



June 13, 2014

Mr. Mike Clark
Petrox Resources, Inc.
39868 Highway 13
Meeker, Colorado 81641

Mr. James Clark
Elm Ridge Resources, Inc.
12225 Greenville Avenue, Suite 950
Dallas, Texas 75243

**RE: Supplemental 2013 Fruitland Outcrop Monitoring
Fourth Quarterly Abandoned Coal Mine Surveys
Archuleta County, Colorado**

Dear Mr. Clark and Mr. Clark:

LT Environmental, Inc. (LTE) was retained by Petrox Resources, Inc. (Petrox) and Elm Ridge Resources, Inc. (Elm Ridge) to conduct quarterly monitoring of abandoned coal mines along the Fruitland (Kf) outcrop as a supplement to the 2013 Fruitland Outcrop Monitoring program, which is conducted annually.

Abandoned coal mine surveys have been developed based on the monitoring framework outlined by the United States Forest Service (USFS) and the Bureau of Land Management (BLM) in Decision Point 5 of the Record of Decision (ROD) in order to obtain approval for an application for permit to drill (APD) for coalbed methane (CBM) production of federal minerals in the Project Area (Figure 1). The ROD was developed in response to the 2006 Final Environmental Impact Statement (FEIS) for the northern San Juan Basin (NSJB). Abandoned coal mine surveys have been conducted on an annual basis since 2011. During the second Technical Working Group (TWG) meeting, held on December 17, 2012, Petrox agreed to conduct four consecutive quarters of abandoned coal mine surveys of accessible mines along the Kf outcrop within Archuleta County. The first quarterly survey was conducted in July 2013. The second quarterly survey was conducted from November 11 through November 15, 2013. The third quarterly survey was conducted from February 18 through February 24, 2014. The fourth quarterly survey, summarized in this letter report, was conducted from May 23 through May 30, 2014.

OBJECTIVE AND SCOPE OF WORK

The objective of surveying the abandoned coal mines along the Kf outcrop is to monitor mines as a potential preferential pathway for methane seepage and/or locations of surface and/or near-surface coal fires.



The scope of work for the fourth quarterly abandoned coal mine surveys included the following tasks:

- Task 1: Project setup;
- Task 2: Conduct abandoned coal mine surveys at accessible mines; and
- Task 3: Prepare this report.

PROPERTY ACCESS

Prior to conducting field activities, land information was obtained from the Archuleta County Assessor's office in the spring of 2013. Parcel data is cross-referenced with the Kf outcrop geometry to identify owners of parcels located on the Kf outcrop. Much of the outcrop land is federal land with unrestricted access. An attempt to contact private landowners along the Kf outcrop in the Project Area is made prior to the initiation of field activities.

LTE personnel were denied access to several properties; as a result, no survey activities were conducted on these properties during the 2013-2014 survey events. A list of these properties was included in the 2013 Outcrop Zone Report, dated October 2013.

ABANDONED COAL MINE SURVEY METHOD

Field personnel identify each mine entrance and collect subsurface soil gas measurements on 50-foot grid spacing. Mapping covers a 500-foot radius around the mine entrance.

The monitoring is conducted using traditional subsurface soil gas techniques which include a rod, slide hammer, plastic tubing perforated at depth, and a multi-gas field meter as described below. A Global Positioning System (GPS) is used to map survey points and record field measurements.

LTE personnel use a GEM[®] 2000 multi-gas meter to measure the concentrations of methane, carbon monoxide; hydrogen sulfide, carbon dioxide, and oxygen in the subsurface soil (see Attachment 1 for specifications for the multi-gas meter). Subsurface soil gas measurements are collected by using a hand-driven slide hammer to drive a ½-inch diameter steel rod into the ground to depths ranging from 1 foot below ground surface (bgs) to 3 feet bgs. Occasionally, advancement of boreholes in consolidated outcrop materials is limited. Where probe refusal occurred, measurements are taken at the depth bored.

The rod is removed from the ground and ¼-inch diameter polyethylene tubing is inserted into the borehole. The tubing is perforated at the bottom 6 inches to allow soil gas to enter the tubing. Once the temporary tubing is in place and the borehole is sealed with native soil, personnel attach the multi-gas meter to the tubing. The multi-gas meter's internal pump pulls gas from the soil, through the tubing, and into the meter's gas sensors.



Maximum concentrations of methane, carbon monoxide, hydrogen sulfide, and carbon dioxide and the minimum concentration of oxygen are recorded at each sampling location. Data are recorded on the GPS unit.

If methane or carbon monoxide is detected at the edge of the mapping area, additional grid points are mapped to delineate the extent of methane/carbon monoxide seepage.

In addition to subsurface soil gas measurements, field personnel collect near-surface ground temperature readings utilizing a thermometer probe, which is inserted into the temporary probe holes to collect subsurface temperature readings.

GLOBAL POSITIONING SYSTEM DATA MANAGEMENT

Each sample location is recorded using a GPS unit. Soil gas sampling grids are created in ArcView[®] and pre-loaded into the GPS unit so field personnel can quickly and accurately position detection equipment along the project area. Soil gas measurements and other relevant field data are then stored as attributes in the GPS unit along with the associated location data. The data stored in the GPS unit are downloaded for processing and reporting.

The GPS unit location data are collected in the World Geodetic System 1984 (WGS 84) and projected in Colorado State Plane South (feet), North American Datum 1983 (NAD 83) for use in an ArcView[®] project file. On average, 25 GPS log positions are collected for each point in order to obtain more accurate positioning.

Readings collected with the GPS unit can be located within 1-meter accuracy; however, the terrain along the Kf outcrop can adversely affect GPS unit accuracy. North-facing slopes and heavily wooded areas can distort or block satellite signals. When satellite signals are limited, positioning accuracy decreases. In locations where the GPS unit could not obtain a signal, field personnel noted measurement data on their field reference maps. Specifications of the GPS unit are included in Attachment 1.

ABANDONED COAL MINE SURVEY RESULTS

In 2011, LTE identified seven abandoned coal mines along the Kf outcrop. The seven identified abandoned coal mines along the Kf outcrop in Archuleta County are:

- Triple S Mine;
- Columbine Mine;
- Chimney Rock Mine;
- Stollsteimer Creek Site;
- Chimney Rock Coal;
- Cabezon Project; and
- Unnamed Abandoned Mine.

Due to continued property access denial, the Unnamed Abandoned Mine, Cabezon Project mine, and Chimney Rock Coal mine were not surveyed during the first, second, third, or fourth



quarterly monitoring events. Below is a summary of the recent subsurface soil gas surveys for the four monitored abandoned coal mines along the Kf outcrop where access was granted. Figures 2 through 25 illustrate subsurface soil gas and temperature measurements. Subsurface soil gas and temperature measurements are presented in Attachment 2.

Methane was not detected at any of the four monitored abandoned coal mines. Limited carbon monoxide was detected at the Columbine Mine at a concentration of 2.0 parts per million (ppm). Shallow subsurface temperatures were all within normal range for this time of year. These results are comparable to those from the first, second, and third quarterly surveys conducted in July 2013, November 2013, and February 2014 as well as previous annual surveys conducted in 2011 and 2012.

Low concentrations of methane at only one abandoned coal mine appears to indicate there is not an active methane seep at any of the four monitored abandoned coal mines at this time. As additional verification, LTE did not observe any stressed or dead vegetation within the survey radius of each of the four monitored abandoned coal mines, which might indicate the presence of methane in the subsurface that could affect the health of vegetation.

Carbon monoxide is a by-product of coal combustion. Based on the presence of limited carbon monoxide and low subsurface temperatures, there does not appear to be active combustion/fires in the vicinity of these four monitored abandoned coal mines. As additional verification, LTE did not observe other potential indicators of underground coal fires such as dead vegetation, charred ground, anomalous absence of snow, or visible smoke or steam during these surveys.

RECOMMENDATION

Based on the results of the four quarterly surveys and previous two annual surveys, LTE recommends reducing abandoned coal mine surveys to the original annual survey frequency.



LTE appreciates the opportunity to provide environmental services to Petrox and Elm Ridge. If you have any questions regarding this report or would like additional information, please contact us at (303) 433-9788

Sincerely,

LT ENVIRONMENTAL, INC.

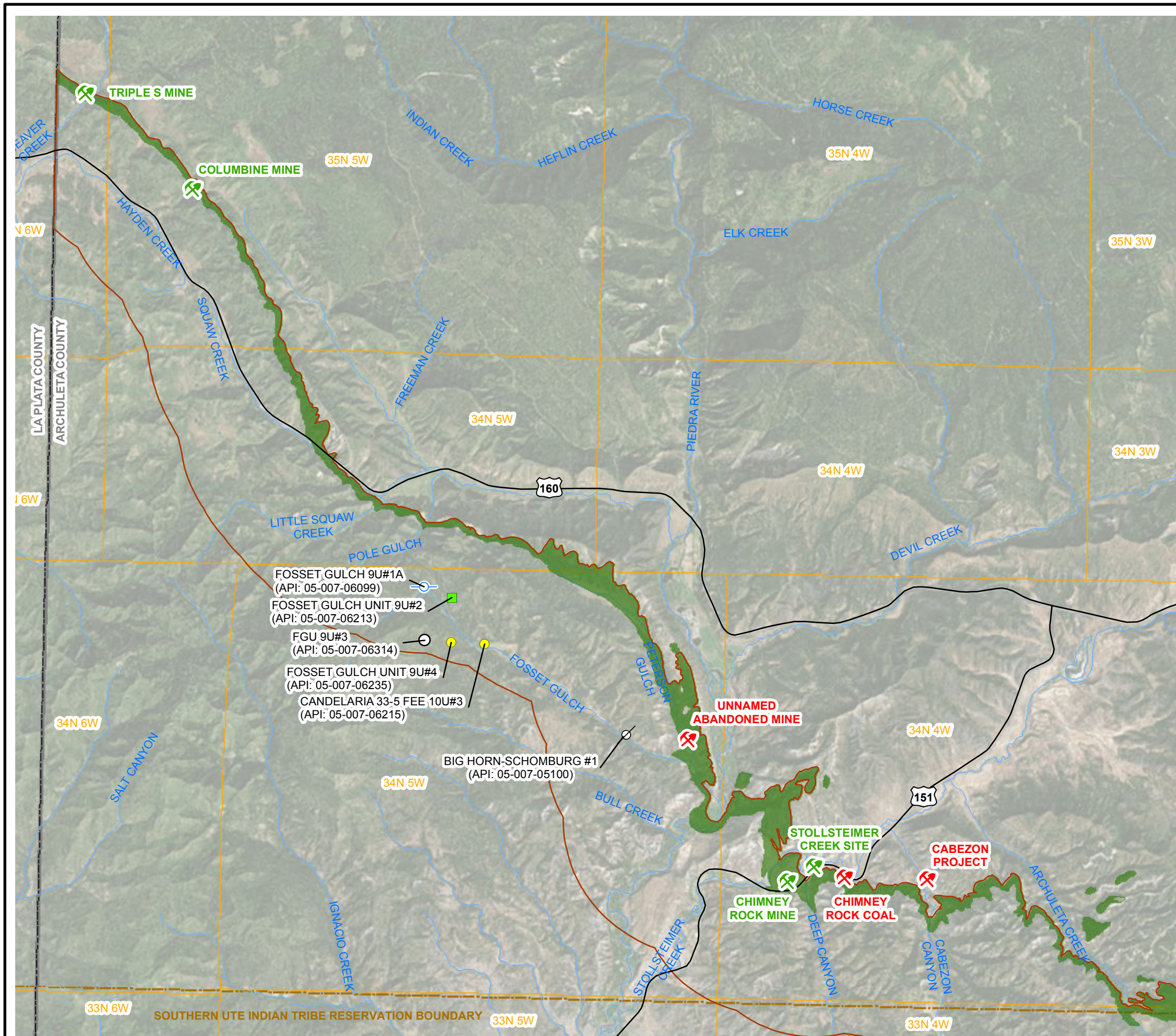
Daniel R. Moir, P.G.
Project Manager

John D. Peterson, P.G.
Executive Vice President

cc: Walt Brown – USFS
John Pecor – BLM
Pam Leschak – BLM
Karen Spray – Southern Ute Indian Tribe (SUIT)
Ivan Geroy – USFS
Alex Fischer – COGCC
Jim Hughes – COGCC
Mark Weems – COGCC
William Dodd – BLM

