Federal 18 #1T Remediation System
2012 1st Quarter Report

Submitted By:
James McDaniel
EH&S Supervisor
XTO Energy, Inc.
505-333-3701

Submitted to:
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1000 Rio Brazos Road
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May 2012

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 from January 1, 2012, through March 31, 2012.

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 holds 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.

1st Quarter Activities

During the first quarter of 2012, the system ran continuously with no down time. As of March 30, 2012, approximately 4,087.2 thousand 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. On December 30, 2011, a comparative gas sample was collected from the casing at the Federal 18 #1t, as well as the casing from water well SJ 1737. The gas samples were analyzed by Isotech Laboratories, Inc, see attached ***Gas Analysis Lab Reports***. The sample collected from the casing at the Federal 18 #1T returned methane results of 69.61 %, while the results from the casing of water well SJ 1737 returned methane results of 52%. An isotopic gas analysis was also performed on each of the gas samples to determine the fingerprint of the specific gas in each well. According to the results from Isotech, both gases have a similar carbon fingerprint, suggesting that they both could be Dakota gas, although not necessarily coming from the same source. The results show that the gas collected from the Federal 18 #1T has a higher percentage of heavier gases such as propane, iso-butane, N-butane, iso-pentane, N-pentane and hexanes.

A total of 351,300 gallons of water have been removed from the Federal 18 #1T as of April 3, 2012. The water pump operated for 15 minutes every 60 minutes during the third quarter,

purging nearly 977 gallons of water per day. The attached ***Federal 18 #1T Water Results Table*** shows that benzene concentrations remained steady in the first quarter, ranging from 3.4 ppb at the end of the fourth quarter to 6 ppb by on April 3, 2012. Chloride levels have showed an overall decrease from levels of 27 ppm in late December, to levels of 19 ppm in early April. pH values remained constant in the first quarter, only fluctuating from 7.5 in the fourth quarter of 2011, to 7.4 in the first quarter of 2012. All BTEX constituents, as well as chlorides, remained below WQCC standards. TDS continues to be above WQCC standards, but background levels (1400 ppm) in water well SJ 1737 are above WQCC standards as well.

Pressure at well SJ 1737 was checked periodically over the course of the first 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 and average barometric pressures are outlined in the attached ***Well SJ 1731 Casing Pressures Table***. The pressure did not seem to show a correlation to the barometric pressure, but did show a slight downward trend during the first quarter, as levels dropped from 7 oz early in the quarter to levels of 4 oz late in the quarter. Since January of 2011, the casing pressure in the water well SJ 1737 has shown an overall decrease from 9 oz to 4 oz in March 0f 2012.

Recommendations

The stable trends obtained for BTEX, chlorides and pH through the fourth quarter of 2011 and into the first quarter of 2012 seem to indicate that the majority of the acid lost into the groundwater aquifer has been recovered, as pH and chloride values are near background levels obtained from water well 1737. XTO recommends the continued operation of the remediation system at the Federal 18 #1T. Continued venting and quarterly groundwater sampling will allow XTO to continue to monitor trends in the groundwater at the Federal 18 #1T. XTO will continue monitoring the pressure at water well SJ 1737 as well, to further evaluate this location.

James McDaniel, CHMM #15676
EH&S Supervisor
XTO Energy, Inc.
San Juan Division

CERTIFIED HAZARDOUS MATERIALS MANAGER
JAMES P. McDANIEL
15676
CHMM
EXPIRES MAY 16, 2016

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
11/5/2011	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

