

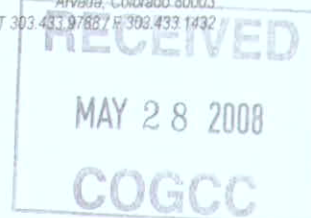


COMPLIANCE / ENGINEERING / REMEDIATION



01408060

LT Environmental Inc.  
4600 W. 60th Avenue  
Arvada, Colorado 80003  
T 303.433.9788 / F 303.433.1432



January 15, 2008

Ms. Lisa Winn  
XTO Energy, Inc.  
2700 Farmington Avenue  
Farmington, NM 87401

RE: November 2007 Well Site Investigation  
Flagg #6-3 and Five Abandoned Production Wells -  
La Plata County, Colorado

Phillip J. Schalles #1  
A O Martin #1  
J W Carlson #1  
Jones #1

Dear Ms. Winn:

LT Environmental, Inc. (LTE) is pleased to provide XTO Energy, Inc. (XTO) with this letter summarizing the results of the well site investigation activities conducted in the vicinity of one active production well site and five abandoned production well sites located in La Plata County, Colorado on November 26, 2007. LTE completed this work in response to a concern for methane seepage in the vicinity of a recently drilled production well identified as the Flagg #6-3 (API #05-067-09387).

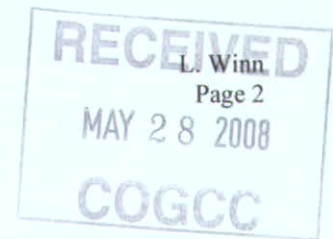
## BACKGROUND

After completion of the Flagg #6-3 production well, methane was observed seeping from the groundwater around the surface casing. LTE conducted soil gas surveys at the Flagg #6-3 well site and at four of the five closest abandoned production well sites (A O Martin #1 [API #05-067-05174], J. W. Carlson #1 [API #05-067-05198], Jones #1 [API #05-067-05220], and Phillip J. Schalles #1 [API #05-067-05186]) in order to determine whether potentially hazardous environmental conditions, specifically methane seepage, exist that could impact the Flagg #6-3 well site. LTE originally planned to include five abandoned production wells as part of this well site investigation, however, LTE was denied access to the John Sauer #1 (API #05-067-05215) abandoned well site by the landowner. Therefore, LTE did not conduct a soil gas survey at this location.

## SITE DESCRIPTION

The active Flagg #6-3 well site and the five abandoned well sites of concern are located in La Plata County, Colorado (Figure 1).

The following table presents the locations of the active production well and the five abandoned production wells, including the geographic coordinates, as measured by LTE using GPS, and the legal description, as listed on the COGCC database.



## WELL SITE LOCATIONS

Well Name	API #	Geographic Coordinates (NAD83)		PLSS Location	County
		Latitude	Longitude		
Flagg #6-3	05-067-09387	37.04906	-107.53759	SWNE Sec. 6, T32N, R6W	La Plata
A. O. Martin #1	05-067-05174	37.04338	-107.53677	NESE Sec. 6, T32N, R6W	La Plata
John Sauer #1	05-067-05215	37.05603*	-107.53619*	SESE Sec. 31 T33N, R6W	La Plata
J. W. Carlson #1	05-067-05198	37.05061	-107.52945	NWNW Sec. 5, T32N, R6W	La Plata
Jones #1	05-067-05220	37.05695	-107.54635	CSW Sec. 31, T33N, R6W	La Plata
Phillip J. Schalles #1	05-067-05186	37.05042	-107.54734	NWNW Sec. 6, T32N, R6W	La Plata

API - American Petroleum Institute  
NAD 83 - North American Datum 1983  
PLSS - Public Land Survey System  
\* - As listed on the COGCC database

## SOIL GAS SURVEY METHODOLOGY

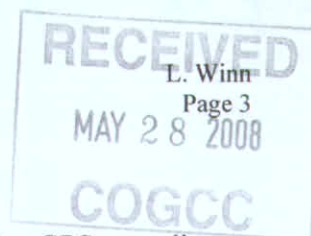
LTE reviewed online well files for each of the four abandoned production well sites in the vicinity of the Flagg #6-3 production well. Compiled information relevant to location and boundaries of each well site and associated well head was incorporated into LTE's Geographic Information System (GIS).