Attachments (3)

FIGURES

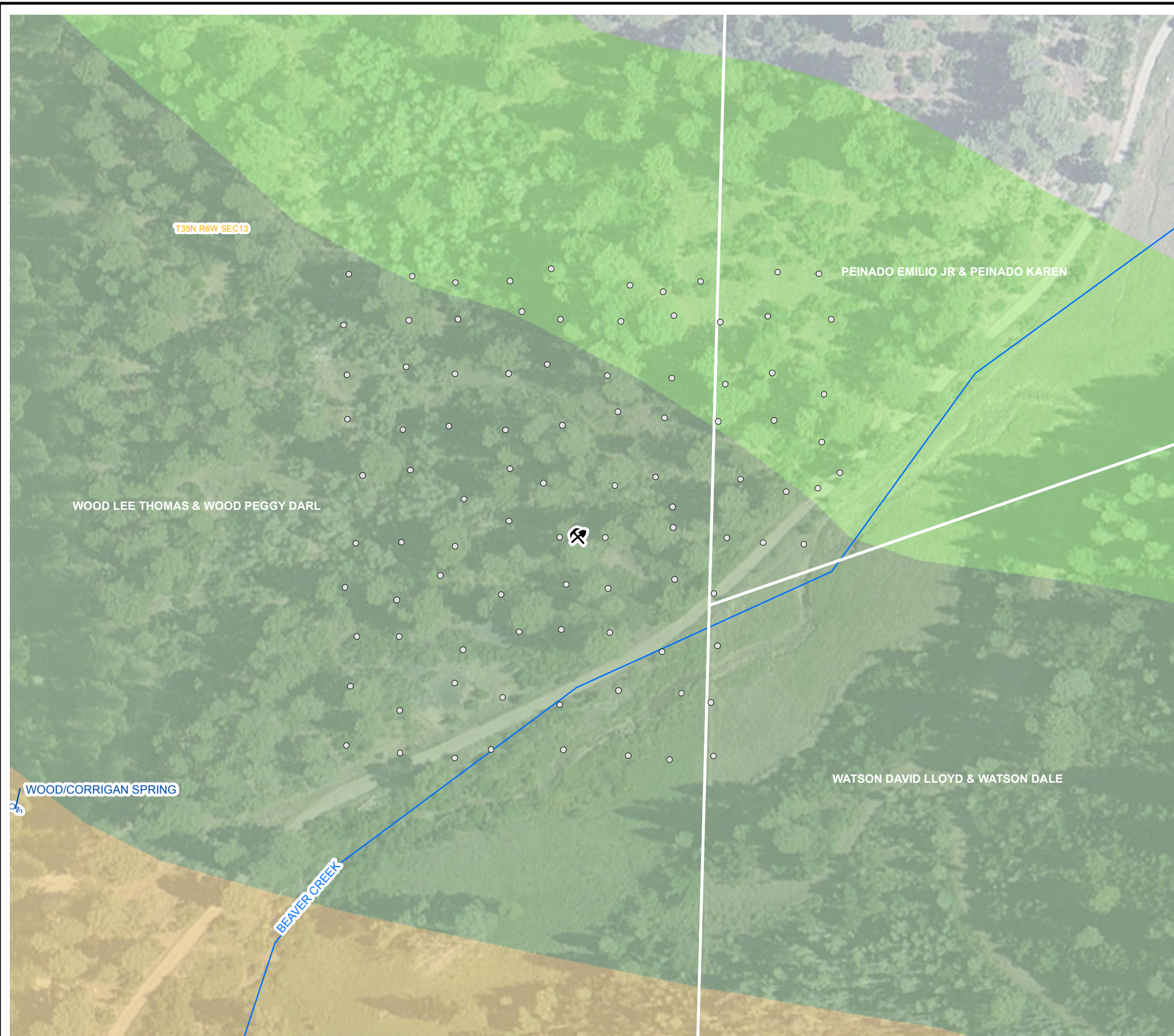


LEGEND

- ABANDONED PRODUCTION WELL
 - ABANDONED MINE - ACCESS GRANTED
 - ABANDONED MINE - ACCESS DENIED
 - COALBED METHANE WELLS (PETROX RESOURCES, INC.)**
 - PRODUCING
 - SHUT IN
 - WAITING ON INFORMATION
 - PROPOSED WELL
 - HIGHWAY
 - SURFACE WATER
 - BUREAU OF LAND MANAGEMENT OUTCROP ZONE
(1.5 MILES INWARD FROM Kf-Kk CONTACT)
 - COUNTY BOUNDARY
 - SOUTHERN UTE INDIAN TRIBE RESERVATION BOUNDARY
 - TOWNSHIP AND RANGE LINES
 - GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011**
 - FRUITLAND FORMATION (Kf)
- IMAGE COURTESY OF ESRI
- 0 1.25 2.5
Miles

FIGURE 1
 SITE LOCATION MAP
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE METHANE MEASUREMENT

- 0.0000%
- 0.0001% - 0.050%
- 0.051% - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

#: PERCENT

ONLY MEASUREMENTS GREATER THAN 0% ARE LABELED

- SURFACE WATER
- PROPERTY BOUNDARY & OWNER (WHITE)

SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
- FRUITLAND FORMATION (Kf)
- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

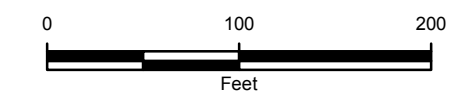
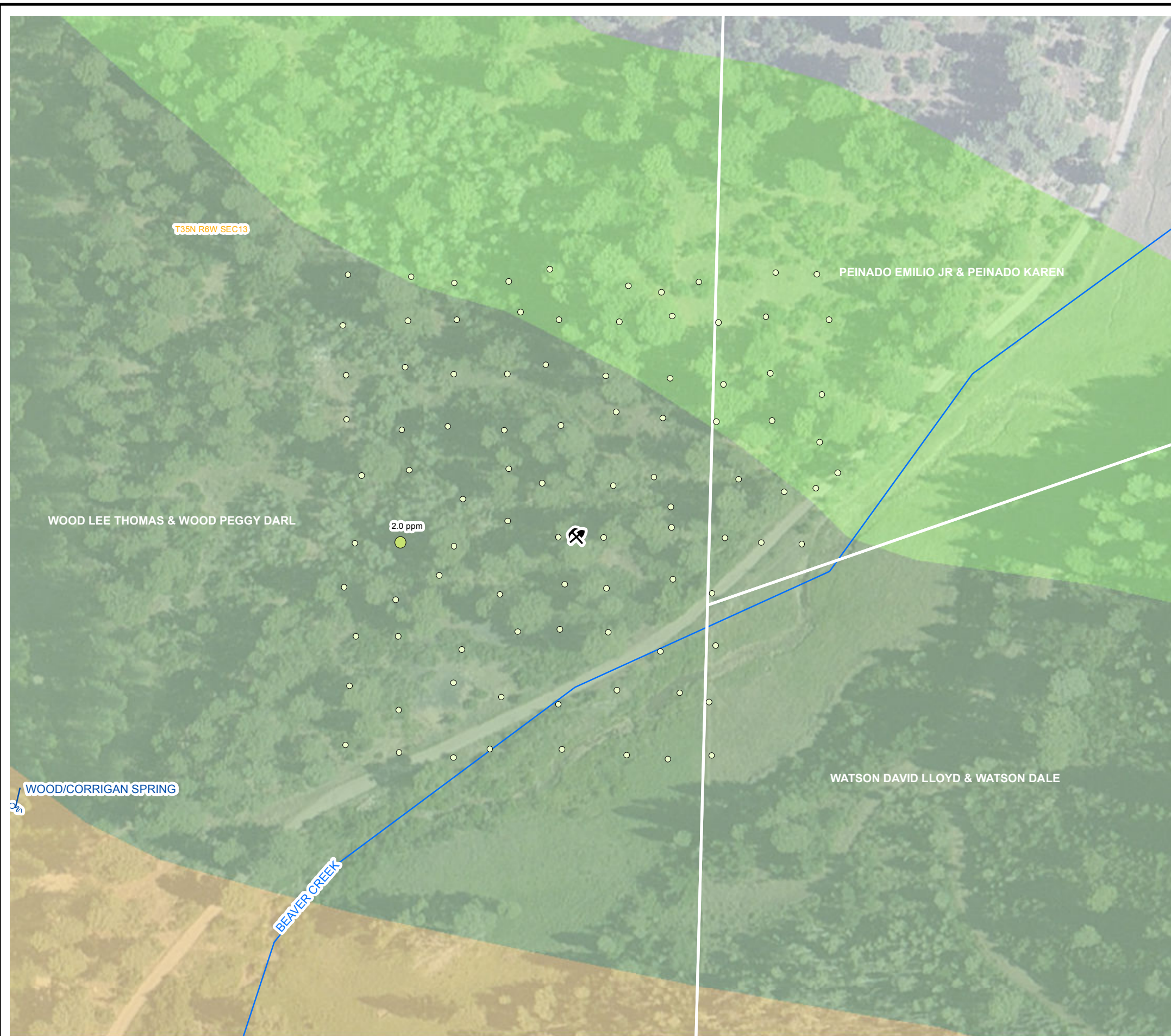






FIGURE 2
METHANE SOIL GAS MEASUREMENTS
TRIPLE S MINE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE CARBON MONOXIDE MEASUREMENT

