April 5, 2017

Randy Bayliss
New Mexico Oil Conservation Division
1220 South Street Francis Drive
Santa Fe, New Mexico 87505

RE: Online Submission of 2016 Annual Groundwater Reports

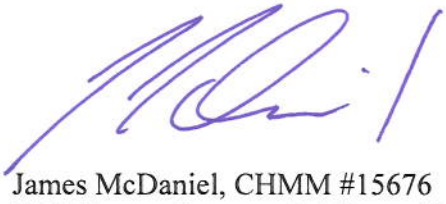
Dear Mr. Randy Bayliss:

LT Environmental (LTE), Inc., on behalf of XTO Energy, Inc. (XTO), is electronically submitting the attached 2016 annual groundwater monitoring reports covering the period from January 1, 2016, to December 31, 2016, for the following sites:

- Sullivan Gas Com D #1E (3RP-1035);
- Bruington Gas Com #1 (3RP-106);
- Federal Gas Com H #1 (3RP-110);
- McCoy Gas Com D #1E (3RP-414);
- OH Randel #007 (3RP-386); and
- Valdez A #1E (3RP-134).

If you have any questions regarding these reports please contact Ashley Ager with LTE at (970) 385-1096 or aager@ltenv.com or James McDaniel with XTO at (505) 333-3701 or James_McDaniel@xtoenergy.com.

Sincerely,



James McDaniel, CHMM #15676
XTO Energy Inc., a subsidiary of ExxonMobil
EH&S Supervisor

cc: Attachments (6)

2016 ANNUAL GROUNDWATER REPORT

McCoy Gas Com D #1E

3RP-414

SWNW, Section 28, Township 30N, Range 12W
San Juan County, New Mexico

PREPARED FOR:

New Mexico Oil Conservation Division
1220 South St. Francis Street
Santa Fe, New Mexico 87505
(505) 476-3488

April 2017

2016 XTO GROUNDWATER REPORT

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

McCOY GAS COM D #1E
3RP-414

SITE DETAILS

LEGALS – **TWN**: 30N **RNG**: 12W **SEC**: 28 **UNIT**: SWNW
OCD HAZARD RANKING: 30 **LAND TYPE**: FEE
LATITUDE: 36.78668 **LONGITUDE**: -108.10751

INTRODUCTION

In January 1998, XTO Energy, Inc. (XTO) acquired the McCoy Gas Com D #1E natural gas production well from Amoco Production Company (Amoco). This is an active gas producing well in the Dakota Sandstone. The Halford Independent irrigation ditch, which flows in the summer months while remaining dry in the winter months, runs directly south of the site. A topographic map is presented as ***Figure 1***.

HISTORY

In February 2006, while removing a 95-barrel steel separator pit tank, XTO exposed impacted soil from a former earthen separator pit. Amoco originally assessed the impacted soil from the former pit with test holes in 1992, as detailed in an Envirotech, Inc. site assessment, included as ***Attachment 1***. Impacted soil was excavated to a depth of approximately 23 feet and an estimated 750 cubic yards of impacted soil were removed. A Blagg Engineering, Inc. field report detailing the excavation is included as ***Attachment 2***. The floor of the excavation was sampled and no groundwater was encountered.

In September 2006, monitoring well MW-1R was installed then sampled in October 2006. Completion diagrams and borehole logs are presented as ***Attachment 3***. Laboratory results for groundwater samples from monitoring well MW-1R revealed benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standards.

The *2006 Annual Groundwater Report* was submitted to the New Mexico Oil Conservation Division (NMOCD), proposing the installation of two downgradient monitoring wells to further delineate impact to groundwater.

In May 2007, XTO installed and sampled monitoring wells MW-2 and MW-3. Completion diagrams and borehole logs are presented as ***Attachment 3***.

Groundwater analytical results indicated elevated BTEX concentrations were present in monitoring

well MW-1R (source area), but BTEX concentrations were not detected above the laboratory detection limits in monitoring wells MW-2 and MW-3.

In a remediation work plan submitted to the NMOCD on October 31, 2007, XTO proposed installing Oxygen Release Compound® (ORC) socks in monitoring well MW-1R. In November 2007, ORC socks that produce a controlled release of oxygen into the groundwater for up to 12 months were installed in monitoring well MW-1R across the vertical length of the water column.

From 2007 to 2009, XTO maintained the ORC socks in monitoring well MW-1R, sampled all monitoring wells regularly to monitor BTEX concentrations, verified dissolved oxygen concentrations in monitoring well MW-1R, monitored for potential downgradient migration in monitoring well MW-2 and monitoring well MW-3, and assessed groundwater flow behavior. In January 2009, the NMOCD requested XTO sample monitoring well MW-1R while an NMOCD representative collected a duplicate sample. This was completed on January 21, 2009.

The *2010 Annual Groundwater Report* recommended the continued use of ORC socks in monitoring well MW-1R. Additionally, XTO proposed to conduct a specific capacity test on monitoring well MW-1R during the irrigation season to determine a flow rate and assess remediation options for the groundwater.

The *2011 Annual Groundwater Report* indicated the specific capacity test was not conducted as XTO did not receive approval. XTO continued use of ORC socks and monitoring of BTEX concentrations in monitoring well MW-1R as well as monitoring of groundwater elevations in all monitoring wells through 2012.

In March 2012, free-phase product was detected in monitoring well MW-1R and the ORC socks were removed from the monitoring well. Due to the presence of free-phase product in monitoring well MW-1R, XTO installed oil-absorbent socks in the monitoring well to recover free product. From February 2013 through June 2013, the oil-absorbent socks were monitored every other week. When greater than fifty percent saturation was observed, the oil-absorbent socks were wrung out and the recovered liquid was discarded in the on-site below grade tank. Due to decreased saturation of the oil-absorbent socks, XTO permanently removed the product recovery socks in September 2013. No free-phase product has been detected in the monitoring well since September 2013.

A summary of groundwater elevations and laboratory analytical results from historical and current groundwater monitoring are presented in ***Table 1*** and ***Table 2***, respectively.

METHODOLOGY

In 2016, semi-annual depth to groundwater data was collected from monitoring wells MW-1R, MW-2, and MW-3. Semi-annual groundwater samples were collected from monitoring well MW-1R and submitted to Environmental Science Corporation (ESC) of Mount Juliet, Tennessee, for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B.

Water Level Measurements

Static groundwater level monitoring included measuring depth to groundwater with a Keck oil/water interface probe. Presence of any free-phase product was also investigated using the interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement.

Groundwater Sampling

The volume of water in the monitoring wells was calculated and a minimum of three well casing volumes of water was purged (unless the well was purged dry) from the well using a new disposable polyvinyl chloride (PVC) bailer or a dedicated PVC bailer. All purge water was disposed of into on-site below grade tanks.

Once the monitoring well was purged, groundwater samples were collected by filling a minimum of two 40-milliliter (mL) glass vials. The laboratory-supplied vials were filled and capped with zero headspace to prevent degradation of the sample. Samples were labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. They were immediately sealed, packed on ice, and shipped to ESC for analysis. Proper chain-of-custody (COC) procedures were followed documenting the date and time sampled, sample number, type of sample, sample collector's name, preservative used, analyses required, and sample collector's signature. Laboratory reports for the semi-annual groundwater monitoring events are presented as ***Attachment 4*** and copies of the field notes are included as ***Attachment 5***.

Groundwater Contour Maps

Groundwater elevations obtained from monitoring wells during site visits were used to draft groundwater contour maps. Contours were inferred based on measured groundwater elevations and observation of physical characteristics at the site (topography, proximity to irrigation ditches, etc.).

RESULTS

No measurable free-phase product was observed in groundwater monitoring wells MW-1R, MW-2, or MW-3 during 2016. The benzene concentration in monitoring well MW-1R exceeded the NMWQCC standard during the June 2016 sampling event exhibiting a concentration of 55.5 micrograms per liter (µg/L). The ethylbenzene concentration in monitoring well MW-1R exceeded the NMWQCC standard during the December 2016 sampling event exhibiting a concentration of 961 µg/L. Total xylenes concentrations in monitoring well MW-1R exceeded the NMWQCC standards during the June and December 2016 sampling events exhibiting a concentration of 5,370 µg/L and 9,700 µg/L, respectively. Toluene concentrations did not exceed the NMWQCC standards during either sampling event in 2016.