Prior to conducting the field work, LTE generated a 300-foot by 300-foot electronic sampling grid with 100-foot spacing to cover each of the well site mapping areas systematically and to provide a means to delineate the extent of any gas seepage. The grid was generated using AutoCAD LT<sup>®</sup> 2004 and projected into the appropriate coordinate system using ArcMap 8.3. The grid was uploaded onto a Trimble GeoXT<sup>®</sup> GPS unit for use in the field. The sampling grid was centered over the location of the well head at each site.

During each site survey, a slide hammer was used to advance a half-inch diameter steel rod (probe) at the corners of each square on the grid and at points close to the actual well head location. Tubing was lowered into each borehole and gas measurements were collected directly from the shallow surface soil approximately 3 feet below ground surface (bgs). LTE measured the concentration of methane, carbon monoxide, hydrogen sulfide, and oxygen at each sampling location using a Mine Safety Appliances (MSA) Gasport<sup>®</sup> four-gas meter.

Each sample point location was recorded using GPS. The measured gas concentrations and other relevant field notes were stored as attributes in the GPS unit with the associated GPS mapped position. A minimum of 17 and a maximum of 19 subsurface gas measurements were collected from the soil during each gas survey. LTE used the GPS to map additional pertinent site features and structures and collected photographs of the site and all features of interest. LTE also used





GPS to map the actual location of each well head for comparison to the GPS coordinates provided by the COGCC database.

## **SOIL GAS SURVEY RESULTS**

LTE was able to conduct soil gas surveys at four of the five abandoned well sites of concern and at the Flagg #6-3 active well site. Methane gas was not detected at any of the four abandoned well sites surveyed during this investigation. Methane gas was detected in the vicinity of the Flagg #6-3 well site. LTE was not granted access to the John Sauer #1 well site during field activities. The following sections summarize the results of the five soil gas surveys conducted during this investigation. Photographs of the five sites are included as Attachment 1.

### **Flagg #6-3**

The sampling grid for the Flagg #6-3 soil gas survey was centered over the active production well. LTE personnel advanced 18 subsurface probes across the Flagg #6-3 well site. Results of this survey indicate that methane was found at four of the sample locations. Detectable methane concentrations ranged from 1,000 parts per million (ppm) to 180,000 ppm (18 percent [%]). Hydrogen sulfide was not detected at any of the sample locations. Oxygen concentrations ranged from 16.5% to 20.7%. Detectable concentrations of carbon monoxide ranged from 2 ppm to 69 ppm. No stressed vegetation was observed during the survey. Results of the soil gas survey are depicted on Figure 2. Table 1 presents the subsurface gas measurements collected during the Flagg #6-3 survey.

At the request of XTO, Ecosphere Environmental Services (Ecosphere) previously completed a soil gas survey of the Flagg #6-2 (API #05-067-08080) abandoned well site on May 17, 2007. This previous environmental investigation is significant because the Flagg #6-2 abandoned well is located on same well pad as the newly drilled active production well Flagg #6-3. The work was completed to document subsurface soil gas conditions as required by the Memorandum of Understanding (MOU) between the La Plata County Board of Commissioners and XTO. During the May 2007 soil gas survey performed at the Flagg #6-2 abandoned well, methane was not detected at any of the six subsurface probes advanced by Ecosphere personnel. Ecosphere's May 2007 report, entitled *Soil Gas Survey XTO Energy, Inc. Flagg #06-02 Plugged and Abandoned Natural Gas Well*, is included as Attachment 2.

### **A.O. Martin #1**

No abandoned well marker was observed in the vicinity of the A.O. Martin #1 abandoned well site. LTE determined the location of the well site as being a relatively flat area with excavated rocks resting on the ground surface. A stake was observed in the center of the rocks. Information provided on the COGCC website confirmed this location. LTE centered the sampling grid for this survey over the rocks and stake.

LTE personnel advanced 19 subsurface probes across A.O. Martin #1 abandoned production well site. Results of this survey indicate that methane was not detected at any of the sample locations.





Additionally, hydrogen sulfide was not detected at any of the sample locations. Oxygen concentrations ranged from 20.3% to 20.7%. Detectable concentrations of carbon monoxide ranged from 1 ppm to 5 ppm. No stressed vegetation was observed during the survey. Results of the soil gas survey are depicted on Figure 3. Table 2 presents the subsurface gas measurements collected during the A.O. Martin #1 survey.