-  0 ppm
-  0.1 - 1.0 ppm
-  1.1 - 5.0 ppm
-  5.1 - 10.0 ppm
-  10.1 - 50.0 ppm

ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

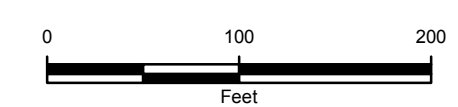
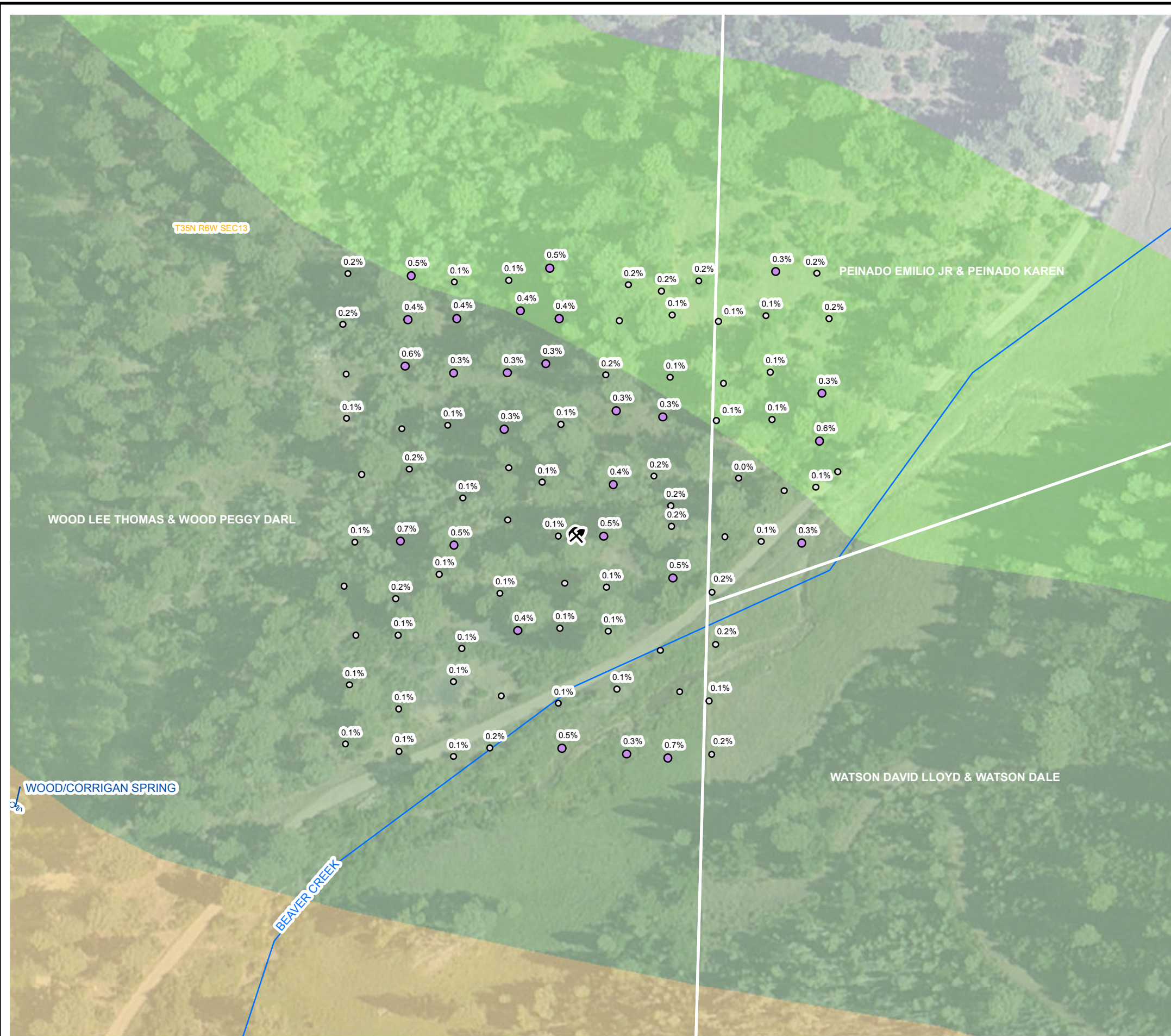


FIGURE 3
 CARBON MONOXIDE SOIL GAS MEASUREMENTS
 TRIPLE S MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE CARBON DIOXIDE MEASUREMENT

- 0% - 0.25%
- 0.26% - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50.0%

#: PERCENT
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

- SURFACE WATER
- PROPERTY BOUNDARY & OWNER (WHITE)
- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
- FRUITLAND FORMATION (Kf)
- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

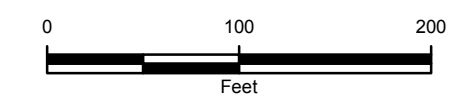
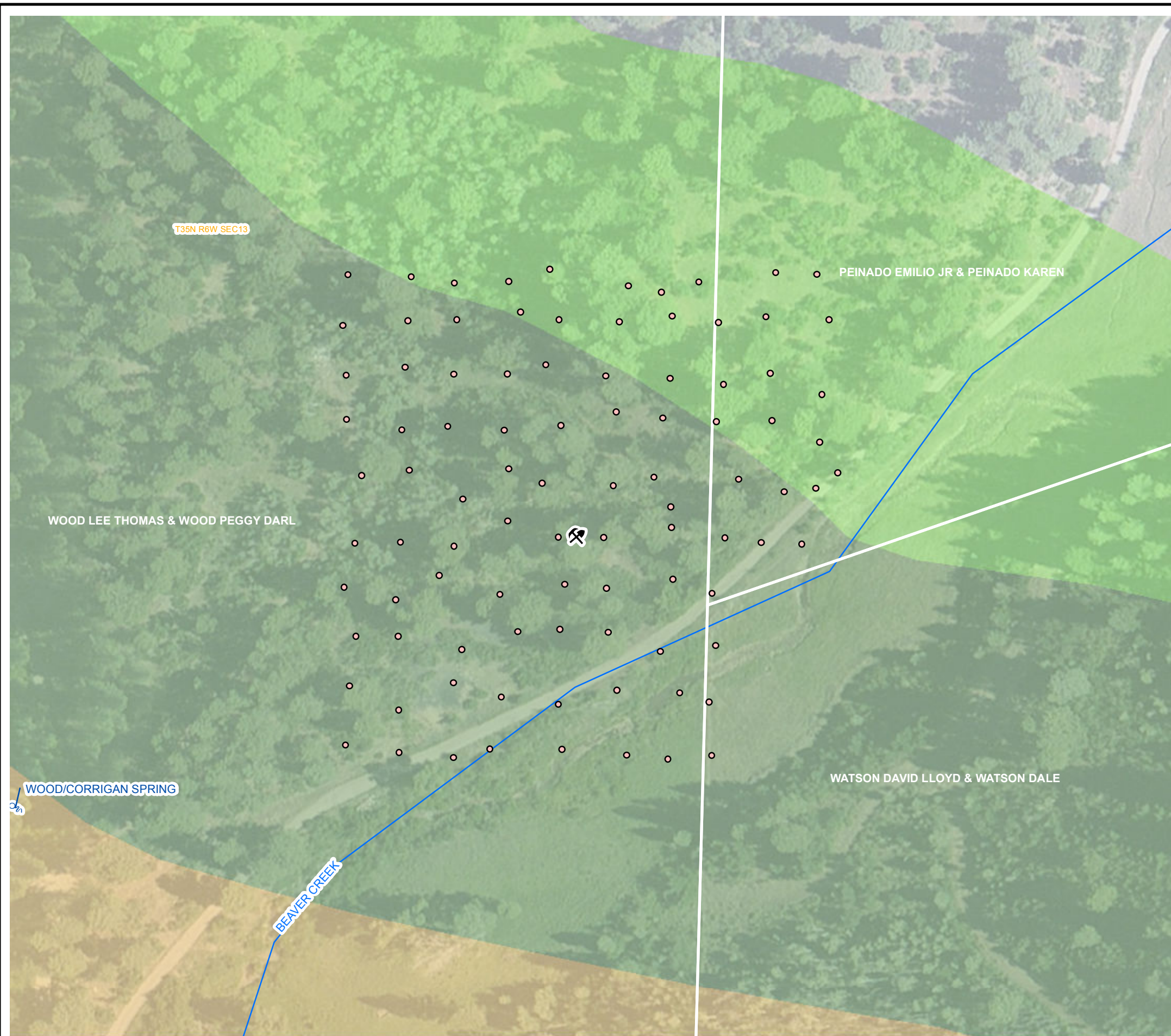






FIGURE 4
 CARBON DIOXIDE SOIL GAS MEASUREMENTS
 TRIPLE S MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING




SUBSURFACE HYDROGEN SULFIDE MEASUREMENT

-  0 ppm
-  1 - 5 ppm
-  6 - 10 ppm
-  11 - 15 ppm
-  16 - 50 ppm

ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

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 -  FRUITLAND FORMATION (Kf)
 -  PICTURED CLIFFS FORMATION (Kpc)
- IMAGE COURTESY OF ESRI

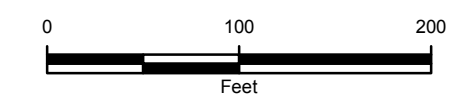
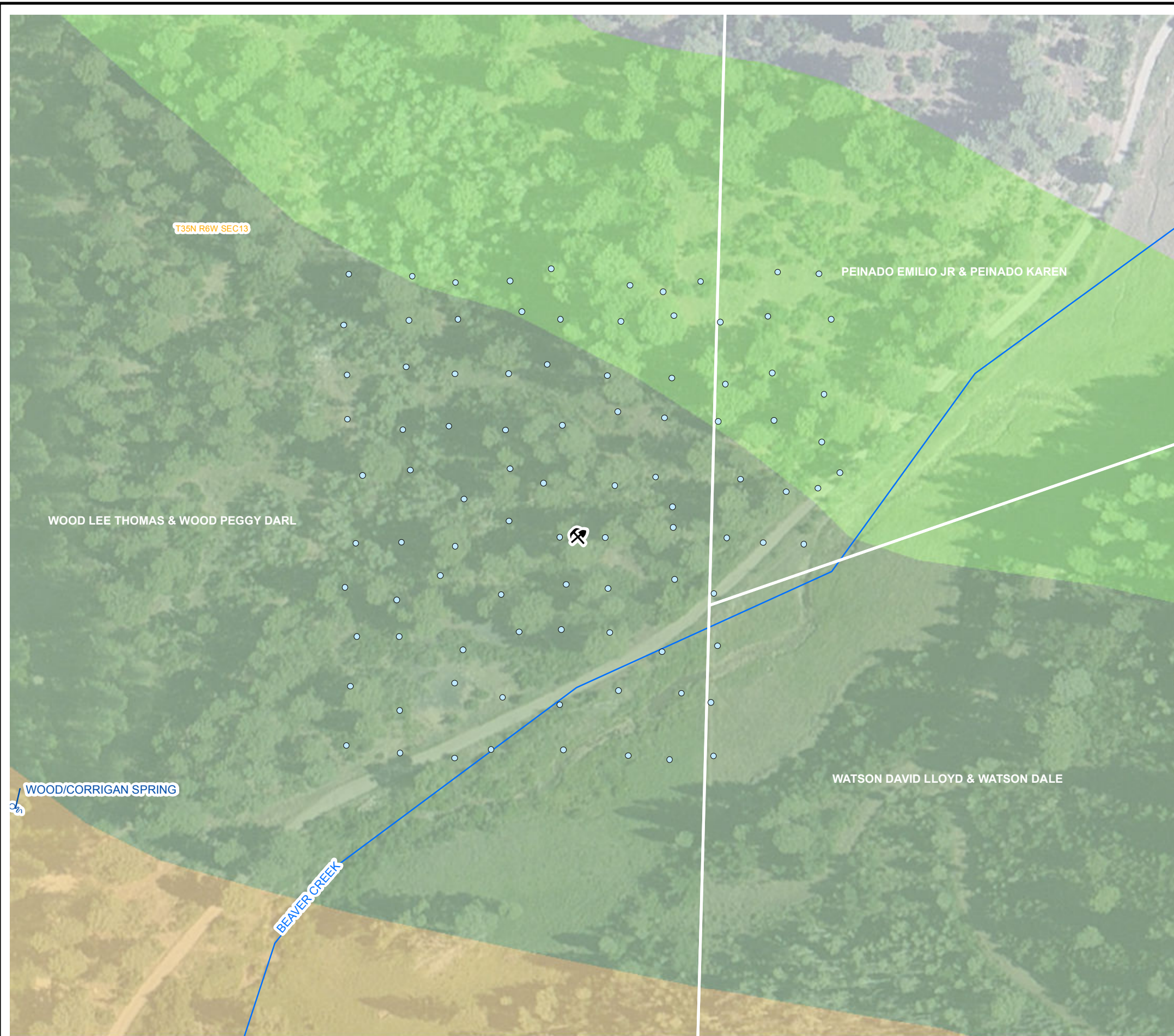






