler Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			X
Were custody papers properly filled out (ink, signed, etc.)?	X		
Did all bottles arrive in good condition?	X		
Were correct bottles used for the analyses requested?	X		
Was sufficient amount of sample sent in each bottle?	X		
Were correct preservatives used?	X		
Were all applicable sample containers checked for preservation? (Any samples not in accepted pH range noted on COC .)			X
If applicable, was an observable VOA headspace present?		X	
Non Conformance Generated? (If yes see attached NCF)		X	

Federal 18 #1T Water Results

Date	Lab	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylene (ppb)	Chlorides (ppm)	TDS (ppm)	EC (umhos/cm)	pH	Purge Water Volume
NA	NA	10	750	750	620	250	1000	NA	6 thru 9	NA
9/24/2010	ESC	**150**	BDL	76	**670**	NS	NS	NS	NS	NA
9/24/2010	ESC	**190**	170	24	210	**6800**	**13000**	18000	6.1	NA
9/24/2010	Etech	**143**	221	63.6	**950**	NS	NS	NS	NS	NA
9/24/2010	Etech	**320**	377	31.8	568	**7150**	**11100**	16000	**5.84**	NA
12/10/2011	Hall	NS	NS	NS	NS	**2800**	**7610**	8900	6.36	3032.5
1/5/2011	Hall	**67**	93	7.9	25	NS	NS	NS	NS	7,798
1/5/2011	ESC	**73**	99	10	39	**1600**	**4800**	6000	6.6	7,798
1/29/2011	ESC	**60**	93	10	33	**930**	NS	4900	6.4	10791.0
2/28/2011	ESC	**42**	60	6.1	20	**550**	**3400**	4000	6.7	14795.0
4/1/2011	ESC	**23**	27	1.8	6.8	**260**	**2700**	3100	6.8	31237.5
4/29/2011	ESC	**29**	28	2.4	7.3	140	**2600**	2900	6.9	50217.0
5/31/2011	ESC	**14**	19	1.4	4.9	89	**2500**	2800	6.7	76513.0
6/14/2011	ESC	**55**	81	2.8	15	73	**2500**	2700	6.7	88120.0
6/30/2011	ESC	**52**	67	2.6	12	61	**2500**	2700	6.9	101208.5
8/15/2011	ESC	**21**	25	1.2	5.8	44	**2500**	2600	6.8	140267.0
9/2/2011	ESC	**10**	12	0.64	3.2	41	**2500**	2600	7.2	155801.0
9/16/2011	ESC	9.6	11	0.64	3	38	**2400**	2500	7.2	168040.0
9/30/2011	ESC	7.2	8.7	0.64	2.5	35	**2500**	2600	7	180392.5
10/28/2011	ESC	5.1	BDL	1.8	2.7	31	**2300**	2600	6.9	205,220
11/30/2011	ESC	4	BDL	3.9	2	27	**2500**	2600	7.1	233,487.5
12/30/2011	ESC	3.4	BDL	BDL	2.9	27	**2500**	2500	7.5	261,390.5
4/3/2012	ESC	6	BDL	BDL	1.6	NS	NS	NS	NS	351,300
4/9/2012	ESC	NS	NS	NS	NS	19	**2400**	2400	7.4	NA
7/3/2012	ESC	5.3	BDL	BDL	BDL	16	**2300**	2400	7.4	NA
7/6/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	441,053
9/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	521,271
9/27/2012	ESC	6.2	BDL	BDL	BDL	15	**2300**	2500	7.1	NA
12/14/2012	NA	NS	NS	NS	NS	NS	NS	NS	NS	598,540
12/31/2012	Etech	**13.9**	1.1	ND	3.3	15.5	**2690**	2440	7.05	604,689
1/23/2013	ESC	**160**	190	BDL	26	15	**2400**	2500	8	PUMP SHUT OFF
2/22/2013	ESC	7.1	77	BDL	1.8	15	**2100**	2500	7.1	605,860
5/2/2013	ESC	9	6.9	BDL	BDL	15	**2400**	2600	7.5	612,601
8/19/2013	ESC	**20**	11	BDL	2.3	16	**2200**	2600	7.2	NA
9/23/2013	ESC	**13**	11	BDL	2.2	16	**2300**	2500	7.1	621,744
11/25/2013	ESC	4.6	5.2	BDL	BDL	15	**2200**	2700	7.7	631,430
2/4/2014	ESC									636,120
10/1/2015	ESC	**54.2**	57	1.37	9.77	21.3	**2260**	2640	6.98	639,410
10/20/2015	ESC	**42.3**	39.9	0.964	7.06	18.1	**2330**	1460	7.09	642,650
3/28/2016	ESC	**38**	34.1	0.835	4.82	21.6	**2230**	2570	6.86	650,850
6/14/2016	ESC	**78.3**	58.4	1.16	7.22	13.7	**2890**	2600	6.89	704,371
8/29/2016	ESC	**19**	BDL	BDL	2.18	14.8	**2410**	2590	7.02	763,261
11/5/2010	ESC	ND	5.2	ND	ND	15	**1400**	2600	7.2	NA

BDL = Below Detection Limits
NS = Not Sampled
Values in **BOLD** exceed WQCC Standards
Baseline Sample (Well SJ 1737)
WQCC Standards


Water Well 1737 Casing Pressure
Date

Well SJ 1737 Casing Pressures

Date	Casing Pressure (oz)
7/8/2016	0.5
7/29/2016	1
8/8/2016	1
8/29/2016	0
9/11/2016	1

Federal 18 #1T Gas Vented

Date	SCFM	ACFM	Gas Vented Total (MCF)
7/1/2016	3	6	17375.2
7/8/2016	3	6	17435.6
7/15/2016	3	6	17496
7/22/2016	3	6	17556.4
7/29/2016	3	6	17616.8
8/5/2016	3	6	17677.2
8/12/2016	3	6	17737.6
8/19/2016	3	6	17798
8/26/2016	3	6	17858.4
9/2/2016	3	6	17918.8
9/9/2016	3	6	17979.2
9/16/2016	3	6	18039.6
9/23/2016	3	6	18100
9/30/2016	3	6	18160.4