As documented in the past, groundwater elevations vary by as much as 11 feet depending upon the presence or absence of water in the adjacent Halford Independent irrigation ditch. Groundwater flows away from the irrigation ditch when it contains water and toward the irrigation ditch when it is dry. The groundwater analytical results for both 2016 monitoring events are illustrated on

Figures 2 and 3. Groundwater potentiometric contours were inferred for monitoring events when the irrigation ditch contained flowing water (***Figure 2***). Monitoring well MW-2 was dry during the December 2016 monitoring event and therefore no potentiometric contours were drafted (***Figure 3).***

CONCLUSIONS

Laboratory analytical results indicated BTEX concentrations remained consistent with historical groundwater analytical data. Benzene, ethylbenzene, and total xylenes concentrations exceeded the NMWQCC standards in 2016. The varying direction of groundwater flow and depth to groundwater at the site are caused by the presence or absence of water in the adjacent Halford Independent irrigation ditch.

RECOMMENDATIONS

XTO proposes a continued semi-annual sampling schedule for monitoring well MW-1R until analytical results indicate hydrocarbon constituents are compliant with NMWQCC standards. Depth to groundwater in monitoring wells MW-1R, MW-2, and MW-3 will also be measured semi-annually in 2017.

FIGURE 1

SITE LOCATION MAP

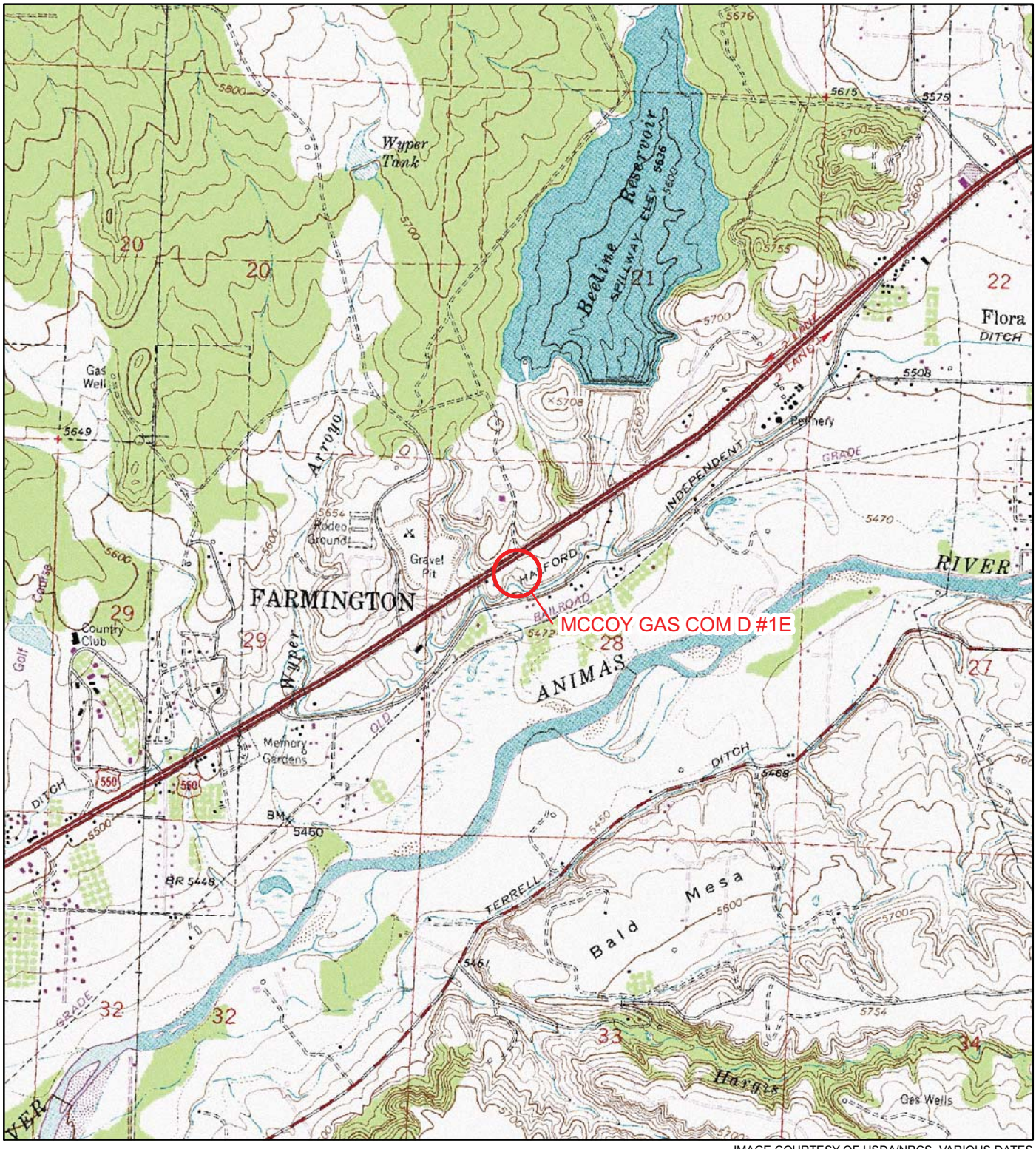


IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
MCCOY GAS COM D #1E
SWNW SEC 28 T30N R12W
SAN JUAN COUNTY, NEW MEXICO

XTO ENERGY, INC.

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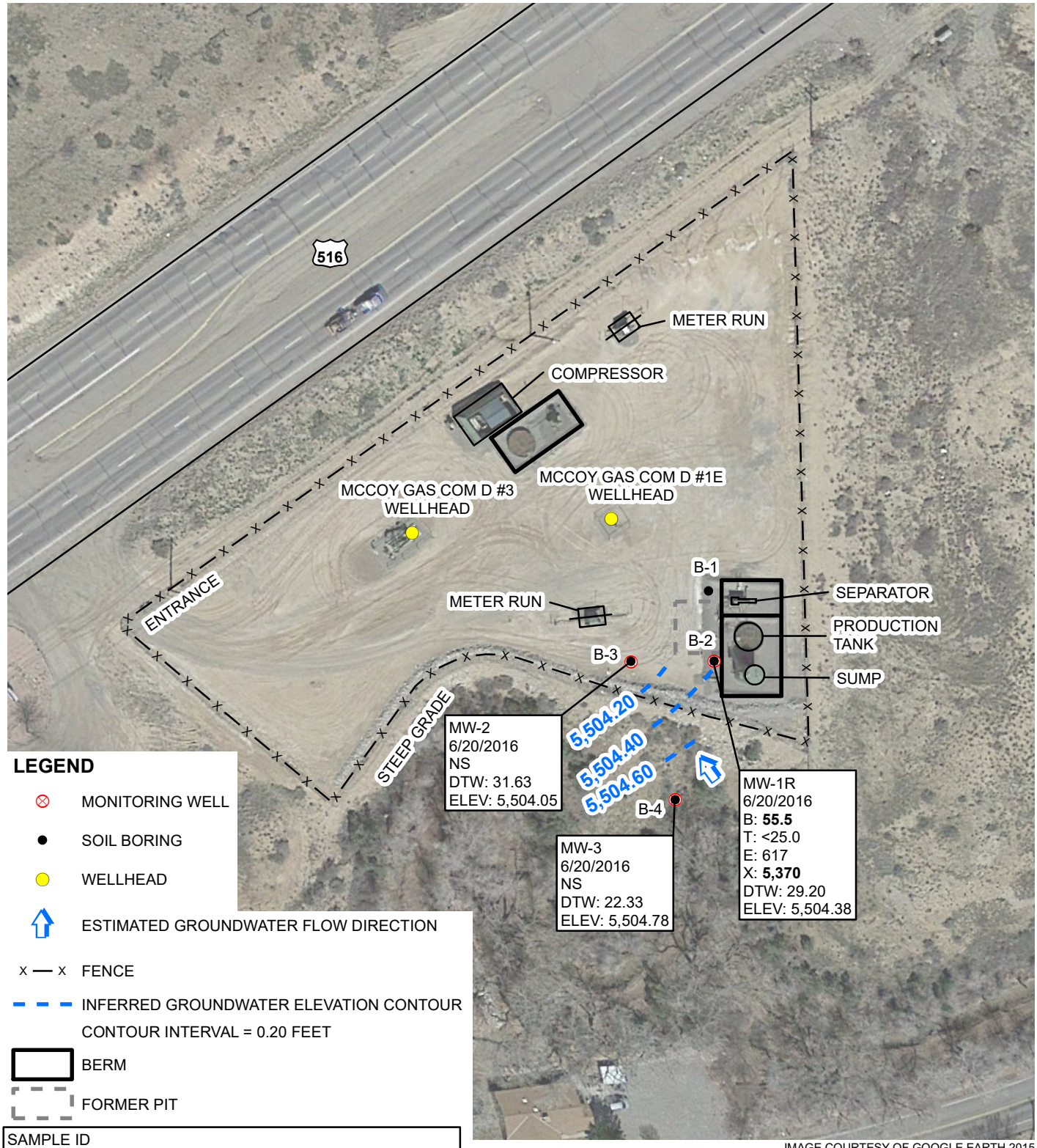
FIGURE 2

GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS

(JUNE 2016)



SAMPLE ID
SAMPLE DATE
B: BENZENE IN MICROGRAMS PER LITER (µg/L)
T: TOLUENE (µg/L)
E: ETHYLBENZENE (µg/L)
X: TOTAL XYLENES (µg/L)
DTW: DEPTH TO GROUNDWATER MEASURED IN FEET BELOW TOP OF CASING
ELEV: GROUNDWATER ELEVATION MEASURED IN FEET ABOVE MEAN SEA LEVEL
NS: NOT SAMPLED
<: LESS THAN LABORATORY METHOD DETECTION LIMIT
BOLD INDICATES RESULT EXCEEDS THE NEW MEXICO WATER QUALITY CONTROL COMMISSION STANDARD

FIGURE 2
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS (JUNE 2016)
MCCOY GAS COM D #1E
SWNW SEC 28 T30N R12W
SAN JUAN COUNTY, NEW MEXICO
XTO ENERGY, INC.

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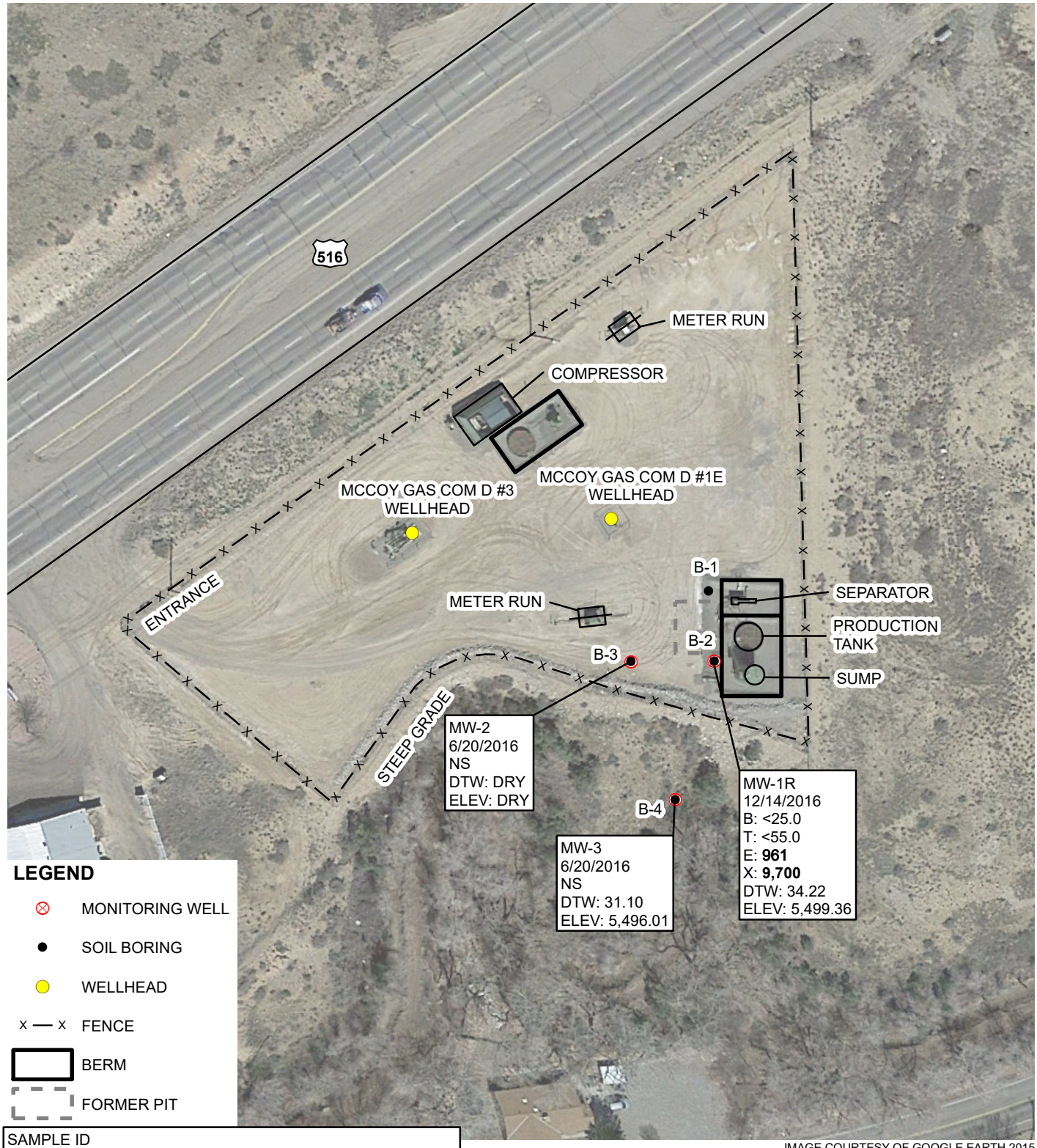
FIGURE 3

GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS

(DECEMBER 2016)



SAMPLE ID
SAMPLE DATE
B: BENZENE IN MICROGRAMS PER LITER (µg/L)
T: TOLUENE (µg/L)
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NS: NOT SAMPLED
<: LESS THAN LABORATORY METHOD DETECTION LIMIT
BOLD INDICATES RESULT EXCEEDS THE NEW MEXICO WATER QUALITY CONTROL COMMISSION STANDARD

IMAGE COURTESY OF GOOGLE EARTH 2015

0 80 160
Feet

N

FIGURE 3
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS (DECEMBER 2016)
MCCOY GAS COM D #1E
SWNW SEC 28 T30N R12W
SAN JUAN COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLE 1

GROUNDWATER ELEVATION SUMMARY

TABLE 1

GROUNDWATER ELEVATION SUMMARY
MCCOY GAS COM D #1E
XTO ENERGY, INC.