FIGURE 5
 HYDROGEN SULFIDE SOIL GAS MEASUREMENTS
 TRIPLE S MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING




SUBSURFACE OXYGEN MEASUREMENT

-  0% - 5%
-  6% - 10%
-  11% - 15%
-  16% - 19%
-  20% - 22%

#: PERCENT
 ONLY MEASUREMENTS LESS THAN 19.5% OXYGEN ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

-  KIRTLAND FORMATION (Kk)
 -  FRUITLAND FORMATION (Kf)
 -  PICTURED CLIFFS FORMATION (Kpc)
- IMAGE COURTESY OF ESRI

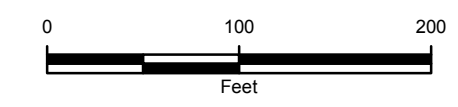


FIGURE 6
 OXYGEN SOIL GAS MEASUREMENTS
 TRIPLE S MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES



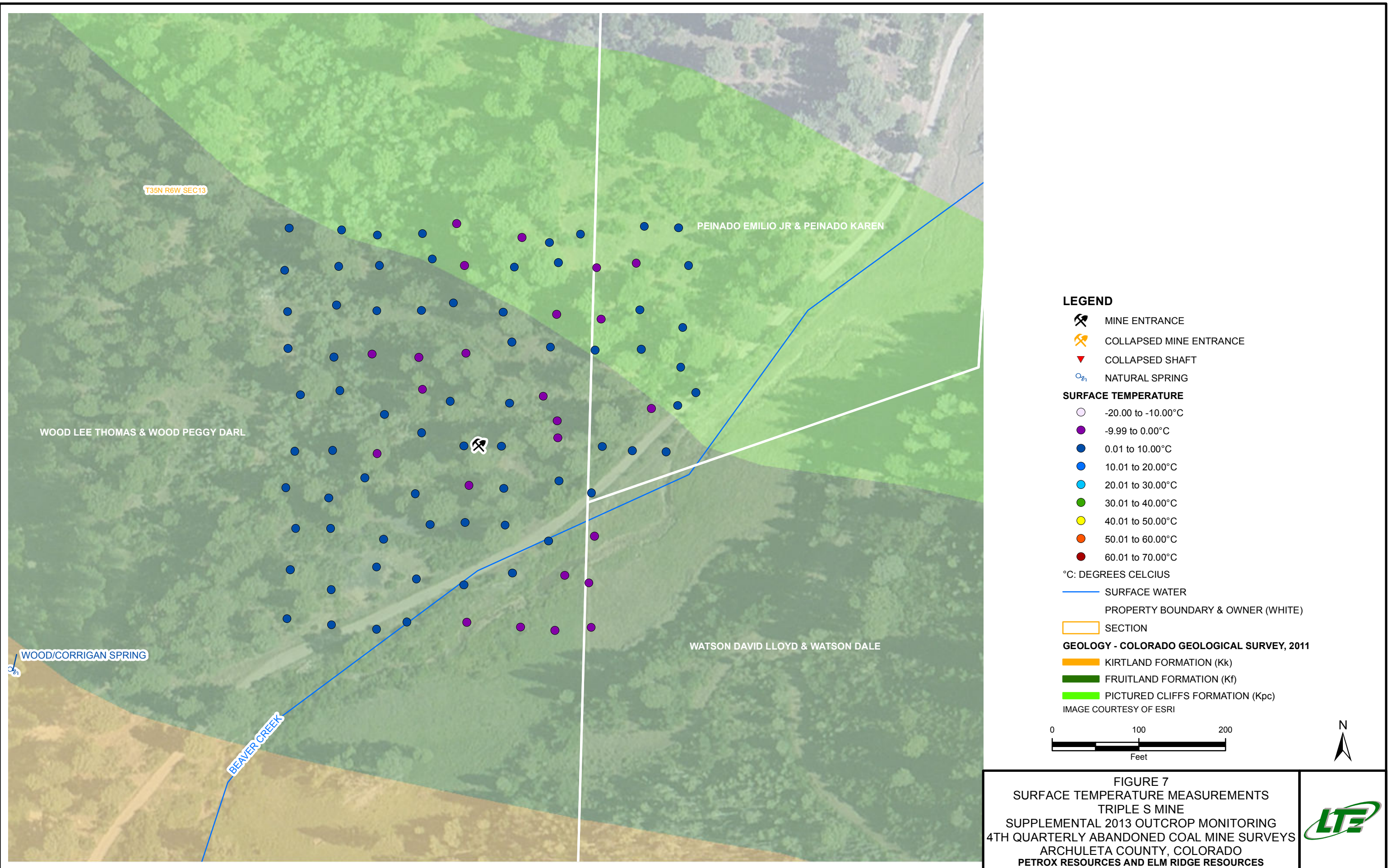
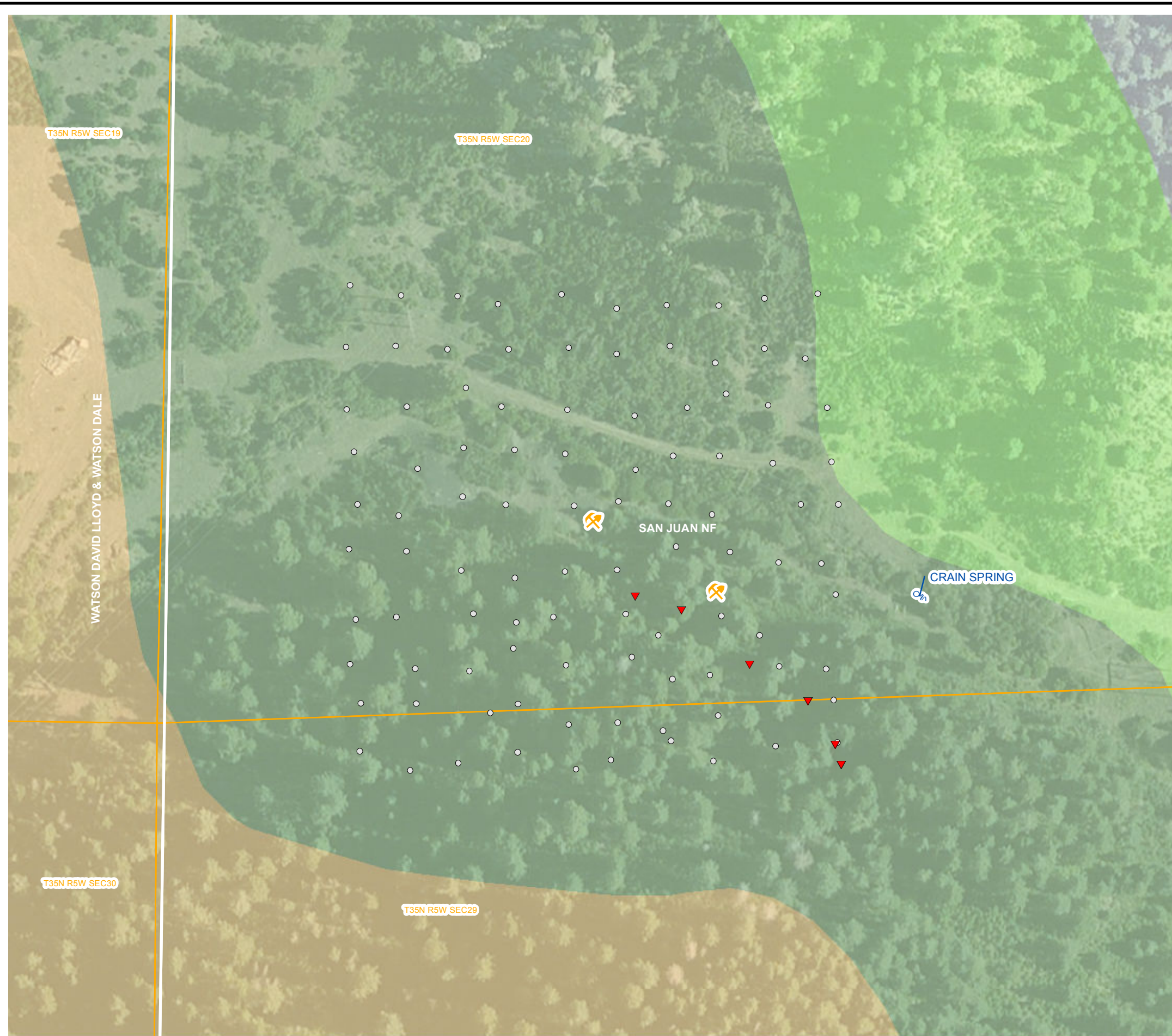






FIGURE 7
 SURFACE TEMPERATURE MEASUREMENTS
 TRIPLE S MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND



-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE METHANE MEASUREMENT

-  0.0000%
-  0.0001% - 0.050%
-  0.051% - 5%
-  6% - 15%
-  16% - 25%
-  26% - 50%
-  51% - 75%
-  76% - 100%

#: PERCENT

ONLY MEASUREMENTS GREATER THAN 0% ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