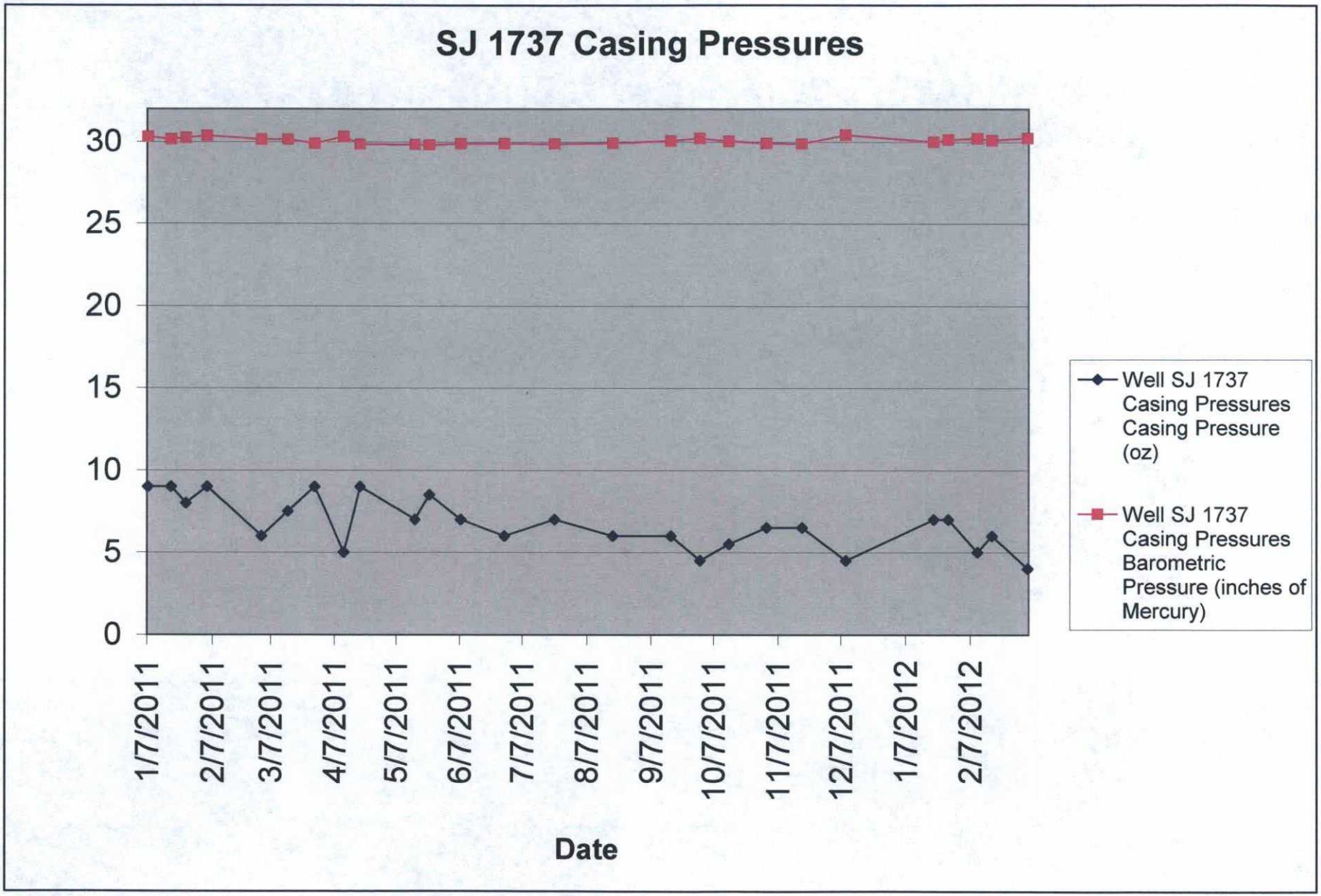
Federal 18 #1T Gas Vented

Date	SCFM	ACFM	Gas Vented Total (MCF)
11/24/2010	5	10	14.4
12/2/2010	3	6	89.13
12/3/2010	3	6	97.73
12/7/2010	3	6	123.53
12/9/2010	5	10	152.33
12/10/2010	3	6	160.93
12/13/2010	3	6	178.13
12/16/2011	4	8	212.69
12/17/2011	3.5	7	222.77
12/20/2011	3	6	248.57
	Irratic readings due to freezing temperature and down time due to generator failures		
2/9/2011	NA	NA	540.6
2/17/2011	3	6	601
2/24/2011	3	6	661.4
3/3/2011	3	6	721.8
3/10/2011	3	6	782.2
3/17/2011	3	6	842.6
3/24/2011	3	6	903
3/31/2011	3	6	963.4
4/7/2011	3	6	1023.8
4/14/2011	3	6	1084.2
4/21/2011	3	6	1144.6
4/28/2011	3	6	1205
5/5/2011	3	6	1265.4
5/12/2011	3	6	1325.8
5/19/2011	3	6	1386.2
5/26/2011	3	6	1446.6
6/2/2011	3	6	1507
6/9/2011	3	6	1567.4
6/16/2011	3	6	1627.8
6/23/2011	3	6	1688.2
6/30/2011	3	6	1748.6
7/7/2011	3	6	1792
7/14/2011	3	6	1852.4
7/21/2011	3	6	1912.8
7/28/2011	3	6	1973.2
8/5/2011	3	6	2033.6
8/12/2011	3	6	2094
8/19/2011	3	6	2154.4
8/26/2011	3	6	2214.8
9/2/2011	3	6	2275.2
9/9/2011	3	6	2335.6
9/16/2011	3	6	2396
9/23/2011	3	6	2456.4
9/30/2011	3	6	2516.8
10/7/2011	3	6	2577.2
10/14/2011	3	6	2637.6
10/21/2011	3	6	2698
10/28/2011	3	6	2758.4
11/4/2011	3	6	2818.8

11/11/2011	3	6	2879.2
11/18/2011	3	6	2939.6
11/25/2011	3	6	3000
12/2/2011	3	6	3060.4
12/9/2011	3	6	3120.8
12/16/2011	3	6	3181.2
12/23/2011	3	6	3241.6
12/30/2011	3	6	3302
1/6/2012	3	6	3362.4
1/13/2012	3	6	3422.8
1/20/2012	3	6	3483.2