Well ID	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)	Volume of Product Recovered (oz)
MW-1R	10/16/2006	NP	32.86	0.00	5,502.27	0.00
MW-1R	5/16/2007	NP	30.69	0.00	5,504.44	0.00
MW-1R	7/23/2007	NP	30.57	0.00	5,504.56	0.00
MW-1R	9/27/2007	NP	32.01	0.00	5,503.12	0.00
MW-1R	11/27/2007	NP	34.60	0.00	5,500.53	0.00
MW-1R	5/13/2008	NP	31.97	0.00	5,503.16	0.00
MW-1R	1/21/2009	NP	36.88	0.00	5,498.25	0.00
MW-1R	5/26/2009	NP	30.68	0.00	5,504.45	0.00
MW-1R	5/25/2010	NP	30.13	0.00	5,505.00	0.00
MW-1R	8/12/2010	NP	30.87	0.00	5,504.26	0.00
MW-1R	11/17/2010	NP	33.96	0.00	5,501.17	0.00
MW-1R	2/14/2011	NP	37.27	0.00	5,497.86	0.00
MW-1R *	5/17/2011	NP	29.31	0.00	5,504.27	0.00
MW-1R	8/9/2011	NP	29.04	0.00	5,504.54	0.00
MW-1R	11/9/2011	NP	31.51	0.00	5,502.07	0.00
MW-1R **	3/8/2012	37.07	37.41	0.34	5,496.44	0.00
MW-1R **	6/14/2012	28.29	28.39	0.10	5,505.27	0.00
MW-1R	9/12/2012	NP	29.89	0.00	5,503.69	0.00
MW-1R **	12/21/2012	34.19	34.22	0.03	5,499.38	0.00
MW-1R	3/14/2013	NP	38.31	0.00	5,495.27	0.00
MW-1R	6/17/2013	NP	28.05	0.00	5,505.53	0.00
MW-1R	9/11/2013	NP	29.11	0.00	5,504.47	0.00
MW-1R	12/16/2013	NP	34.61	0.00	5,498.97	0.00
MW-1R	3/12/2014	NP	35.78	0.00	5,497.80	0.00
MW-1R	6/11/2014	NP	28.05	0.00	5,505.53	0.00
MW-1R	9/22/2014	NP	29.25	0.00	5,504.33	0.00
MW-1R	12/9/2014	NP	34.61	0.00	5,498.97	0.00
MW-1R	3/12/2015	NP	35.55	0.00	5,498.03	0.00
MW-1R	6/11/2015	NP	28.35	0.00	5,505.23	0.00
MW-1R	9/21/2015	NP	29.20	0.00	5,504.38	0.00
MW-1R	12/21/2015	NP	34.20	0.00	5,499.38	0.00
MW-1R	6/20/2016	NP	29.20	0.00	5,504.38	0.00
MW-1R	12/14/2016	NP	34.22	0.00	5,499.36	0.00
MW-2	5/17/2007	NP	30.56	0.00	5,505.12	0.00
MW-2	7/23/2007	NP	31.98	0.00	5,503.70	0.00
MW-2	9/27/2007	NP	32.44	0.00	5,503.24	0.00
MW-2	11/27/2007	NP	35.29	0.00	5,500.39	0.00
MW-2	5/13/2008	NP	31.98	0.00	5,503.70	0.00
MW-2	5/26/2009	NP	36.46	0.00	5,499.22	0.00
MW-2	5/25/2010	NP	29.88	0.00	5,505.80	0.00
MW-2	8/12/2010	NP	31.30	0.00	5,504.38	0.00
MW-2	11/17/2010	NP	34.61	0.00	5,501.07	0.00
MW-2	2/14/2011	NP	Dry	Dry	Dry	0.00
MW-2	5/17/2011	NP	30.60	0.00	5,505.08	0.00
MW-2	8/9/2011	NP	31.22	0.00	5,504.46	0.00
MW-2	11/9/2011	NP	33.70	0.00	5,501.98	0.00
MW-2	3/8/2012	NP	Dry	Dry	Dry	0.00
MW-2	6/14/2012	NP	29.66	0.00	5,506.02	0.00
MW-2	9/12/2012	NP	31.77	0.00	5,503.91	0.00
MW-2	12/21/2012	NP	36.44	0.00	5,499.24	0.00
MW-2	3/14/2013	NP	Dry	Dry	Dry	0.00
MW-2	6/17/2013	NP	29.45	0.00	5,506.23	0.00
MW-2	9/11/2013	NP	31.11	0.00	5,504.57	0.00
MW-2	12/16/2013	OBS	OBS	OBS	OBS	OBS
MW-2	3/12/2014	OBS	OBS	OBS	OBS	OBS
MW-2	6/11/2014	NP	30.26	0.00	5,505.42	0.00

TABLE 1

GROUNDWATER ELEVATION SUMMARY
MCCOY GAS COM D #1E
XTO ENERGY, INC.

Well ID	Date	Depth to Product (feet BTOC)	Depth to Groundwater (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)	Volume of Product Recovered (oz)
MW-2	9/22/2014	NP	31.11	0.00	5,504.57	0.00
MW-2	12/9/2014	NP	34.31	0.00	5,501.37	0.00
MW-2	3/12/2015	NP	Dry	0.00	Dry	0.00
MW-2	6/11/2015	NP	30.00	0.00	5,505.68	0.00
MW-2	9/21/2015	NP	30.96	0.00	5,504.72	0.00
MW-2	12/21/2015	NP	Dry	0.00	Dry	0.00
MW-2	6/20/2016	NP	31.63	0.00	5,504.05	0.00
MW-2	12/14/2016	NP	Dry	0.00	Dry	0.00
MW-3	5/17/2007	NP	21.55	0.00	5,505.56	0.00
MW-3	7/23/2007	NP	30.65	0.00	5,496.46	0.00
MW-3	9/27/2007	NP	24.02	0.00	5,503.09	0.00
MW-3	11/27/2007	NP	28.94	0.00	5,498.17	0.00
MW-3	5/12/2008	NP	22.55	0.00	5,504.56	0.00
MW-3	5/26/2009	NP	21.37	0.00	5,505.74	0.00
MW-3	5/25/2010	NP	20.99	0.00	5,506.12	0.00
MW-3	8/12/2010	NP	23.03	0.00	5,504.08	0.00
MW-3	11/17/2010	NP	26.85	0.00	5,500.26	0.00
MW-3	2/14/2011	NP	Dry	Dry	Dry	0.00
MW-3	5/17/2011	NP	21.49	0.00	5,505.62	0.00
MW-3	8/9/2011	NP	22.12	0.00	5,504.99	0.00
MW-3	11/9/2011	NP	25.69	0.00	5,501.42	0.00
MW-3	3/8/2012	NP	Dry	Dry	Dry	0.00
MW-3	6/14/2012	NP	20.97	0.00	5,506.14	0.00
MW-3	9/12/2012	NP	23.31	0.00	5,503.80	0.00
MW-3	12/21/2012	NP	30.61	0.00	5,496.50	0.00
MW-3	3/14/2013	NP	Dry	Dry	Dry	0.00
MW-3	6/17/2013	NP	20.80	0.00	5,506.31	0.00
MW-3	9/11/2013	NP	22.75	0.00	5,504.36	0.00
MW-3	12/16/2013	NP	31.95	0.00	5,495.16	0.00
MW-3	3/12/2014	NP	Dry	Dry	Dry	0.00
MW-3	6/11/2014	NP	20.93	0.00	5,506.18	0.00
MW-3	9/22/2014	NP	22.62	0.00	5,504.49	0.00
MW-3	12/9/2014	NP	29.24	0.00	5,497.87	0.00
MW-3	3/12/2015	NP	32.60	0.00	5,494.51	0.00
MW-3	6/11/2015	NP	21.30	0.00	5,505.81	0.00
MW-3	9/21/2015	NP	22.13	0.00	5,504.98	0.00
MW-3	12/21/2015	NP	30.65	0.00	5,496.46	0.00
MW-3	6/20/2016	NP	22.33	0.00	5,504.78	0.00
MW-3	12/14/2016	NP	31.10	0.00	5,496.01	0.00

Notes:

AMSL - Above Mean Sea Level
BTOC - Below Top of Casing
NP - No Product
OBS - Obstruction in well
* - New Top of Casing Elevation; Casing Cut Off 1.55 Feet to Remove ORC Socks in May 2011.
** - Groundwater elevation calculation: (Top of Casing Elevaton - Depth to Water) + (Product Thickness * 0.8)

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
MCCOY GAS COM D #1E
XTO ENERGY, INC.

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**10 µg/L**	**750 µg/L**	**750 µg/L**	**620 µg/L**
MW-1R	10/16/2006	**22**	**2,500**	**2,700**	**19,000**
MW-1R	5/16/2007	**30**	**760**	**1,700**	**24,000**
MW-1R	5/13/2008	<10	640	540	**11,000**
MW-1R	1/21/2009	<100	**1,200**	**1,100**	**12,000**
MW-1R	5/26/2009	<10	620	640	**11,000**
MW-1R	5/25/2010	**130**	160	430	**7,100**
MW-1R	8/12/2010	**120**	<120	260	**6,700**
MW-1R	11/17/2010	**360**	<2,500	**1,400**	**16,000**
MW-1R	2/14/2011	**16**	**1,000**	**870**	**13,000**
MW-1R	5/17/2011	**300**	290	**850**	**13,000**
MW-1R	8/9/2011	<5	53.6	19.3	**6,220**
MW-1R	11/9/2011	**11**	<50	<5	**1,600**
MW-1R	3/8/2012	NS	NS	NS	NS
MW-1R	6/14/2012	**120**	110	**750**	**5,000**
MW-1R	9/12/2012	**78**	<250	120	**4,600**
MW-1R	12/21/2012	<25	<250	280	**7,400**
MW-1R	3/21/2013	**98**	<250	<25.0	**7,100**
MW-1R	6/17/2013	**66**	<250	94	**4,500**
MW-1R	9/11/2013	**33**	<25	76	**840**
MW-1R	12/13/2013	**52**	<100	160	**2,000**
MW-1R	3/12/2014	**100**	<120	680	**8,800**
MW-1R	6/11/2014	**36**	<25	430	**4,100**
MW-1R	9/22/2014	2.7	<25	490	**1,400**
MW-1R	12/9/2014	<9.5	<250	**840**	**8,500**
MW-1R	3/12/2015	**96**	<25	**860**	**8,900**
MW-1R	6/11/2015	<25	<250	610	**5,700**
MW-1R	9/21/2015	**24.8**	<5	525	**4,340**
MW-1R	12/21/2015	**92.9**	<250	**765**	**7,850**
MW-1R	6/20/2016	**55.5**	<25.0	617	**5,370**
MW-1R	12/14/2016	<25.0	<50.0	**961**	**9,700**

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
MCCOY GAS COM D #1E
XTO ENERGY, INC.