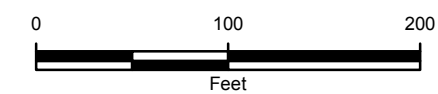
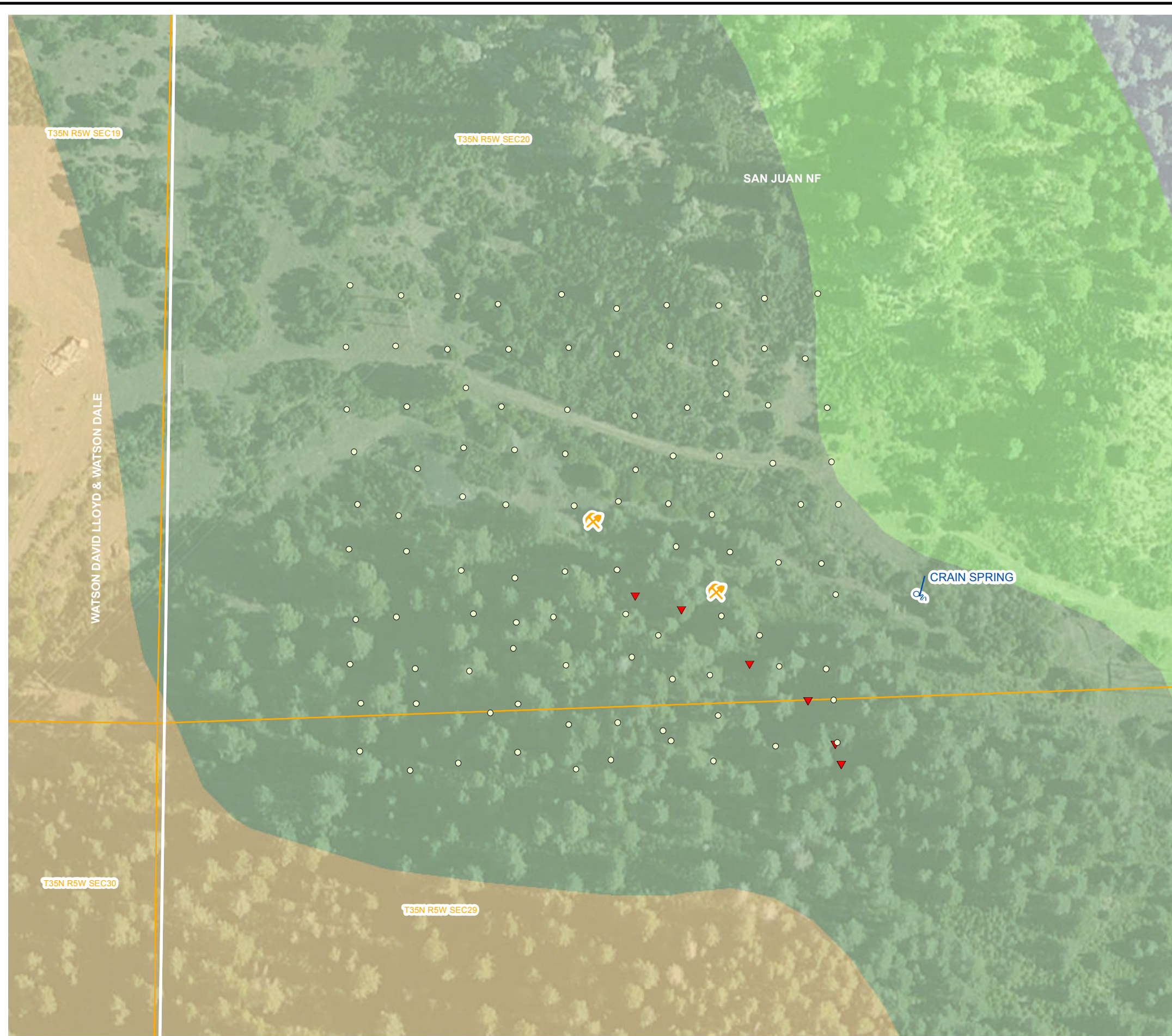


FIGURE 8
METHANE SOIL GAS MEASUREMENTS
COLUMBINE MINE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE CARBON MONOXIDE MEASUREMENT

- 0 ppm
- 0.1 - 1.0 ppm
- 1.1 - 5.0 ppm
- 5.1 - 10.0 ppm
- 10.1 - 50.0 ppm

ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

- SURFACE WATER
- PROPERTY BOUNDARY & OWNER (WHITE)
- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
- FRUITLAND FORMATION (Kf)
- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

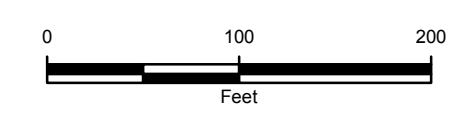
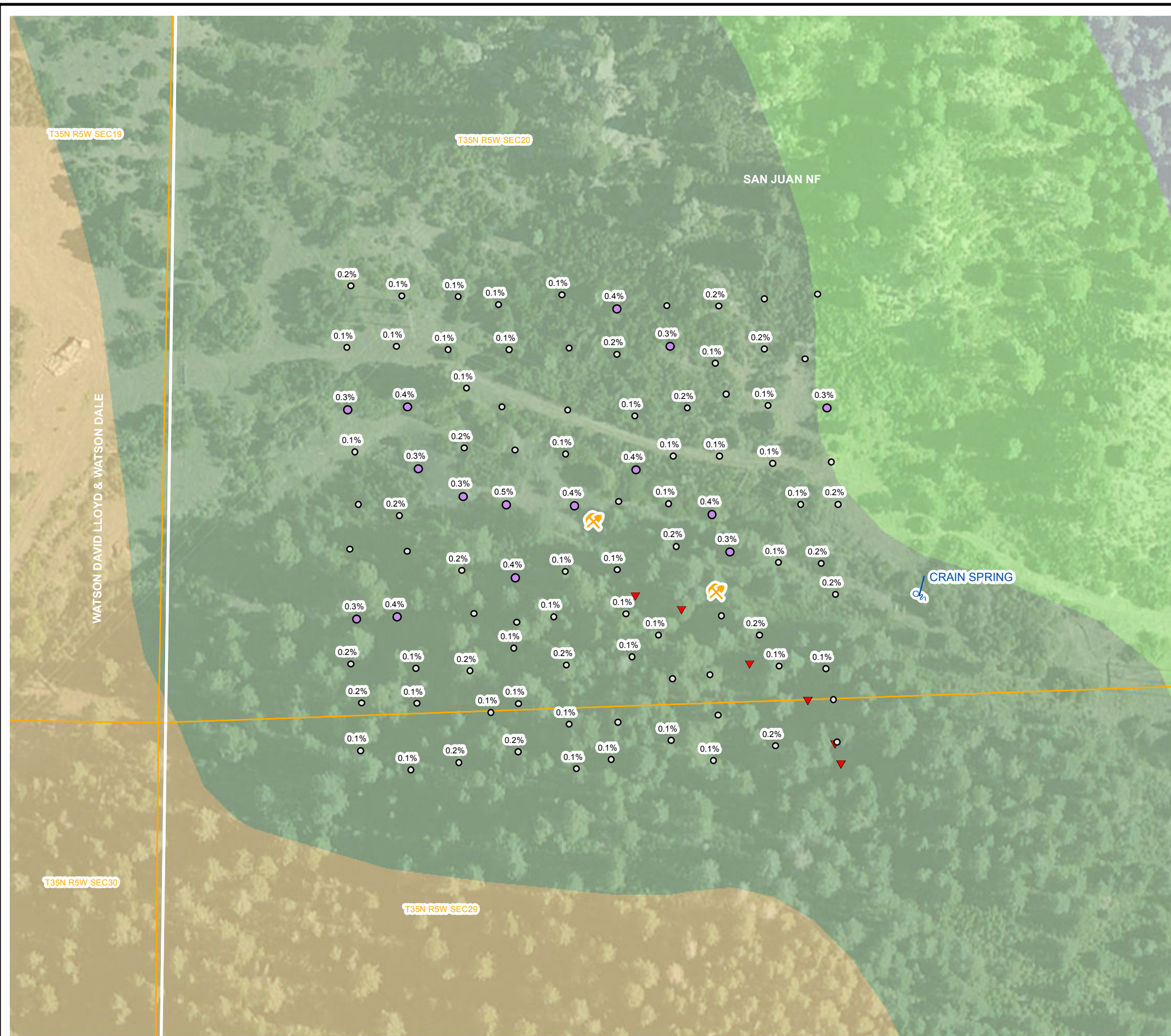


FIGURE 9
 CARBON MONOXIDE SOIL GAS MEASUREMENTS
 COLUMBINE MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE CARBON DIOXIDE MEASUREMENT

- 0% - 0.25%
- 0.26% - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50.0%

#: PERCENT
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- SURFACE WATER
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- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

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IMAGE COURTESY OF ESRI

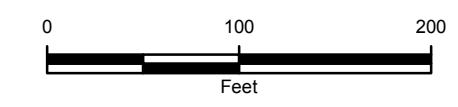
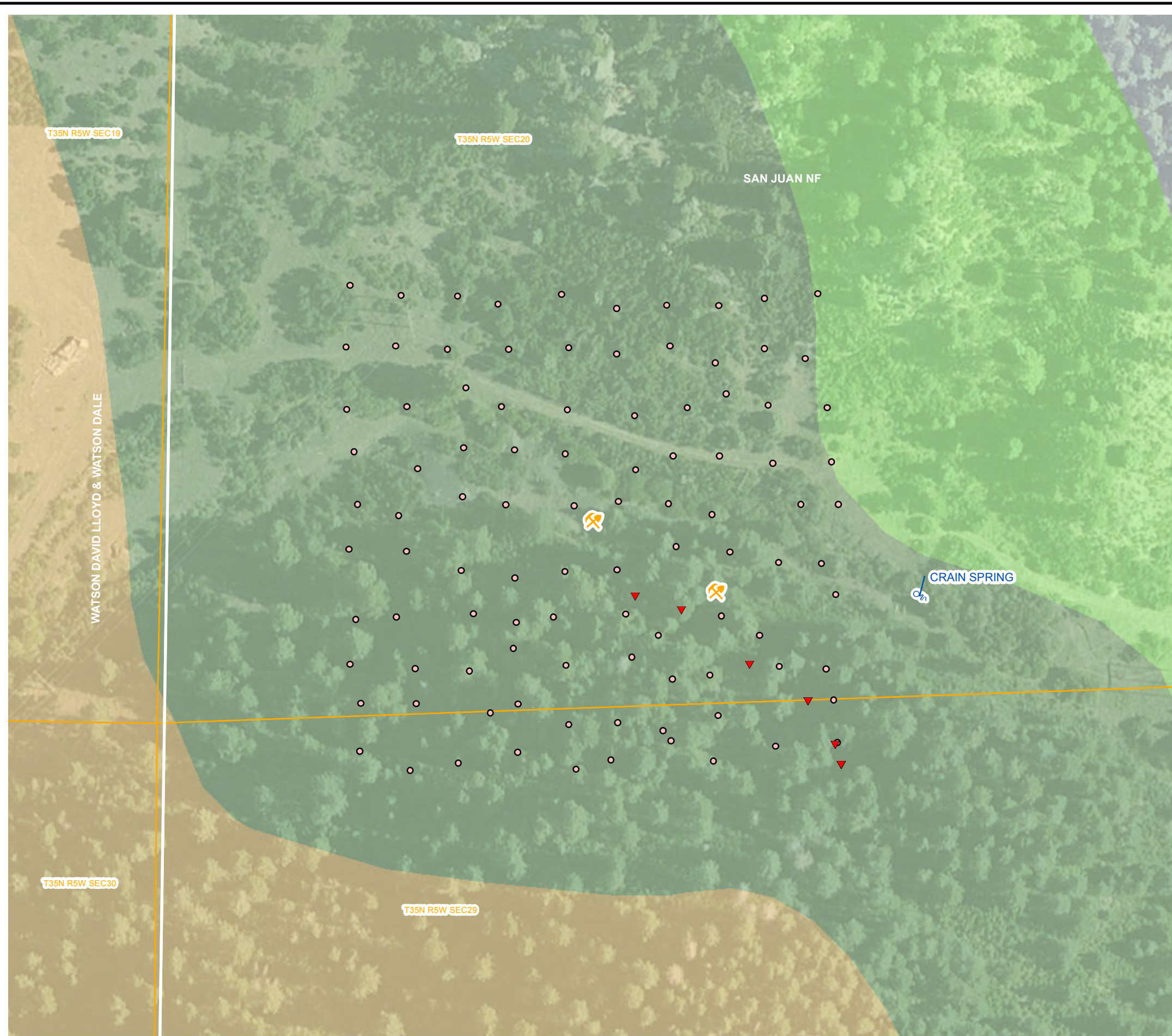