LTE conducted a previous environmental investigation at the A.O. Martin #1 abandoned well site on April 17, 2007. The survey was conducted as part of the Environmental Response Fund (ERF) well investigation which included surveys of 30 orphaned plugged and abandoned (P&A) well sites in the southwest region of Colorado. The objective of the ERF investigation was to determine whether potentially hazardous environmental conditions, specifically methane seepage, exist in the vicinity of the well site as a result of unsuccessful plugging operations and/or changing environmental conditions. Results of the April 2007 soil gas survey indicated that methane was not detected at any of the 17 subsurface probes advanced by LTE in the vicinity of the A.O. Martin #1 abandoned well site. LTE's June 2007 report, entitled *Environmental Response Fund Well Site Investigation Report – Southwest Region – A.O. Martin #1 (05-067-05174)*, is included as Attachment 2.

#### **J.W. Carlson #1**

No abandoned well marker was observed in the vicinity of the J.W. Carlson #1 abandoned well site. LTE determined the location of the well site as being a relatively flat area in a recently plowed field. The landowner and information provided on the COGCC website confirmed this location. LTE centered the sampling grid for this survey over the COGCC database position of the well.

LTE personnel advanced 17 subsurface probes across J.W. Carlson #1 abandoned production well site. Results of this survey indicate that methane was not detected at any of the sample locations. Additionally, hydrogen sulfide was not detected at any of the sample locations. Oxygen concentrations ranged from 20.3 % to 20.7%. Detectable concentrations of carbon monoxide ranged from 1 ppm to 5 ppm. No stressed vegetation was observed during the survey. Results of the soil gas survey are depicted on Figure 4. Table 3 presents the subsurface gas measurements collected during the J.W. Carlson #1 survey.

#### **Jones #1**

No abandoned well marker was observed in the vicinity of the Jones #1 abandoned well site. LTE determined the location of the well site as being a relatively flat area along a roadside. LTE centered the sampling grid for this survey over the COGCC database position of the well.

LTE personnel advanced 18 subsurface probes across the Jones #1 abandoned production well site. Results of this survey indicate that methane was not detected at any of the sample locations. Additionally, hydrogen sulfide was not detected at any of the sample locations. Oxygen concentrations ranged from 19.6% to 20.5%. Detectable concentrations of carbon monoxide ranged from 4 ppm to 20 ppm. No stressed vegetation was observed during the survey. Results



of the soil gas survey are depicted on Figure 5. Table 4 presents the subsurface gas measurements collected during the Jones #1 survey.

#### **Phillip J. Schalles #1**

LTE observed an abandoned well marker identified as the Phillip J. Schalles #1 at the abandoned well site. LTE centered the sampling grid for this survey over the abandoned well marker.

LTE personnel advanced 17 subsurface probes across the Phillip J. Schalles #1 abandoned production well site. Results of this survey indicate that methane was not detected at any of the sample locations. Additionally, hydrogen sulfide was not detected at any of the sample locations. Oxygen concentrations ranged from 19.5% to 20.8%. Detectable concentrations of carbon monoxide ranged from 1 ppm to 6 ppm. No stressed vegetation was observed during the survey.

LTE observed a permanent soil monitoring probe next to the abandoned well marker for the Phillip J. Schalles #1. Methane was not detected in the soil monitoring probe. Results of the soil gas survey are depicted on Figure 6. Table 5 presents the subsurface gas measurements collected during the Phillip J. Schalles #1 survey.

#### **CONCLUSIONS**

Methane gas was not detected at any of the four abandoned well sites surveyed during this investigation. Methane gas was detected at concentrations up to 180,000 ppm at the Flagg #6-3 active well site. LTE was not granted access to the John Sauer #1 well site during field activities. Therefore, the presence or absence of methane gas seepage in the vicinity of the John Sauer #1 abandoned well site cannot be determined at this time.

LTE appreciates the opportunity to provide environmental services to the XTO Energy, Inc. If you have any questions regarding this report or would like additional information, please contact us at (970) 884-5215.

Sincerely,

LT ENVIRONMENTAL, INC.

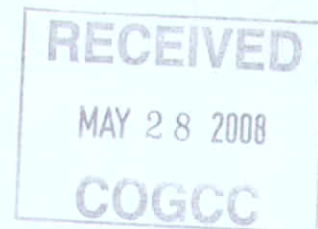
A handwritten signature in black ink, reading 'Kyle G. Siesser'.

Kyle G. Siesser  
Project Geologist

A handwritten signature in black ink, reading 'John D. Peterson'.

John D. Peterson, P.G.  
Project Manager

Attachments



**FIGURES AND TABLES**





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TABLE 1  
SOIL GAS SURVEY DATA  
FLAGG #6-3 (API #05-067-09387)  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.