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**10 µg/L**	**750 µg/L**	**750 µg/L**	**620 µg/L**
MW-2	5/17/2007	<1.0	<1.0	<1.0	3.10
MW-2	5/13/2008	<1.0	<1.0	<1.0	<2.0
MW-2	5/25/2010	<1.0	<1.0	<1.0	<2.0
MW-3	5/17/2007	<1.0	<1.0	<1.0	<2.0
MW-3	5/12/2008	<1.0	<1.0	<1.0	<2.0
MW-3	5/25/2010	<1.0	<1.0	<1.0	<2.0

Notes:
µg/L - micrograms per liter
NMWQCC - New Mexico Water Quality Control Commission
NS - Not Sampled
BOLD indicates the result exceeds the NMWQCC Standard
< indicates result is less than the stated laboratory method detection limit

ATTACHMENT 1

ENVIROTECH, INC. SITE ASSESSMENT (1992)

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

94022

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: EXTENDAHOE

DATE STARTED: 4-24-92
DATE FINISHED: 4-24-92
ENVIRO. SPCLT: MKL
OPERATOR: MS
ASSISTANT: PV

LOCATION: LSE: McCOY G.C. WELL: "D" 1E QD: SW/4 NW/4 (E)
SEC: 28 TWP: 30N RNG: 12W PM: NM CNTY: SJ ST: NM PIT: SEP. PIT

LAND USE: RURAL RESIDENTIAL & COMMERCIAL (FLEA MARKET TO EAST)
SURFACE CONDITIONS: STEEL DOUBLE LINED TANK W/SAND (12'DIA X 5') BELOW GRADE

FIELD NOTES & REMARKS: LOCATED 70' SOUTH & 30' EAST OF WELL HEAD. SOIL CONDITIONS; BROWN SILTY SAND TO GRAVEL, MOIST, DENSE (POSSIBLE FILL). PIT LOCATED IN SOUTH EAST CORNER OF LOCATION ABOVE DRAINAGE TO SOUTH. APPEARS THAT WELL LOCATION HAS 20± FEET OF FILL. IRRIGATION DITCH UNLINED FLOWING WEST, 150' SOUTH OF LOCATION. TANK BEDDED IN PEA GRAVEL.

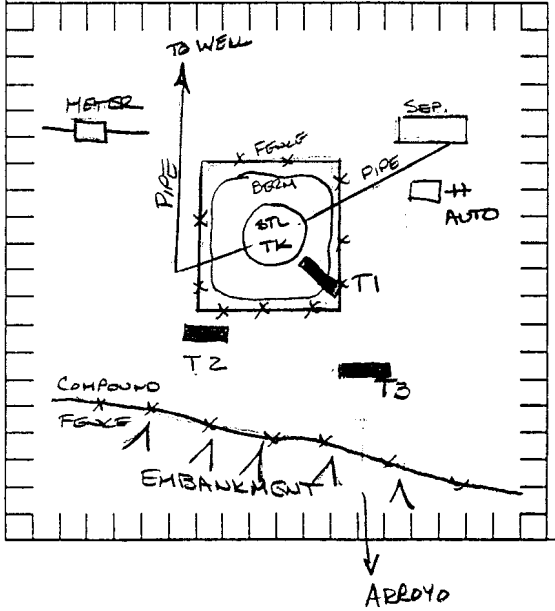
SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T1@5'	SOIL	HEAD
T1@5'	SOIL	8020/TPH

SCALE
0 10 20 FEET

N

SITE DIAGRAM



TEST HOLE LOGS:

TH#: 1

SOIL TYPE:	SMPL TYPE:	OVM/TPH
GM/SM		
		2K.3
		188
TD - 9'		
GW - NR		

TH#: 2

SOIL TYPE:	SMPL TYPE:	OVM/TPH
GM/SM		
CALICHE LAYER		
		ND
		ND
TD - 12		
GW - NOT REACH		

TH#: 3

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SM/SC		
BOTTOM OF FILL		
		ND
GM/SM		
		ND
TD - 14'		
GW - NR		

TH#:

SOIL TYPE:	SMPL TYPE:	OVM/TPH

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well

ATTACHMENT 2

BLAGG ENGINEERING, INC. FIELD REPORT (2006)

FLORA VISTA QUAD. VW 30045 24873 36.78677 / 108.10784

CLIENT: XTO	**BLAGG ENGINEERING, INC.** **P.O. BOX 87, BLOOMFIELD, NM 87413** **(505) 632-1199**	LOCATION NO: COCR NO: HALL

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: McCoy GC D WELL #: 1E TYPE: SEP.
QUAD/UNIT: E SEC: 28 TWP: 30N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 1600'N/1230'W SW/NW CONTRACTOR: HDI (HERB)

DATE STARTED: 2/17/06
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 30 FT. x 30 FT. x 23 FT. DEEP. CUBIC YARDAGE: 750
DISPOSAL FACILITY: JFJ LF - CROUCH MESA REMEDIATION METHOD: LANDFARM
LAND USE: INDUSTRIAL LEASE: FEE FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 80 FT. S24E FROM WELLHEAD.
DEPTH TO GROUNDWATER: <100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: <200'
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 53.3 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 3:20 am/pm DATE: 2/16/06

SOIL AND EXCAVATION DESCRIPTION: ELEV. - 5,524'

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER
SOIL COLOR: DK. YELL. ORANGE TO BLACK
COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE
~~PLASTICITY (CLAYS)~~: NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
~~DENSITY (COHESIVE CLAYS & SILTS)~~: SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION - VARYING GRAY TO BLACK STARTING @ 1' BELOW GRADE
HC ODOR DETECTED: YES / NO EXPLANATION - DISCOLORED PORTION ONLY. AROUND TANK PERIMETER
SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS.
ADDITIONAL COMMENTS: ORIGINAL PIT DIMENSION 17'x19' W/ STEEL TANK ~ 5' BELOW GRADE.

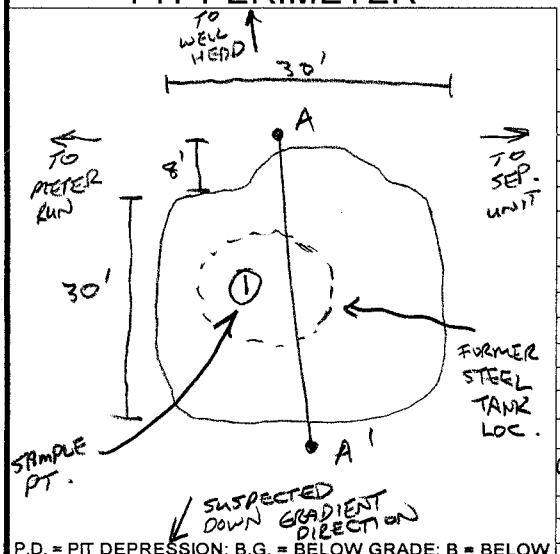
NEED TO ESTABLISH HORIZ. & VERT. EXTENT

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE 0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

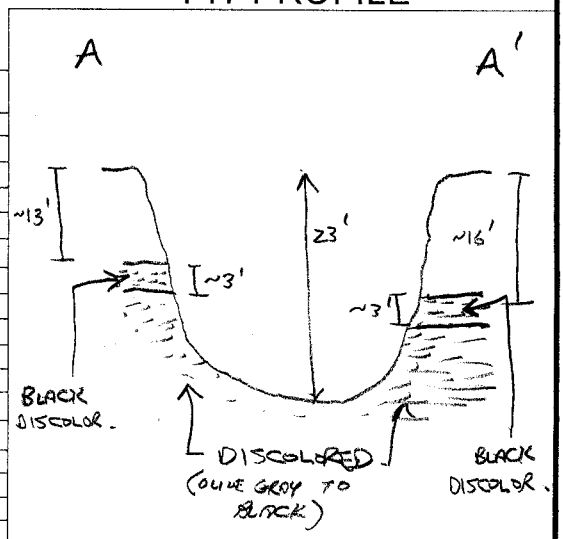
OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 23'	768
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
① @ 23'	TPH (8015B)	1043
"	BTEX (8021B)	"
"	CHLORIDE	"