1/27/2012	3	6	3543.6
2/3/2012	3	6	3604
2/10/2012	3	6	3664.4
2/17/2012	3	6	3724.8
2/24/2012	3	6	3785.2
3/2/2012	3	6	3845.6
3/9/2012	3	6	3906
3/16/2012	3	6	3966.4
3/23/2012	3	6	4026.8
3/30/2012	3	6	4087.2

Well SJ 1737 Casing Pressures

Date	Casing Pressure (oz)	Barometric Pressure (inches of Mercury)	Temperature (F)
1/7/2011	9	30.3	23
1/18/2011	9	30.14	41
1/25/2011	8	30.22	32
2/4/2011	9	30.35	25
3/2/2011	6	30.13	58
3/15/2011	7.5	30.12	54
3/28/2011	9	29.88	55
4/11/2011	5	30.3	51
4/19/2011	9	29.83	59
5/16/2011	7	29.82	70
5/23/2011	8.5	29.78	71
6/7/2011	7	29.87	77
6/28/2011	6	29.87	78
7/22/2011	7	29.85	86
8/19/2011	6	29.9	85
9/16/2011	6	30.04	64
9/30/2011	4.5	30.2	73
10/14/2011	5.5	30.03	45
11/1/2011	6.5	29.9	62
11/18/2011	6.5	29.86	53
12/9/2011	4.5	30.41	34
1/20/2012	7	29.99	52
1/27/2012	7	30.12	47
2/10/2012	5	30.2	48
2/17/2012	6	30.08	47
3/5/2012	4	30.22	54


SJ 1737 Casing Pressures
30
25
20
15
10
5
0
1/7/2011
2/7/2011
3/7/2011
4/7/2011
5/7/2011
6/7/2011
7/7/2011
8/7/2011
9/7/2011
10/7/2011
11/7/2011
12/7/2011
1/7/2012
2/7/2012
Date
Well SJ 1737 Casing Pressures Casing Pressure (oz)
Well SJ 1737 Casing Pressures Barometric Pressure (inches of Mercury)

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James McDaniel
XTO Energy - San Juan Division
382 County Road 3100
Aztec, NM 87410

Report Summary

Friday April 13, 2012

Report Number: L569217
Samples Received: 04/10/12
Client Project:

Description: Federal 18# 1T

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Daphne R Richards

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 County Road 3100
Aztec, NM 87410

April 13, 2012

ESC Sample # : L569217-01

Site ID :

Project # :

Date Received : April 10, 2012
Description : Federal 18# 1T

Sample ID : FED 18 1T-WELL

Collected By : Logan Hixon
Collection Date : 04/09/12 09:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	19.	1.0	mg/l	9056	04/10/12	1
pH	7.4		su	9040C	04/12/12	1
Specific Conductance	2400		umhos/cm	9050A	04/11/12	1
Dissolved Solids	2400	10.	mg/l	2540C	04/13/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 04/13/12 12:29 Printed: 04/13/12 12:29
L569217-01 (PH) - 7.4@18.1c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L569217-01	WG587317	SAMP	pH	R2118453	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/13/12 at 12:29:54

TSR Signing Reports: 288
R5 - Desired TAT

Sample: L569217-01 Account: XTORNM Received: 04/10/12 09:00 Due Date: 04/17/12 00:00 RPT Date: 04/13/12 12:29

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Quality Assurance Report
Level II

L569217

April 13, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Chloride	< 1	mg/l			WG587034	04/10/12 08:04
Specific Conductance	1.70	umhos/cm			WG587124	04/11/12 14:43
pH	7.50	su			WG587317	04/12/12 10:15
Dissolved Solids	< 10	mg/l			WG587252	04/13/12 12:06

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Specific Conductance	umhos/cm	140.	140.	2.17	20	L569083-01	WG587124
Specific Conductance	umhos/cm	2400	2400	0.837	20	L569217-01	WG587124
pH	su	6.50	6.50	0.613	1	L569117-01	WG587317
pH	su	6.80	6.80	0.738	1	L569262-03	WG587317
Dissolved Solids	mg/l	130.	130.	0.772	5	L569229-01	WG587252

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Chloride	mg/l	40	39.9	99.8	90-110	WG587034
Specific Conductance	umhos/cm	459	439.	95.6	85-115	WG587124
pH	su	6.04	5.96	98.7	98-101	WG587317
Dissolved Solids	mg/l	8800	8460	96.1	85-115	WG587252

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Chloride	mg/l	39.9	39.9	100.	90-110	0	20	WG587034
Specific Conductance	umhos/	439.	439.	96.0	85-115	0	20	WG587124
pH	su	5.95	5.96	98.0	98-101	0.168	20	WG587317
Dissolved Solids	mg/l	8470	8460	96.0	85-115	0.142	20	WG587252

Batch number /Run number / Sample number cross reference

WG587034: R2115334: L569217-01
WG587124: R2116413: L569217-01
WG587317: R2118453: L569217-01
WG587252: R2120133: L569217-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L569217

April 13, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

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Tax I.D. 62-0814289

Est. 1970

James McDaniel
XTO Energy - San Juan Division
382 County Road 3100
Aztec, NM 87410

Report Summary

Monday April 09, 2012

Report Number: L568619
Samples Received: 04/05/12
Client Project:

Description: Federal 18 #1T

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Daphne R Richards
Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 County Road 3100
Aztec, NM 87410

April 09, 2012

ESC Sample # : L568619-01

Date Received : April 05, 2012
Description : Federal 18 #1T

Site ID :

Sample ID : FEDERAL 18-1T

Project # :

Collected By : Kurt Hoekstra
Collection Date : 04/03/12 15:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	0.0060	0.00050	mg/l	8021B	04/06/12	1
Toluene	BDL	0.0050	mg/l	8021B	04/06/12	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	04/06/12	1
Total Xylene	0.0016	0.0015	mg/l	8021B	04/06/12	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021B	04/06/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/09/12 16:06 Printed: 04/09/12 16:16

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Quality Assurance Report
Level II

L568619

April 09, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .0005	mg/l			WG586698	04/06/12 19:29
Ethylbenzene	< .0005	mg/l			WG586698	04/06/12 19:29
Toluene	< .005	mg/l			WG586698	04/06/12 19:29
Total Xylene	< .0015	mg/l			WG586698	04/06/12 19:29
a,a,a-Trifluorotoluene(PID)		% Rec.	106.4	55-122	WG586698	04/06/12 19:29