Point ID	GPS Coordinates*		Sample Date	Subsurface CH <sub>4</sub> Conc. (ppm)	Subsurface O <sub>2</sub> Conc. (%)	Subsurface H <sub>2</sub> S Conc. (ppm)	Subsurface CO Conc. (ppm)
	NORTHING	EASTING					
1	1145732.528	2405362.021	11/26/2007	180,000	17.2	0	4
2	1145711.266	2405362.910	11/26/2007	80,000	18.3	0	69
3	1145672.007	2405413.286	11/26/2007	0	20.6	0	51
4	1145772.106	2405414.227	11/26/2007	0	20.5	0	50
5	1145871.052	2405419.787	11/26/2007	0	20.3	0	68
6	1145871.197	2405311.216	11/26/2007	0	20.4	0	4
7	1145771.568	2405307.485	11/26/2007	17,500	16.5	0	64
8	1145676.864	2405315.334	11/26/2007	1,000	20.4	0	57
9	1145574.843	2405209.300	11/26/2007	0	20.5	0	4
10	1145674.938	2405209.813	11/26/2007	0	20.6	0	0
11	1145775.382	2405206.992	11/26/2007	0	20.3	0	0
12	1145877.155	2405209.432	11/26/2007	0	20.4	0	0
13	1145568.975	2405323.191	11/26/2007	0	20.7	0	0
14	1145578.761	2405412.525	11/26/2007	0	20.4	0	2
15	1145576.511	2405519.466	11/26/2007	0	20.6	0	0
16	1145672.231	2405517.934	11/26/2007	0	20.6	0	0
17	1145772.653	2405515.224	11/26/2007	0	20.5	0	25
18	1145879.855	2405511.958	11/26/2007	0	20.4	0	48

**Notes:**

\* GPS coordinates are in Colorado State Plan South, NAD83. Units are in Feet (ft.)

CH<sub>4</sub> - methane

O<sub>2</sub> - oxygen

H<sub>2</sub>S - hydrogen sulfide

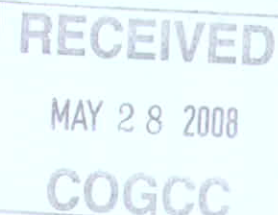
CO - carbon monoxide

Conc. - concentration

ppm - parts per million

% - percent





**TABLE 2**  
**SOIL GAS SURVEY DATA**  
**A. O. MARTIN #1 (API #05-067-05174)**  
**LA PLATA COUNTY, COLORADO**  
**XTO ENERGY, INC.**

Point ID	GPS Coordinates*		Sample Date	Subsurface CH <sub>4</sub> Conc. (ppm)	Subsurface O <sub>2</sub> Conc. (%)	Subsurface H <sub>2</sub> S Conc. (ppm)	Subsurface CO Conc. (ppm)
	NORTHING	EASTING					
1	1143549.116	2405555.953	11/26/2007	0	20.3	0	0
2	1143647.026	2405555.903	11/26/2007	0	20.3	0	0
3	1143745.767	2405554.828	11/26/2007	0	20.3	0	0
4	1143845.727	2405554.328	11/26/2007	0	20.3	0	0
5	1143848.828	2405658.669	11/26/2007	0	20.3	0	0
6	1143747.381	2405659.656	11/26/2007	0	20.3	0	4
7	1143651.597	2405656.726	11/26/2007	0	20.3	0	0
8	1143553.294	2405657.898	11/26/2007	0	20.3	0	0
9	1143689.935	2405524.498	11/26/2007	0	20.7	0	0
10	1143651.539	2405456.053	11/26/2007	0	20.7	0	5
11	1143750.633	2405456.681	11/26/2007	0	20.6	0	1
12	1143847.626	2405456.288	11/26/2007	0	20.6	0	1
13	1143848.595	2405358.758	11/26/2007	0	20.4	0	0
14	1143982.430	2405201.044	11/26/2007	0	20.5	0	0
15	1144092.942	2405175.834	11/26/2007	0	20.4	0	0
16	1143755.134	2405352.385	11/26/2007	0	20.4	0	0
17	1143652.932	2405356.744	11/26/2007	0	20.3	0	0
18	1143550.494	2405359.649	11/26/2007	0	20.3	0	5
19	1143551.749	2405456.056	11/26/2007	0	20.3	0	0

**Notes:**

\* GPS coordinates are in Colorado State Plan South, NAD83. Units are in Feet (ft.)