PIT PROFILE



TRAVEL NOTES: CALLOUT: 2/16/06 - MORN. ONSITE: 2/16/06 - NOON 2/17/06 - MORN. 9AM

revised: 09/04/02 bei1005C.skf

ATTACHMENT 3

COMPLETION DIAGRAMS AND BOREHOLE LOGS

MONITORING WELL INSTALLATION RECORD

Borehole # 2
Well # MW-1
Page 1 of 1

Lodestar Services, Inc
PO Box 3861
Farmington, New Mexico 87499
(505) 334-2791

Project Name XTO Ground Water
Project Number _____ Cost Code _____
Project Location McCoy Gas Com D 1E

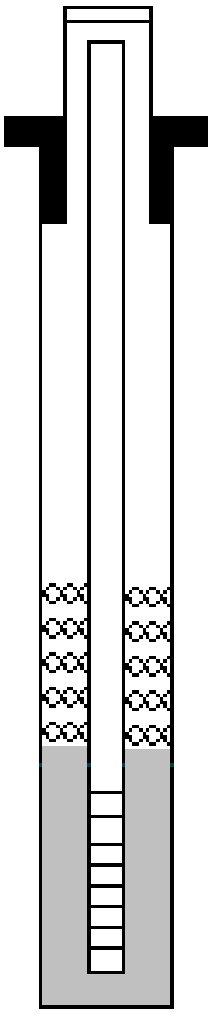
Elevation 5532
Well Location 36º 47.196' N, 108º 06.468' W
GWL Depth 34'
Installed By Envirotech

On-Site Geologist Ashley Ager
Personnel On-Site
Contractors On-Site Kelly Padilla and assistant
Client Personnel On-Site

Date/Time Started 09/21/06, 15:23
Date/Time Completed 09/22/06, 10:35

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		2.9
Bottom of Protective Casing		-0.9
Top of Permanent Borehole Casing	Sch. 40 PVC	2.8
Bottom of Permanent Borehole Casing		-40.40
Top of Concrete	Concrete	.25
Bottom of Concrete		-5.0
Top of Grout		-5.0
Bottom of Grout		-16.0
Top of Well Riser	Sch. 40 PVC	2.8
Bottom of Well Riser		-39.95
Top of Well Screen	Sch. 40 PVC	-19.9
Bottom of Well Screen		-39.9
Top of Peltonite Seal	Bentonite	-16.0
Bottom of Peltonite Seal		-18.0
Top of Gravel Pack	Sand	-18.0
Bottom of Gravel Pack		-39.95
Top of Natural Cave-In	Sand	-39.95
Bottom of Natural Cave-In		-40
Top of Groundwater		-34.0
Total Depth of Borehole		-40



Top of Protective Casing 2.9
Top of Riser 2.8
Ground Surface 0
Top of Seal -16
Top of Gravel Pack -18
Top of Screen -19.9
Bottom of Screen -39.9
Bottom of Borehole -40

Comments: 50 lb bags of sand used: 18 ea.

50 lb bags of bentontie used: 6 ea.

Geologist Signature *Ashley L. Ager*

C:\Documents and Settings\Owner\My Documents\Ashley\LodeStar\XTO\Ground Water Sampling\McCoy\MW-1 install\monitoring well install_McCoy_MW-1.doc

MONITORING WELL INSTALLATION RECORD

Borehole # 3
Well # MW-2
Page 1 of 1

Lodestar Services, Inc
PO Box 3861
Farmington, New Mexico 87499
(505) 334-2791

Project Name XTO Ground Water
Project Number _____ Cost Code _____
Project Location McCoy Gas Com D 1E

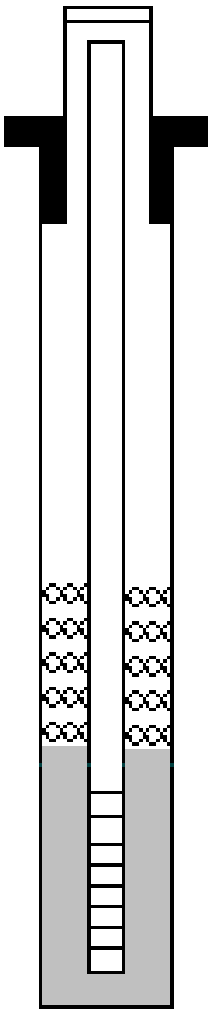
Elevation 5525
Well Location 36º 47.194' N, 108º 06.474' W
GWL Depth 32.5'
Installed By Enviro-Drill

On-Site Geologist Ashley Ager
Personnel On-Site
Contractors On-Site Shad Betts, Rodney Begay
Client Personnel On-Site

Date/Time Started 05/08/07, 12:27
Date/Time Completed 05/08/07, 13:55

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		3
Bottom of Protective Casing	steel	-2
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete	quikcrete	0.2
Bottom of Concrete		-0.8
Top of Grout	quikcrete and quikgrout	-0.8
Bottom of Grout		-23
Top of Well Riser	Sch. 40 PVC	2.5
Bottom of Well Riser		-42.4
Top of Well Screen	Sch. 40 PVC	-27.2
Bottom of Well Screen		-42.2
Top of Peltonite Seal	3/8" Bentonite hole plug	-23
Bottom of Peltonite Seal		-25
Top of Gravel Pack	10-20 grade silica sand	-25
Bottom of Gravel Pack		-42.4
Top of Natural Cave-In	Sand and cobbles	-42.4
Bottom of Natural Cave-In		-45
Top of Groundwater		-32.5
Total Depth of Borehole		-42.4



Top of Protective Casing 3
Top of Riser 2.5
Ground Surface 0
Top of Seal -23
Top of Gravel Pack -25
Top of Screen -27.2
Bottom of Screen -42.2
Bottom of Borehole -42.4

Comments: PVC riser pulled out of hole 2'8" while pulling auger.
50 lb bags of sand used: 6 ea. , 50 lb bags of bentonite used: 1 ea., Grout: 1 bag bentonite, 1 bag quikcrete; concrete: 1 bag of quikcrete used

Geologist Signature *Ashley L. Ager*

MONITORING WELL INSTALLATION RECORD

Borehole # 4
Well # MW-3
Page 1 of 1

Lodestar Services, Inc
PO Box 3861
Farmington, New Mexico 87499
(505) 334-2791

Project Name XTO Ground Water
Project Number _____ Cost Code _____
Project Location McCoy Gas Com D 1E

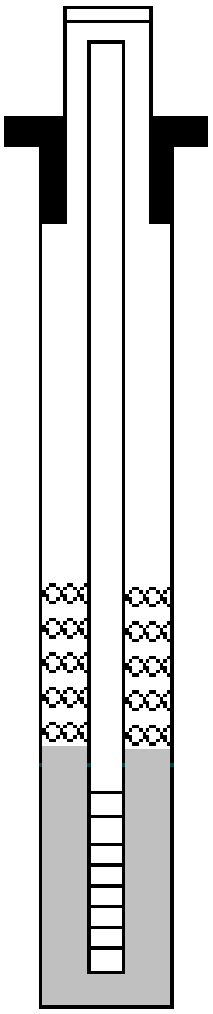
Elevation 5525
Well Location 36º 47.181' N, 108º 06.462' W
GWL Depth 24'
Installed By Enviro-Drill

On-Site Geologist Ashley Ager
Personnel On-Site
Contractors On-Site Shad Betts, Rodney Begay
Client Personnel On-Site

Date/Time Started 05/09/07, 1209
Date/Time Completed 05/09/07, 1740

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		2.5
Bottom of Protective Casing	steel	-2.5
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete	quikcrete	0.2
Bottom of Concrete		-1
Top of Grout	quikcrete and quikgrout	-1
Bottom of Grout		-17
Top of Well Riser	Sch. 40 PVC	2.2
Bottom of Well Riser		-32
Top of Well Screen	Sch. 40 PVC	-21.8
Bottom of Well Screen		-31.8
Top of Peltonite Seal	3/8" Bentonite hole plug	-17
Bottom of Peltonite Seal		-19
Top of Gravel Pack	10-20 grade silica sand	-19
Bottom of Gravel Pack		-32
Top of Natural Cave-In		NA
Bottom of Natural Cave-In		NA
Top of Groundwater		-24
Total Depth of Borehole		-32