FIGURE 10
 CARBON DIOXIDE SOIL GAS MEASUREMENTS
 COLUMBINE MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
 - COLLAPSED MINE ENTRANCE
 - COLLAPSED SHAFT
 - NATURAL SPRING
- SUBSURFACE HYDROGEN SULFIDE MEASUREMENT**
- 0 ppm
 - 1 - 5 ppm
 - 6 - 10 ppm
 - 11 - 15 ppm
 - 16 - 50 ppm
- ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED
- SURFACE WATER
 - PROPERTY BOUNDARY & OWNER (WHITE)
 - SECTION
- GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011**
- KIRTLAND FORMATION (Kk)
 - FRUITLAND FORMATION (Kf)
 - PICTURED CLIFFS FORMATION (Kpc)
- IMAGE COURTESY OF ESRI

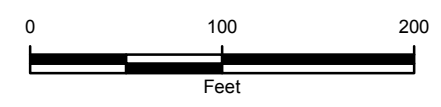
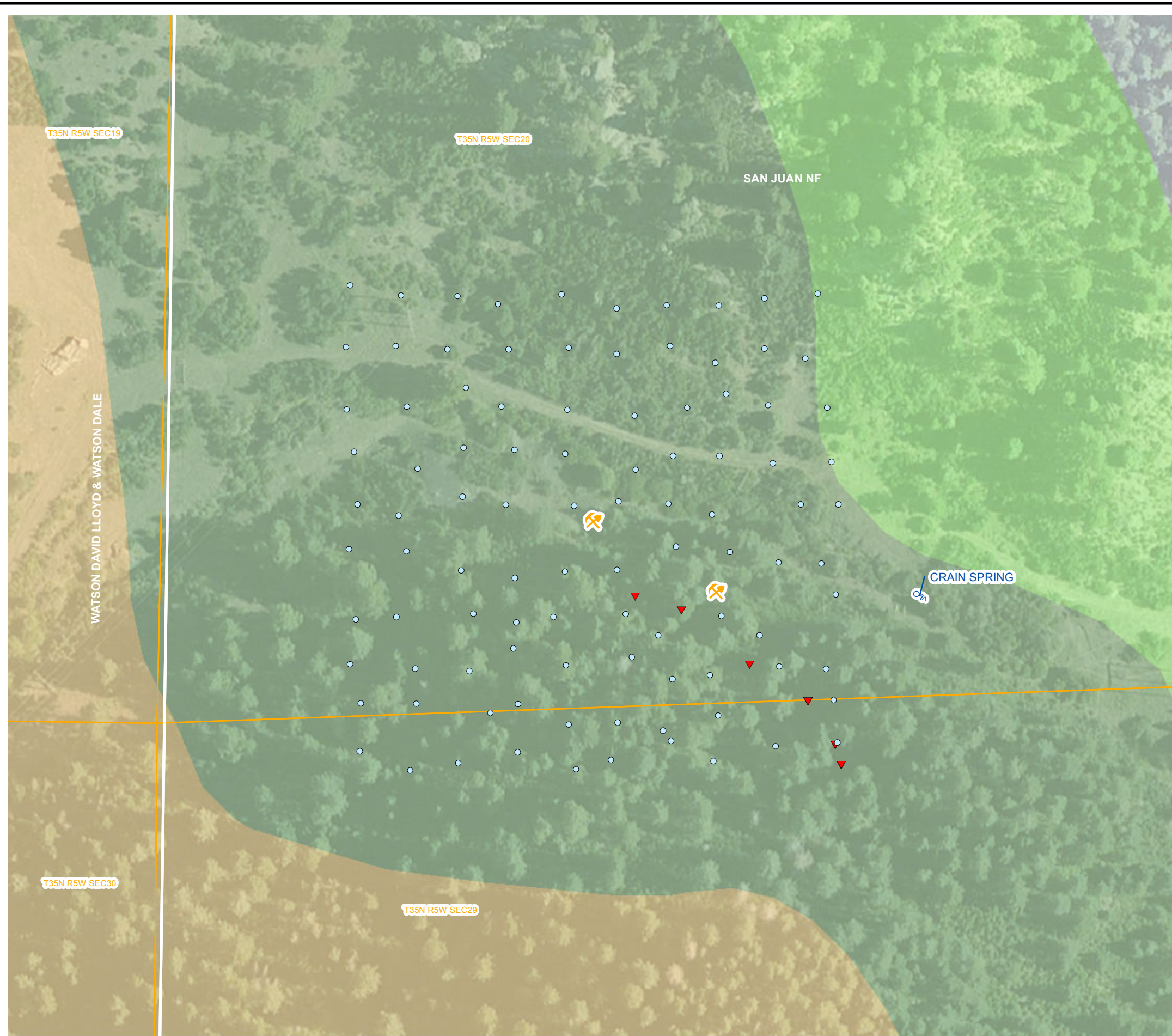


FIGURE 11
 HYDROGEN SULFIDE SOIL GAS MEASUREMENTS
 COLUMBINE MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE OXYGEN MEASUREMENT

- 0% - 5%
- 6% - 10%
- 11% - 15%
- 16% - 19%
- 20% - 22%

#: PERCENT
 ONLY MEASUREMENTS LESS THAN 19.5% OXYGEN ARE LABELED

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- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
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- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

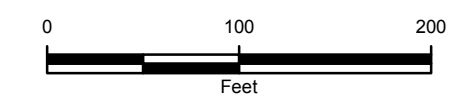
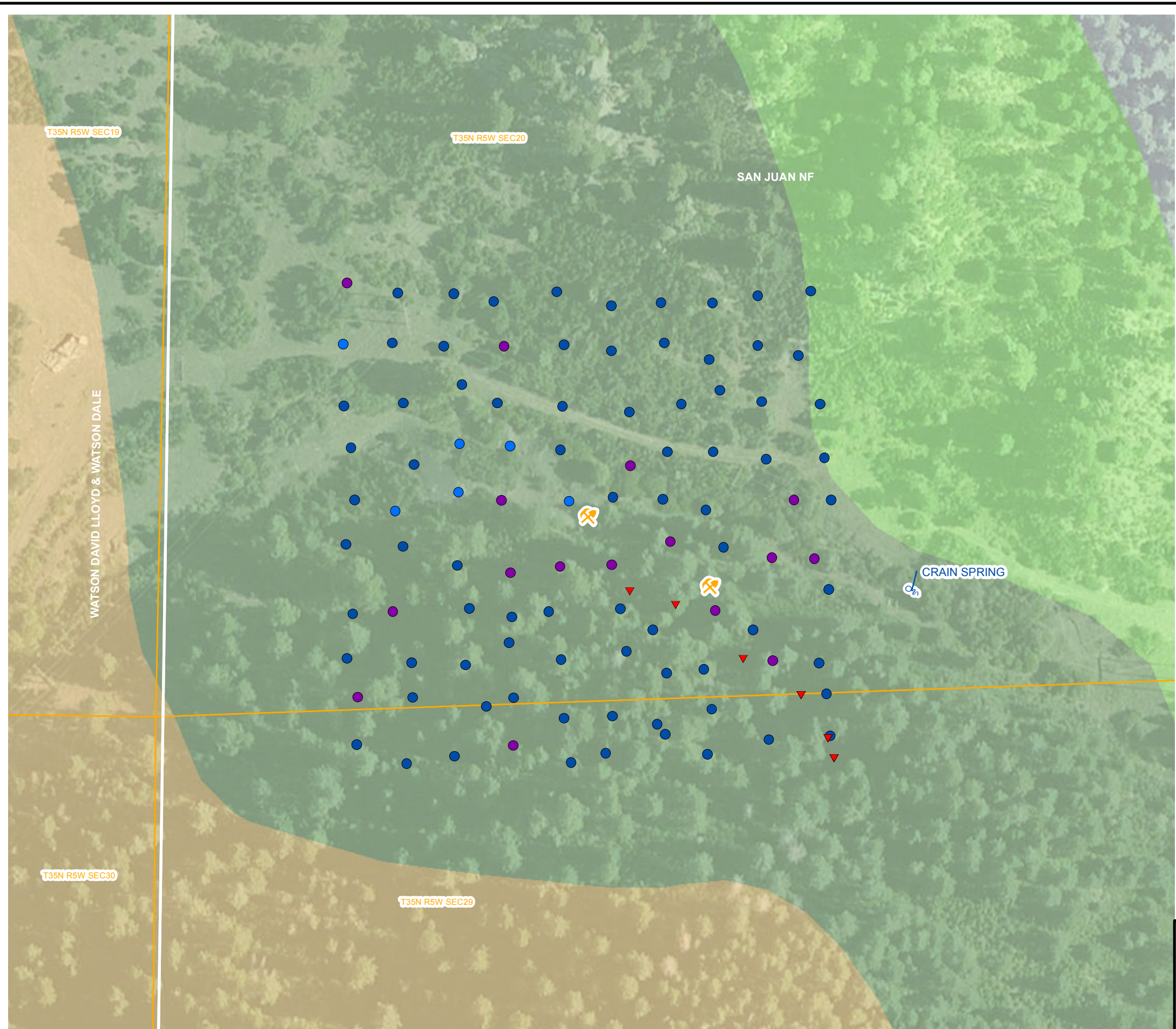


FIGURE 12
 OXYGEN SOIL GAS MEASUREMENTS
 COLUMBINE MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SURFACE TEMPERATURE

- 20.00 to -10.00°C
- 9.99 to 0.00°C
- 0.01 to 10.00°C
- 10.01 to 20.00°C
- 20.01 to 30.00°C
- 30.01 to 40.00°C
- 40.01 to 50.00°C
- 50.01 to 60.00°C
- 60.01 to 70.00°C

°C: DEGREES CELCIUS

- SURFACE WATER
- PROPERTY BOUNDARY & OWNER (WHITE)
- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
- FRUITLAND FORMATION (Kf)
- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

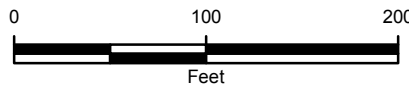


FIGURE 13
SURFACE TEMPERATURE MEASUREMENTS
COLUMBINE MINE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES





LEGEND

- MINE ENTRANCE
- COLLAPSED MINE ENTRANCE
- COLLAPSED SHAFT
- NATURAL SPRING

SUBSURFACE METHANE MEASUREMENT

- 0.0000%
- 0.0001% - 0.050%
- 0.051% - 5%
- 6% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

%: PERCENT
 ONLY MEASUREMENTS GREATER THAN 0% ARE LABELED

- SURFACE WATER
- PROPERTY BOUNDARY & OWNER (WHITE)
- SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

- KIRTLAND FORMATION (Kk)
- FRUITLAND FORMATION (Kf)
- PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

0 100 200
 Feet





N

FIGURE 14
METHANE SOIL GAS MEASUREMENTS
CHIMNEY ROCK MINE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE CARBON MONOXIDE MEASUREMENT

-  0 ppm
-  0.1 - 1.0 ppm
-  1.1 - 5.0 ppm
-  5.1 - 10.0 ppm
-  10.1 - 50.0 ppm

ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

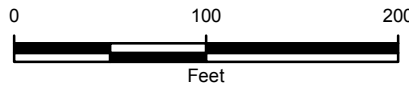






FIGURE 15
 CARBON MONOXIDE SOIL GAS MEASUREMENTS
 CHIMNEY ROCK MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES










LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE CARBON DIOXIDE MEASUREMENT