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Benzene	mg/l	.05	0.0524	105.	79-114	WG586698
Ethylbenzene	mg/l	.05	0.0543	109.	80-116	WG586698
Toluene	mg/l	.05	0.0534	107.	79-112	WG586698
Total Xylene	mg/l	.15	0.164	110.	84-118	WG586698
a,a,a-Trifluorotoluene(PID)				105.6	55-122	WG586698

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Benzene	mg/l	0.0507	0.0524	101.	79-114	3.32	20	WG586698
Ethylbenzene	mg/l	0.0525	0.0543	105.	80-116	3.39	20	WG586698
Toluene	mg/l	0.0517	0.0534	103.	79-112	3.29	20	WG586698
Total Xylene	mg/l	0.159	0.164	106.	84-118	3.48	20	WG586698
a,a,a-Trifluorotoluene(PID)				106.2	55-122			WG586698

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/l	0.0509	0.00140	.05	99.1	35-147	L568617-01	WG586698
Ethylbenzene	mg/l	0.0522	0	.05	104.	39-141	L568617-01	WG586698
Toluene	mg/l	0.0514	0	.05	103.	35-148	L568617-01	WG586698
Total Xylene	mg/l	0.159	0.00150	.15	105.	33-151	L568617-01	WG586698
a,a,a-Trifluorotoluene(PID)					106.4	55-122		WG586698

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Benzene	mg/l	0.0476	0.0509	92.4	35-147	6.80	20	L568617-01	WG586698
Ethylbenzene	mg/l	0.0488	0.0522	97.6	39-141	6.70	20	L568617-01	WG586698
Toluene	mg/l	0.0478	0.0514	95.6	35-148	7.30	20	L568617-01	WG586698
Total Xylene	mg/l	0.148	0.159	97.4	33-151	7.12	20	L568617-01	WG586698
a,a,a-Trifluorotoluene(PID)				105.6	55-122				WG586698

Batch number /Run number / Sample number cross reference

WG586698: R2109733: L568619-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L568619

April 09, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #: 230854 Job #: 17161
Sample Name: Federal 18 # 1T Casing Co. Lab#:
Company: XTO Energy
Date Sampled: 12/30/2011
Container: Cali-5-Bond Bag
Field/Site Name: Federal 18 # 1T
Location: Farmington, NM
Formation/Depth:
Sampling Point:
Date Received: 1/05/2012 Date Reported: 2/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{15}N$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	0.0354			
Hydrogen	nd			
Argon	0.158			
Oxygen	3.51			
Nitrogen	13.47			
Carbon Dioxide	1.35			
Methane	69.61	-41.06	-210.8	
Ethane	7.27	-30.01		
Ethylene	nd			
Propane	2.83	-27.36		
Propylene	0.0001			
Iso-butane	0.447			
N-butane	0.711			
Iso-pentane	0.217			
N-pentane	0.164			
Hexanes +	0.231			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 971
Specific gravity, calculated: 0.736

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #: 230855 Job #: 17161
Sample Name: SJ-1737 Casing Co. Lab#:
Company: XTO Energy
Date Sampled: 12/30/2011
Container: Cali-5-Bond Bag
Field/Site Name: Federal 18 # IT
Location: Farmington, NM
Formation/Depth:
Sampling Point:
Date Received: 1/05/2012 Date Reported: 2/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{15}N$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	0.0306			
Hydrogen	nd			
Argon	0.461			
Oxygen	2.43			
Nitrogen	36.11			
Carbon Dioxide	2.38			
Methane	52.00	-41.21	-208.2	
Ethane	4.57	-29.69		
Ethylene	nd			
Propane	1.50	-27.04		
Propylene	nd			
Iso-butane	0.230			
N-butane	0.212			
Iso-pentane	0.0476			
N-pentane	0.0167			
Hexanes +	0.0073			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 663
Specific gravity, calculated: 0.788

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.