CH<sub>4</sub> - methane

O<sub>2</sub> - oxygen

H<sub>2</sub>S - hydrogen sulfide

CO - carbon monoxide

Conc. - concentration

ppm - parts per million

% - percent





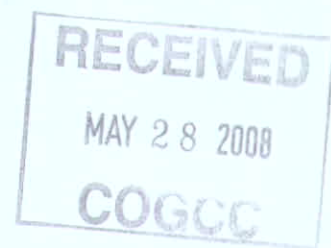


TABLE 3  
SOIL GAS SURVEY DATA  
J. W. CARLSON #1 (API #05-067-05198)  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.

Point ID	GPS Coordinates*		Sample Date	Subsurface CH <sub>4</sub> Conc. (ppm)	Subsurface O <sub>2</sub> Conc. (%)	Subsurface H <sub>2</sub> S Conc. (ppm)	Subsurface CO Conc. (ppm)
	NORTHING	EASTING					
1	1146234.559	2407752.697	11/26/2007	0	20.7	0	5
2	1146289.571	2407800.333	11/26/2007	0	20.7	0	4
3	1146386.074	2407804.562	11/26/2007	0	20.6	0	0
4	1146384.392	2407900.887	11/26/2007	0	20.5	0	0
5	1146285.608	2407901.134	11/26/2007	0	20.6	0	0
6	1146183.865	2407900.714	11/26/2007	0	20.3	0	0
7	1146181.968	2407801.491	11/26/2007	0	20.6	0	0
8	1146081.236	2407899.263	11/26/2007	0	20.4	0	0
9	1146080.183	2407802.506	11/26/2007	0	20.5	0	1
10	1146082.213	2407709.208	11/26/2007	0	20.4	0	0
11	1146184.853	2407701.738	11/26/2007	0	20.4	0	0
12	1146284.068	2407701.662	11/26/2007	0	20.4	0	0
13	1146383.891	2407699.621	11/26/2007	0	20.4	0	1
14	1146383.429	2407601.293	11/26/2007	0	20.4	0	0
15	1146284.528	2407601.547	11/26/2007	0	20.4	0	4
16	1146180.583	2407601.452	11/26/2007	0	20.4	0	0
17	1146086.491	2407601.031	11/26/2007	0	20.4	0	0

**Notes:**

\* GPS coordinates are in Colorado State Plan South, NAD83. Units are in Feet (ft.)

CH<sub>4</sub> - methane

O<sub>2</sub> - oxygen

H<sub>2</sub>S - hydrogen sulfide

CO - carbon monoxide

Conc. - concentration

ppm - parts per million

% - percent



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TABLE 4  
SOIL GAS SURVEY DATA  
JONES #1 (API #05-067-05220)  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.

Point ID	GPS Coordinates*		Sample Date	Subsurface CH <sub>4</sub> Conc. (ppm)	Subsurface O <sub>2</sub> Conc. (%)	Subsurface H <sub>2</sub> S Conc. (ppm)	Subsurface CO Conc. (ppm)
	NORTHING	EASTING					
1	1148657.694	2402858.036	11/26/2007	0	20.0	0	20
2	1148601.528	2402820.785	11/26/2007	0	20.3	0	12
3	1148599.407	2402722.023	11/26/2007	0	20.3	0	4
4	1148703.157	2402715.831	11/26/2007	0	20.3	0	4
5	1148707.991	2402824.257	11/26/2007	0	20.3	0	0
6	1148804.744	2402818.867	11/26/2007	0	20.3	0	0
7	1148803.055	2402718.335	11/26/2007	0	20.4	0	0
8	1148876.812	2402551.759	11/26/2007	0	20.3	0	20
9	1148493.705	2402822.712	11/26/2007	0	20.4	0	0
10	1148502.071	2402719.742	11/26/2007	0	20.4	0	4
11	1148495.008	2402916.782	11/26/2007	0	20.3	0	0
12	1148502.166	2403015.577	11/26/2007	0	20.3	0	7
13	1148597.150	2403017.881	11/26/2007	0	20.4	0	0
14	1148694.459	2403016.745	11/26/2007	0	20.4	0	0
15	1148800.024	2403016.364	11/26/2007	0	20.4	0	4
16	1148805.360	2402918.431	11/26/2007	0	19.6	0	0
17	1148606.734	2402917.988	11/26/2007	0	20.5	0	0
18	1148699.867	2402928.142	11/26/2007	0	20.5	0	0

**Notes:**

\* GPS coordinates are in Colorado State Plan South, NAD83. Units are in Feet (ft.)