Top of Protective Casing 2.5
Top of Riser 2.2
Ground Surface 0
Top of Seal -17
Top of Gravel Pack -19
Top of Screen -21.8
Bottom of Screen -31.8
Bottom of Borehole -32

Comments: Hole caved in while installing bentonite plug. Had to auger out cave in mixed with bentonite to reform seal. 50 lb bags of sand used: 4.5 ea. , 50 lb bags of bentonite used: 2 ea., Grout: 2 bags bentonite, 2 bags quikcrete; concrete: 1 bag of quikcrete

Geologist Signature *Ashley L. Ager*

ATTACHMENT 4

2016 LABORATORY REPORTS

ANALYTICAL REPORT

June 28, 2016

XTO Energy - San Juan Division

Sample Delivery Group:	L842709
Samples Received:	06/21/2016
Project Number:	30-045-24873
Description:	McCoy Gas Com D#1E

Report To: James McDaniel
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

FARAC-062016-1340 L842709-01 GW

Collected by: A. Crooks
Collected date/time: 06/20/16 13:40
Received date/time: 06/21/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8021B	WG883317	5	06/25/16 01:35	06/25/16 01:35	JAH
Volatile Organic Compounds (GC) by Method 8021B	WG883929	50	06/28/16 15:24	06/28/16 15:24	JHH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	0.0555		0.00250	5	06/25/2016 01:35	WG883317
Toluene	ND		0.0250	5	06/25/2016 01:35	WG883317
Ethylbenzene	0.617		0.00250	5	06/25/2016 01:35	WG883317
Total Xylene	5.37		0.0750	50	06/28/2016 15:24	WG883929
(S) a,a,a-Trifluorotoluene(PID)	*102*		*55.0-122*		*06/28/2016 15:24*	WG883929
(S) a,a,a-Trifluorotoluene(PID)	*100*		*55.0-122*		*06/25/2016 01:35*	WG883317

Method Blank (MB)

(MB) R3145978-3 06/24/16 20:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000180	0.00500
Ethylbenzene	U		0.000160	0.000500
(S) a,a,a-Trifluorotoluene(PID)	*101*			*55.0-122*

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

(LCS) R3145978-1 06/24/16 19:42 • (LCSD) R3145978-2 06/24/16 20:05

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	0.0470	0.0483	94.0	96.6	70.0-130			2.72	20
Toluene	0.0500	0.0478	0.0481	95.6	96.2	70.0-130			0.590	20
Ethylbenzene	0.0500	0.0498	0.0499	99.5	99.8	70.0-130			0.240	20
(S) a,a,a-Trifluorotoluene(PID)				*100*	*100*	*55.0-122*				

L842799-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842799-01 06/24/16 22:58 • (MS) R3145978-4 06/24/16 21:28 • (MSD) R3145978-5 06/24/16 21:51

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	U	0.0326	0.0515	65.1	103	1	57.2-131		J3	45.1	20
Toluene	0.0500	U	0.0325	0.0508	65.0	102	1	63.7-134		J3	44.0	20
Ethylbenzene	0.0500	U	0.0333	0.0530	66.6	106	1	67.5-135	J6	J3	45.7	20
(S) a,a,a-Trifluorotoluene(PID)					*100*	*101*		*55.0-122*				

Method Blank (MB)

(MB) R3146339-3 06/28/16 12:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	*102*			*55.0-122*

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

(LCS) R3146339-1 06/28/16 11:26 • (LCSD) R3146339-2 06/28/16 11:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Total Xylene	0.150	0.184	0.177	123	118	70.0-130			4.10	20
(S) a,a,a-Trifluorotoluene(PID)				*102*	*102*	*55.0-122*				

L843090-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843090-05 06/28/16 13:08 • (MS) R3146339-4 06/28/16 13:30 • (MSD) R3146339-5 06/28/16 13:53

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Total Xylene	0.150	U	0.182	0.173	121	116	1	65.9-138			4.77	20
(S) a,a,a-Trifluorotoluene(PID)					*101*	*101*		*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
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

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 [1 4]	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		

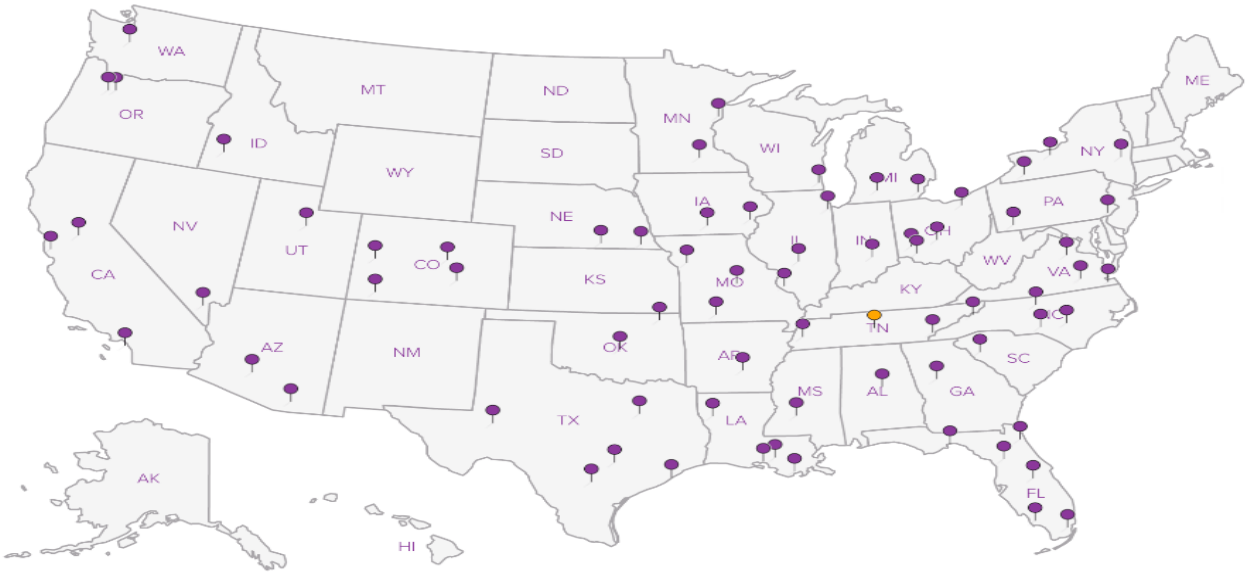
Third Party & Federal Accreditations

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 [n/a] 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.**



XTO ENERGY
Western Division

	Quote Number **XTO Contact:**	**Page _1_ of _1_**
	XTO Contact: James McDaniel	**XTO Contact Phone #:** 505-333-3701
	Email Results to: james_mcdaniel@xtoenergy.com bherb@ltenv.com	
Well Site/Location McCoy Gas Com D#1E	**API Number** 30-045-24873	**Test Reason** Quarterly GW
Collected By A. Crooks	**Samples on Ice (Y / N)**	**Turnaround** ___ 24-Hour ___ Next Day ___ Two Day ___ Three Day _X_ Std.5 Bus. Days(by contract)
Company LT Environmental, Inc.	**QA/QC Requested** Standard	
Signature	**Gray Areas for Lab Use Only!**	**Date Needed** _____

Analysis

Lab Information

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

A234

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	BTEX						Sample Number
FARAC-062016-1340	MW-7	GW	6/20/2016	1340	HCL	3	X						L842709-01

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:** 6/20/16	**Time:** 1530	**Received By: (Signature)**	**Number of Bottles** 3TP	**Sample Condition** OK
Relinquished By: (Signature)	**Date:**	**Time:**	**Received By: (Signature)**	**Temperature:** 3.2	**Other Information**
Relinquished By: (Signature)	**Date:**	**Time:**	**Received for Lab by: (Signature)**	**Date:** 6/21/16	GW

Comments

GW

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

ANALYTICAL REPORT

December 23, 2016

XTO Energy - San Juan Division

Sample Delivery Group:	L879640
Samples Received:	12/17/2016
Project Number:	30-045-24873
Description:	McCoy GC D#1E