-  0% - 0.25%
-  0.26% - 5%
-  6% - 15%
-  16% - 25%
-  26% - 50.0%

#: PERCENT
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

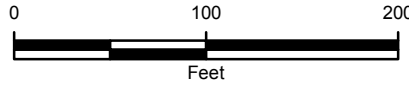






FIGURE 16
 CARBON DIOXIDE SOIL GAS MEASUREMENTS
 CHIMNEY ROCK MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE HYDROGEN SULFIDE MEASUREMENT

-  0 ppm
-  1 - 5 ppm
-  6 - 10 ppm
-  11 - 15 ppm
-  16 - 50 ppm

ppm: PARTS PER MILLION
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

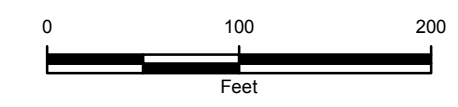
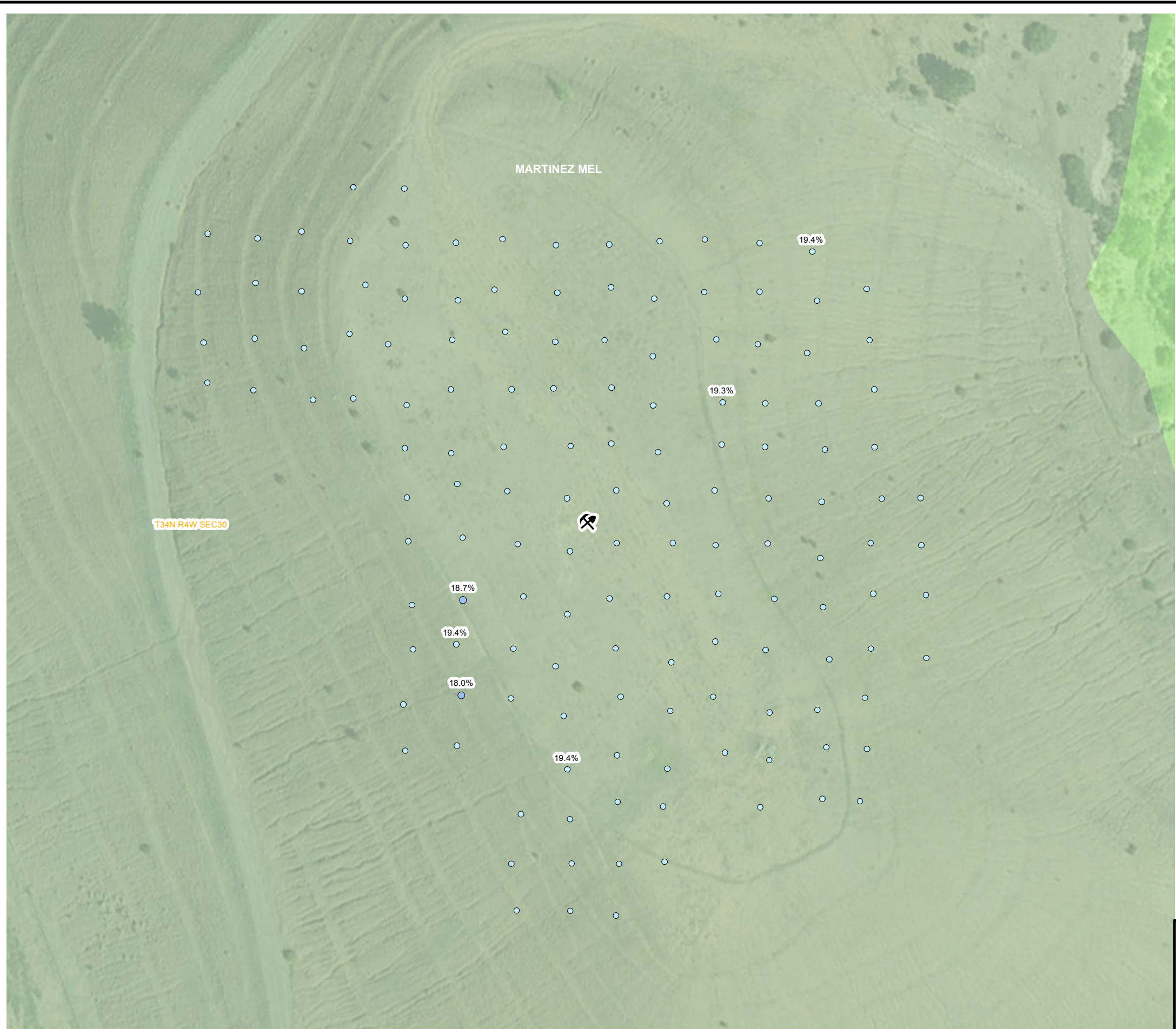






FIGURE 17
 HYDROGEN SULFIDE SOIL GAS MEASUREMENTS
 CHIMNEY ROCK MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES













LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE OXYGEN MEASUREMENT

-  0% - 5%
-  6% - 10%
-  11% - 15%
-  16% - 19%
-  20% - 22%

#: PERCENT
 ONLY MEASUREMENTS LESS THAN 19.5% OXYGEN ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

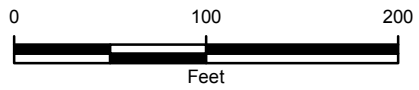






FIGURE 18
 OXYGEN SOIL GAS MEASUREMENTS
 CHIMNEY ROCK MINE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES

















LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SURFACE TEMPERATURE

-  -20.00 to -10.00°C
-  -9.99 to 0.00°C
-  0.01 to 10.00°C
-  10.01 to 20.00°C
-  20.01 to 30.00°C
-  30.01 to 40.00°C
-  40.01 to 50.00°C
-  50.01 to 60.00°C
-  60.01 to 70.00°C

°C: DEGREES CELCIUS

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

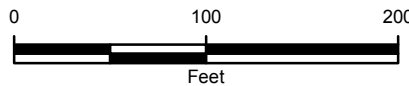


FIGURE 19
SURFACE TEMPERATURE MEASUREMENTS
CHIMNEY ROCK MINE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES



STOLLSTEIMER CREEK

151





MARTINEZ MEL

CAZEDESSUS CAMILLE E JR









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EF COAL RESOURCES LIMITED PRTN AT

LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE METHANE MEASUREMENT

-  0.0000%
-  0.0001% - 0.050%
-  0.051% - 5%
-  6% - 15%
-  16% - 25%
-  26% - 50%
-  51% - 75%
-  76% - 100%

=: PERCENT

ONLY MEASUREMENTS GREATER THAN 0% ARE LABELED

 SURFACE WATER

 PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

 KIRTLAND FORMATION (Kk)

 FRUITLAND FORMATION (Kf)

 PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

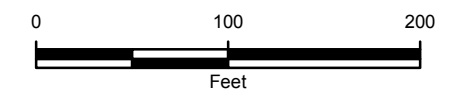


FIGURE 20
METHANE SOIL GAS MEASUREMENTS
STOLLSTEIMER CREEK SITE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES



STOLLSTEIMER CREEK

151





MARTINEZ MEL

CAZEDESSUS CAMILLE E JR






T34N R4W SEC29

EF COAL RESOURCES LIMITED PRTN AT

LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE CARBON MONOXIDE MEASUREMENT

-  0 ppm
-  0.1 - 1.0 ppm
-  1.1 - 5.0 ppm
-  5.1 - 10.0 ppm
-  10.1 - 50.0 ppm

ppm: PARTS PER MILLION

ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

 SURFACE WATER

 PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

 KIRTLAND FORMATION (Kk)

 FRUITLAND FORMATION (Kf)

 PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

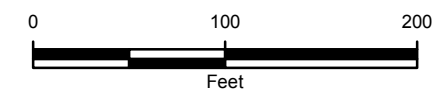


FIGURE 21
CARBON MONOXIDE SOIL GAS MEASUREMENTS
STOLLSTEIMER CREEK SITE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES







STOLLSTEIMER CREEK






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LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING




SUBSURFACE CARBON DIOXIDE MEASUREMENT

-  0% - 0.25%
-  0.26% - 5%
-  6% - 15%
-  16% - 25%
-  26% - 50.0%

#: PERCENT
 ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

-  SURFACE WATER
-  PROPERTY BOUNDARY & OWNER (WHITE)
-  SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

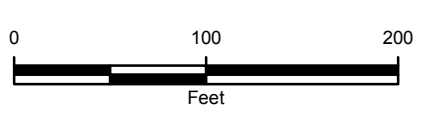


FIGURE 22
 CARBON DIOXIDE SOIL GAS MEASUREMENTS
 STOLLSTEIMER CREEK SITE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES



STOLLSTEIMER CREEK

151





MARTINEZ MEL

CAZEDESSUS CAMILLE E JR






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EF COAL RESOURCES LIMITED PRTN AT

LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE HYDROGEN SULFIDE MEASUREMENT

-  0 ppm
-  1 - 5 ppm
-  6 - 10 ppm
-  11 - 15 ppm
-  16 - 50 ppm

ppm: PARTS PER MILLION

ONLY MEASUREMENTS GREATER THAN 0 ppm ARE LABELED

 SURFACE WATER

 PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

 KIRTLAND FORMATION (Kk)

 FRUITLAND FORMATION (Kf)

 PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

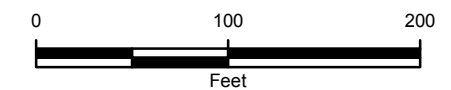


FIGURE 23
 HYDROGEN SULFIDE SOIL GAS MEASUREMENTS
 STOLLSTEIMER CREEK SITE
 SUPPLEMENTAL 2013 OUTCROP MONITORING
 4TH QUARTERLY ABANDONED COAL MINE SURVEYS
 ARCHULETA COUNTY, COLORADO
 PETROX RESOURCES AND ELM RIDGE RESOURCES



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MARTINEZ MEL

CAZEDESSUS CAMILLE E JR






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EF COAL RESOURCES LIMITED PRTN AT

LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SUBSURFACE OXYGEN MEASUREMENT

-  0% - 5%
-  6% - 10%
-  11% - 15%
-  16% - 19%
-  20% - 22%

#: PERCENT

ONLY MEASUREMENTS LESS THAN 19.5% OXYGEN ARE LABELED

 SURFACE WATER

 PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011

 KIRTLAND FORMATION (Kk)

 FRUITLAND FORMATION (Kf)

 PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

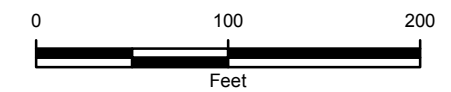


FIGURE 24
OXYGEN SOIL GAS MEASUREMENTS
STOLLSTEIMER CREEK SITE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES



STOLLSTEIMER CREEK

151





MARTINEZ MEL

CAZEDESSUS CAMILLE E JR










T34N R4W SEC29

EF COAL RESOURCES LIMITED PRTN AT

LEGEND

-  MINE ENTRANCE
-  COLLAPSED MINE ENTRANCE
-  COLLAPSED SHAFT
-  NATURAL SPRING

SURFACE TEMPERATURE

-  -20.00 to -10.00°C
-  -9.99 to 0.00°C
-  0.01 to 10.00°C
-  10.01 to 20.00°C
-  20.01 to 30.00°C
-  30.01 to 40.00°C
-  40.01 to 50.00°C
-  50.01 to 60.00°C
-  60.01 to 70.00°C

°C: DEGREES CELCIUS

 SURFACE WATER

 PROPERTY BOUNDARY & OWNER (WHITE)

 SECTION

GEOLOGY - COLORADO GEOLOGICAL SURVEY, 2011




-  KIRTLAND FORMATION (Kk)
-  FRUITLAND FORMATION (Kf)
-  PICTURED CLIFFS FORMATION (Kpc)

IMAGE COURTESY OF ESRI

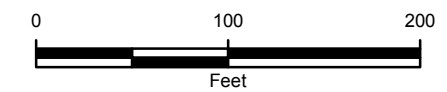
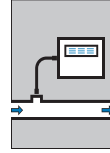


FIGURE 25
SURFACE TEMPERATURE MEASUREMENTS
STOLLSTEIMER CREEK SITE
SUPPLEMENTAL 2013 OUTCROP MONITORING
4TH QUARTERLY ABANDONED COAL MINE SURVEYS
ARCHULETA COUNTY, COLORADO
PETROX RESOURCES AND ELM RIDGE RESOURCES



ATTACHMENT 1
EQUIPMENT SPECIFICATIONS



The GEM™2000 combines the GEM™500 and the GA-90 into one faster, more accurate, intrinsically safe instrument

The GEM™2000 design specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems. The GEM™2000 samples and analyzes the methane, carbon dioxide and oxygen content of landfill gas.