CH<sub>4</sub> - methane

O<sub>2</sub> - oxygen

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CO - carbon monoxide

Conc. - concentration

ppm - parts per million

% - percent





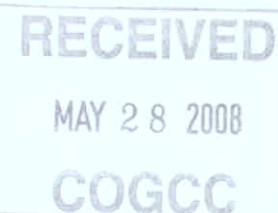


TABLE 5  
SOIL GAS SURVEY DATA  
PHILLIP J. SCHALLES #1 (API #05-067-05186)  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.

Point ID	GPS Coordinates*		Sample Date	Subsurface CH <sub>4</sub> Conc. (ppm)	Subsurface O <sub>2</sub> Conc. (%)	Subsurface H <sub>2</sub> S Conc. (ppm)	Subsurface CO Conc. (ppm)
	NORTHING	EASTING					
1	1146254.378	2402500.507	11/26/2007	0	20.4	0	0
2	1146285.080	2402527.131	11/26/2007	0	20.8	0	2
3	1146381.814	2402526.418	11/26/2007	0	20.7	0	0
4	1146381.452	2402431.478	11/26/2007	0	20.7	0	1
5	1146384.363	2402329.437	11/26/2007	0	20.8	0	6
6	1146282.925	2402328.412	11/26/2007	0	20.8	0	0
7	1146182.967	2402329.062	11/26/2007	0	20.8	0	1
8	1146079.213	2402332.337	11/26/2007	0	20.7	0	5
9	1146084.989	2402417.328	11/26/2007	0	20.8	0	0
10	1146078.064	2402523.539	11/26/2007	0	20.7	0	0
11	1146081.538	2402623.165	11/26/2007	0	20.7	0	4
12	1146181.730	2402633.224	11/26/2007	0	20.0	0	0
13	1146285.833	2402626.099	11/26/2007	0	20.7	0	0
14	1146385.237	2402630.310	11/26/2007	0	20.7	0	0
15	1146288.190	2402429.225	11/26/2007	0	20.7	0	0
16	1146182.445	2402432.852	11/26/2007	0	19.5	0	1
17	1146179.760	2402526.608	11/26/2007	0	20.4	0	2

**Notes:**

\* GPS coordinates are in Colorado State Plan South, NAD83. Units are in Feet (ft.)