Report To: James McDaniel
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

FARES-121416-1056 L879640-01 GW

Collected by: Emilee Skyles
Collected date/time: 12/14/16 10:56
Received date/time: 12/17/16 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8021B	WG936564	50	12/22/16 12:19	12/22/16 12:19	CMJ

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.0250	50	12/22/2016 12:19	WG936564
Toluene	ND		0.0500	50	12/22/2016 12:19	WG936564
Ethylbenzene	0.961		0.0250	50	12/22/2016 12:19	WG936564
Total Xylene	9.70		0.0750	50	12/22/2016 12:19	WG936564
(S) a,a,a-Trifluorotoluene(PID)	*99.0*		*55.0-122*		*12/22/2016 12:19*	WG936564

Method Blank (MB)

(MB) R3186574-3 12/22/16 02:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	*99.7*			*55.0-122*

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

(LCS) R3186574-1 12/22/16 01:22 • (LCSD) R3186574-2 12/22/16 01:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0500	0.0517	0.0505	103	101	70.0-130			2.22	20
Toluene	0.0500	0.0502	0.0491	100	98.1	70.0-130			2.25	20
Ethylbenzene	0.0500	0.0509	0.0497	102	99.4	70.0-130			2.40	20
Total Xylene	0.150	0.151	0.148	101	98.5	70.0-130			2.37	20
(S) a,a,a-Trifluorotoluene(PID)				*98.7*	*99.0*	*55.0-122*				

L879413-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L879413-02 12/22/16 05:43 • (MS) R3186574-4 12/22/16 02:29 • (MSD) R3186574-5 12/22/16 04:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.0500	0.0913	0.0852	0.0805	0.000	0.000	1	57.2-131	J6	J6	5.63	20
Toluene	0.0500	0.204	0.167	0.158	0.000	0.000	1	63.7-134	V	V	5.59	20
Ethylbenzene	0.0500	0.0153	0.0435	0.0405	56.4	50.4	1	67.5-135	J6	J6	7.16	20
Total Xylene	0.150	0.105	0.174	0.163	46.2	38.5	1	65.9-138	J6	J6	6.91	20
(S) a,a,a-Trifluorotoluene(PID)					*99.4*	*96.4*		*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
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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 [n/a] Accreditation not applicable

Our Locations

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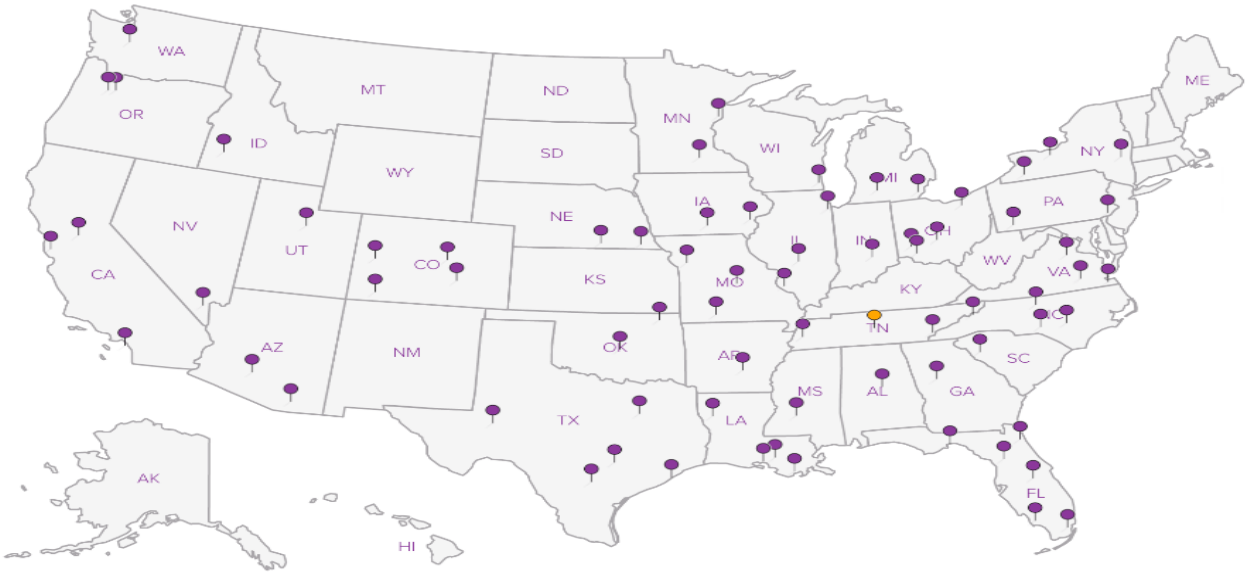

1202

XTO ENERGY
Western Division

Quote Number	**Page _1_ of _1_**
XTO Contact: James McDaniel	**XTO Contact Phone #:** (505) 333-3701
Email Results to: james_mcdaniel@XTOenergy.com, Logan_Hixon@XTOenergy.com Bherb@LTEnv.com, Dburns@ltenv.com	
Well Site/Location McCoy GC D#1E	**API Number** 30-045-24873
Collected By Emilee Skyles	**Samples on Ice** (Y / N)
Company LT Environmental, Inc.	**QA/QC Requested** Standard
Signature	**Gray Areas for Lab Use Only!**

Test Reason Quarterly GW

Turnaround
___ 24-Hour
___ Next Day
___ Two Day
___ Three Day
_X_ Standard
Date Needed _____

Analysis

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	TPH-GRO/DRO	8021 - BTEX	SAR	EC	CHLORIDE	See Attached	Sample Number
FARES-121416-1056	MW-1R	GW	12/14/2016	10:56	HCl	3		X					379640-01

Lab Information

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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:** 12/16/16	**Time:** 13:00	**Received By: (Signature)**	**Number of Bottles**	**Sample Condition**
Relinquished By: (Signature)	**Date:**	**Time:**	**Received By: (Signature)**	**Temperature:** 1.9 MW 50 COOL	**Other Information**
Relinquished By: (Signature)	**Date:**	**Time:**	**Received for Lab by: (Signature)** MWH	**Date:** 12-17-16	**Time:** 10:30

Comments Please include 3 EDD's- LTE Format, COGCC Format, and XTO Format

TOTAL = 3 = VP

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

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

Cooler Receipt Form

Client: XTOXMT		SDG#	879640
Cooler Received/Opened On: 12/17/16		Temperature Upon Receipt:	1.9 °c
Received By: Michael Witherspoon			
Signature: MWat			

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

ATTACHMENT 5

2016 FIELD NOTES

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F
970.385.1873

Water Sample Collection Form

Project Name XTO Groundwater Monitoring
Project Number 01291l009

Site Name McCoy GC D #1E
Sampler Alex Crooks
Sample Date ~~6/17/2016~~ 6/20/16
Matrix Groundwater
Analyses 8021 BTEX
Laboratory ESC
Turn Around Time Standard
Shipping FedEx
Trip Blank No
Method of Purging Dedicated bailer
Method of Sampling Purge 3 volumes or bail dry

Sample ID	Depth to Water (ft)	Total Depth (ft)	Vol to Purge (gal)*	Actual Vol Purged (gal)	Sample Time	Comments
MW-1R	29.20	38.95	4.77	5.00	1340	light gray/slight cloudy / No odor

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols

Comments
38.95-29.20 = 9.75 x .1631 = 1.59 x 3 = 4.77
purged 3 well volumes & took sample at 1340

Signature: Alex Crooks
Date: 6/20/16

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F

Water Sample Collection Form

Project Name XTO Groundwater Monitoring
Project Number ~~12911007~~ 012911009

Site Name McCoy GCD #1E
Sampler E. Skyles
Sample Date 12/14/16
Matrix Groundwater
Laboratory ESC
Shipping FedEx
Method of Purging Dedicated bailer
Method of Sampling Purge 3 volumes or bail dry

Analyses 8021 BTEX
Turn Around Time Standard
Trip Blank No

Sample ID	Depth to Water (ft)	Total Depth (ft)	Vol to Purge (gal)*	Actual Vol Purged (gal)	Sample Time	Comments
MW-1R	34.22	38.73	2.2	2.25	1056	Cloudy/gray, odor, sheen
MW-2	DRY	34.35	—	—	NS	-not sampled
MW-3	31.1	32.65	—	—	NS	-not sampled

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols

Comments

Signature: [signature] Date: 12/27/16