CH<sub>4</sub> - methane

O<sub>2</sub> - oxygen

H<sub>2</sub>S - hydrogen sulfide

CO - carbon monoxide

Conc. - concentration

ppm - parts per million

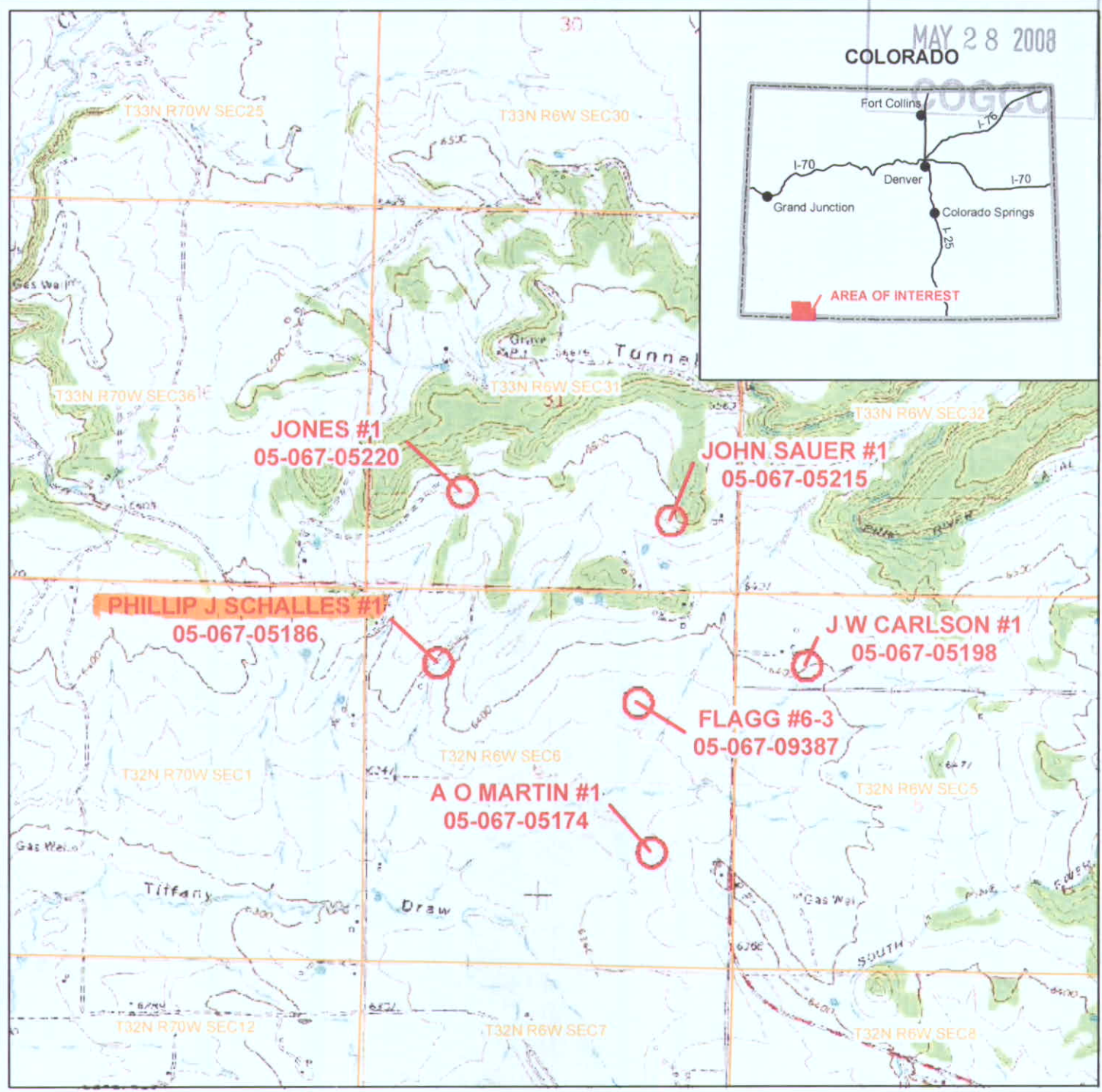
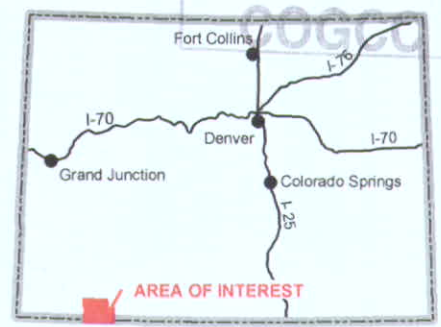
% - percent



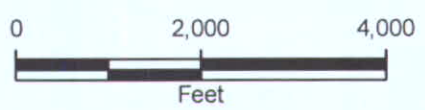
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COLORADO



MAP SOURCE: USDA/NRCS



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SITE LOCATION

FIGURE 1  
SITE LOCATION MAP  
SOIL GAS SURVEYS  
LA PLATA COUNTY, COLORADO

XTO ENERGY, INC.





MAY 28 2008



## LEGEND

### SUBSURFACE METHANE MEASUREMENTS

MAP SOURCE: USDA/NRCS, 2005

- 0 ppm
- 1ppm - 500 ppm
- 501 ppm - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

○ COGCC OIL & GAS WELL LOCATION

0 100 200  
Feet



FIGURE 2  
DETAILED MAPPING RESULTS  
FLAGG #6-3 (API #05-067-09387)  
WELL SITE INVESTIGATION  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\FLAGG.mxd



**LEGEND**

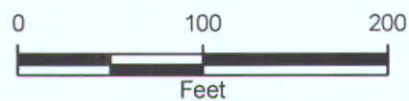
MAP SOURCE: USDA/NRCS, 2005

**SUBSURFACE METHANE MEASUREMENTS**



PLUGGED AND ABANDONED WELL

- 0 ppm
- 1ppm - 500 ppm
- 501 ppm - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%



**FIGURE 3**  
**DETAILED MAPPING RESULTS**  
**A O MARTIN #1 (API #05-067-05174)**  
**WELL SITE INVESTIGATION**  
**LA PLATA COUNTY, COLORADO**  
**XTO ENERGY, INC.**





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#### LEGEND

MAP SOURCE: USDA/NRCS, 2005

#### SUBSURFACE METHANE MEASUREMENTS



DRY AND ABANDONED WELL

- 0 ppm
- 1ppm - 500 ppm
- 501 ppm - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

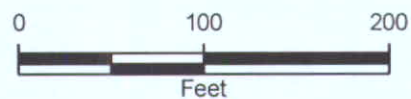


FIGURE 4  
DETAILED MAPPING RESULTS  
J W CARLSON #1 (API #05-067-05198)  
WELL SITE INVESTIGATION  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.



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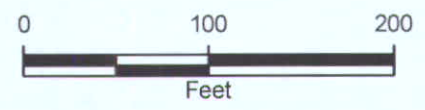
MAP SOURCE: USDA/NRCS, 2005

**LEGEND**

**SUBSURFACE METHANE MEASUREMENTS**

⊕ PLUGGED AND ABANDONED WELL

- 0 ppm
- 1ppm - 500 ppm
- 501 ppm - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%



**FIGURE 5**  
**DETAILED MAPPING RESULTS**  
**JONES #1 (API #05-067-05220)**  
**WELL SITE INVESTIGATION**  
**LA PLATA COUNTY, COLORADO**  
**XTO ENERGY, INC.**







MAP SOURCE: USDA/NRCS, 2005

**LEGEND****SUBSURFACE METHANE MEASUREMENTS**

PLUGGED AND ABANDONED WELL

- 0 ppm
- 1ppm - 500 ppm
- 501 ppm - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

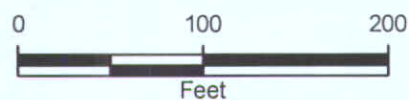


FIGURE 6  
DETAILED MAPPING RESULTS  
PHILLIP J SCHALLES #1 (API #05-067-05186)  
WELL SITE INVESTIGATION  
LA PLATA COUNTY, COLORADO  
XTO ENERGY, INC.



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**ATTACHMENT 1**  
**PHOTOGRAPHIC DOCUMENTATION**





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Photo 1: Flagg #6-3 active production well site, view east.



Photo 2: Methane seepage next to surface casing for Flagg #6-3 production well.

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Photo 3: A.O. Martin #1 abandoned production well site, view east.



Photo 4: COGCC database position of Jones #1 abandoned production well, view east.



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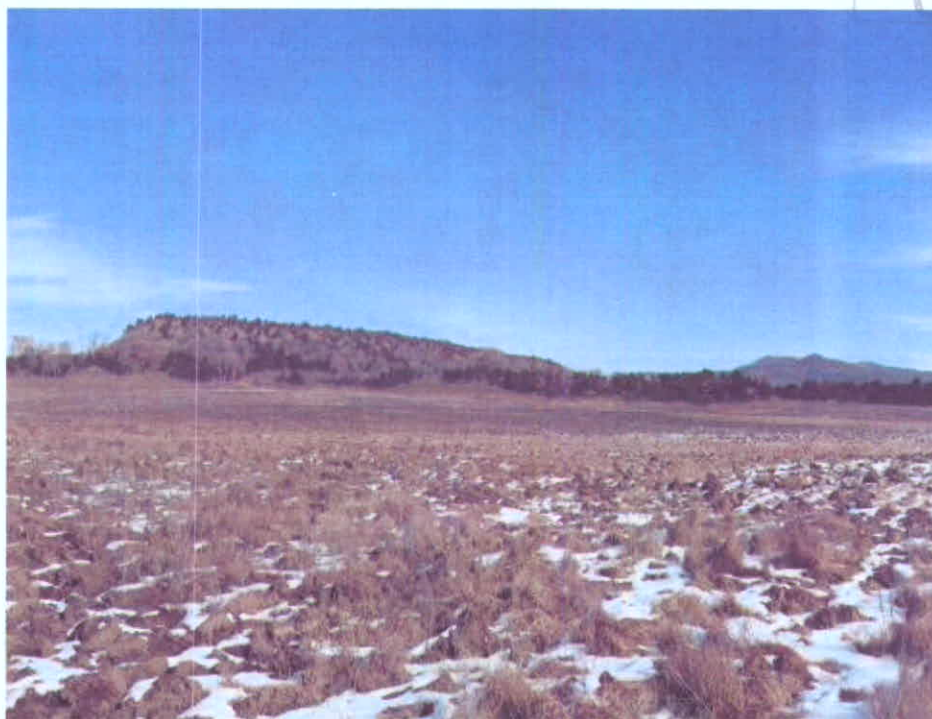


Photo 5: J.W. Carlson #1 abandoned production well site, view north.



Photo 6: Phillip J. Schalles #1 abandoned well marker, view south.

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Photo 7: Permanent soil vapor monitoring probe next to Phillip J. Schalles #1 abandoned well marker.