Features

- Measures % CH₄, CO₂ and O₂ Volume, static pressure and differential pressure
- Calculates balance gas, flow (SCFM) and calorific value (KW or BTU)
- Displays % LEL of CH₄, and user-defined comments
- Records site and well conditions
- Extended operation (10 - 14 hrs use from one charge)
- Certified intrinsically safe for landfill use
- Two instruments in one (GA and GEM mode)

Benefits

- Designed specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems.
- No need to take more than one instrument to site
- Can be used for routine sub-surface migration monitoring of landfill site perimeter probes and for measuring gas composition, pressure and flow in gas extraction systems
- The user is able to set up comments and questions to record information at site and at each sample point
- Ensures consistent collection of data for better analysis
- Allows balancing of gas extraction systems

Applications

- Landfills
- Gas Extraction Wells
- Flare Monitoring
- Subsurface Migration Probes



Technical Specification

Gases Measured

CH₄, CO₂, by dual wavelength infrared cell with reference channel. O₂ by internal electrochemical cell

CH ₄	0-100% Reading		
CO ₂	0-100% Reading	O ₂	0-25%

Gas Accuracy	CH ₄	CO ₂	O ₂
0-5%	±0.3%	±0.3%	±1.0%
5-15%	±1.0%	±1.0%	±1.0%
15% - Full Scale	±3.0%	±3.0%	±1.0%

Other Parameters	Unit	Resolution	Comments
Energy	BTU/hr	1000 BTU/hr	Calculated from specific parameters.
Static Pressure	in.H ₂ O	0.1 in.H ₂ O	Direct Measurement
Differential Pressure	in.H ₂ O	0.001 in.H ₂ O	Direct Measurement

Flow	Typically 300 cc/min
Flow with 5.9 in.Hg vacuum	Approximately 250 cc/min
Operating Temperature Range	32°F - 104°F
Operating Pressure	-100 in. H ₂ O, +100 in. H ₂ O
Relative Humidity	0-95% non condensing
Barometric Pressure	±5.9 in.Hg from calibration pressure
Barometric Pressure Accuracy	±1% typically
Battery Life	Typical use 10 hours from fully charged
Charge Time	Approximately 2 hours from complete discharge.
Certifications	UL- Certified to Class 1, Zone 1, AEx ib d Ila T1



LANDTEC North America
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 Eastern Sales Office
 (800) 390-7745 • Fax (301) 391-6546

LANDTEC South America
 +55(11) 5181-6591 • Fax +55(11) 5181-6585
 www.LANDTEC.com.br



GeoXT

The total GPS platform for all your GIS field requirements

The GeoXT™ handheld, from the GeoExplorer® series, is an essential tool for maintaining your GIS. It's all you need to collect location data, keep existing GIS information up to date, and even mobilize your GIS.

The unique GeoExplorer series combines a Trimble® GPS receiver with a rugged field-ready handheld computer running the Microsoft® Windows Mobile™ 2003 software for Pocket PCs. Plus there's an internal battery that easily lasts for a whole day of GPS operation. The result is tightly integrated, tough, and incredibly powerful.

High-accuracy integrated GPS

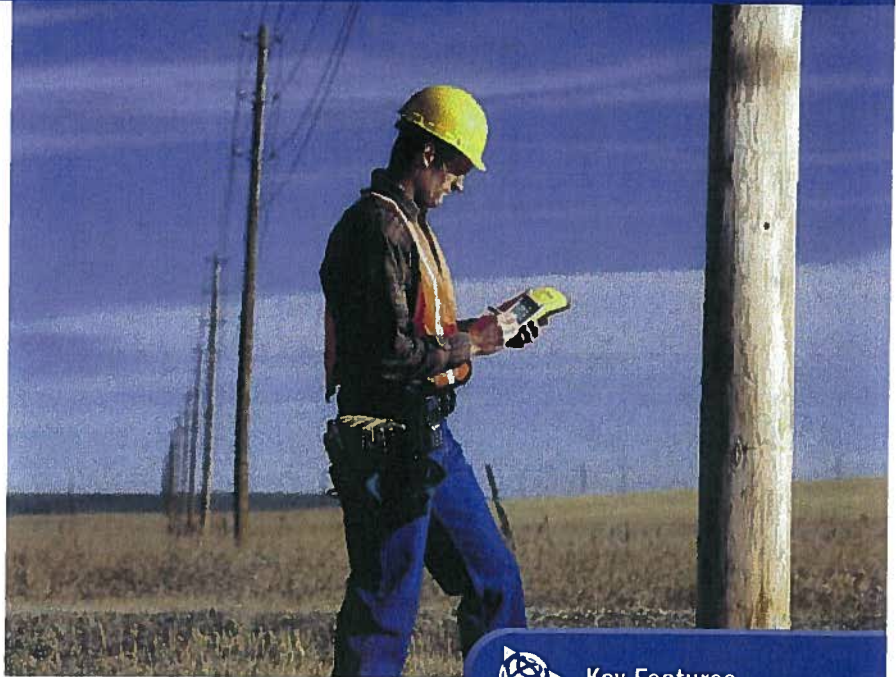
The GeoXT is optimized to provide the reliable, high-accuracy location data you need. Advanced features like EVEREST™ multipath rejection technology let you work under canopy, in urban canyons, or anywhere where accuracy is crucial.

Need submeter accuracy in real-time? Use corrections from a satellite-based augmentation system (SBAS) like WAAS¹ or EGNOS². Want to get that extra edge in precision? Collect data with Trimble's TerraSync™ or GPSCorrect™ software, and then postprocess back in the office.

Because the GPS receiver and antenna are built into the handheld computer, it's never been easier to use GPS in your application. The system is more than just cable-free: it's a totally integrated solution.

Optimized productivity

Take advantage of the power and flexibility of Windows Mobile software for Pocket PCs by choosing from the most comprehensive range of field software available—whether off-the-shelf or purpose-built. Whatever your needs, Windows



Key Features

- High-performance submeter GPS with integrated WAAS/EGNOS
- Windows Mobile 2003 software for Pocket PCs, allowing maximum flexibility in software choice
- Rugged handheld with all-day battery
- Advanced color TFT display with backlight
- Integrated Bluetooth for wireless connectivity

Mobile lets you choose a software solution to match your workflow.

Windows Mobile includes familiar Microsoft productivity tools, including Pocket Word, Pocket Excel, and Pocket Outlook®. Pocket Outlook lets you synchronize e-mails, contacts, appointments, and data with your office computer, so whether you're in the office or in the field, you're always up to date.

Go wireless with integrated Bluetooth®* for connection to other Bluetooth-enabled devices, including cell phones and PCs. You also have the option to use the USB support module to connect to a desktop computer, or use the optional serial clip for cabled connections in the field.

Receive a free copy of Microsoft Streets & Trips** 2004 software with your GeoXT handheld, and take advantage of comprehensive map and travel information for easy navigation and route planning.

All the memory you need

There's plenty of storage space in the GeoXT for all your GIS data. The fast processor and large memory mean even big graphics files load quickly—and they're crisp and crystal-clear on the advanced TFT outdoor color screen.

From data collection to data maintenance, to mobile GIS and beyond ... the GeoXT is the handheld of choice.

* Bluetooth type approvals are country specific. GeoExplorer series handhelds are approved for use with Bluetooth in the USA. For a complete list of other countries with Bluetooth approval please refer to:

www.trimble.com/geo_bluetooth.html
** Microsoft Streets & Trips 2004 software available in US/Canada; Microsoft AutoRoute® 2004 in Europe.



GeoXT

The total GPS platform for all your GIS field requirements

Standard features

System

- Microsoft Windows Mobile 2003 software for Pocket PCs
- 206 MHz Intel StrongARM processor
- 512 MB non-volatile Flash data storage
- Outdoor color display
- Ergonomic cable-free handheld
- Rugged and water-resistant design
- All-day internally rechargeable battery
- Bluetooth wireless

GPS

- Submeter accuracy
- Integrated WAAS¹/EGNOS²
- RTCM real-time correction support
- NMEA and TSIP protocol support
- EVEREST multipath rejection technology

Software

- GPS Controller for control of Integrated GPS and in-field mission planning
- GPS Connector for connecting Integrated GPS to external ports
- File Explorer, Internet Explorer, Pocket Outlook (Inbox, Calendar, Contacts, Tasks, Notes), Sprite Pocket Backup, Transcriber, Pocket Word, Pocket Excel, Pictures, Windows[®] Media Player, Bluetooth File Transfer, Calculator, ActiveSync[®]
- Microsoft Streets & Trips/AutoRoute 2004 software

Accessories

- Support module with power supply and USB data cable
- Getting Started Guide
- Companion CD includes Outlook 2002 and ActiveSync 3.7.1
- Hand strap
- Pouch
- Stylus

Optional Features

Software

- TerraSync
- GPSCorrect for ESRI[®] ArcPad[®]
- GPS Pathfinder[®] Tools Software Development Kit (SDK)
- GPS Pathfinder Office
- Trimble GPS Analyst extension for ArcGIS[®]

Accessories

- Serial clip for field data and power input
- Vehicle power adaptor³
- Portable power kit³
- Hurricane antenna
- External patch antenna
- Pole-mountable ground plane
- Baseball cap with antenna sleeve
- Beacon-on-a-Belt (BoB[™]) differential correction receiver³
- Hard carry case
- Null modem cable³
- Backpack kit

Specifications subject to change without notice.

Technical specifications

Physical

Size	.....21.5 cm × 9.9 cm × 7.7 cm (8.5 in × 3.9 in × 3.0 in)
Weight	..... 0.72 kg (1.59 lb) with battery
Processor	..... 206 MHz Intel StrongARM SA-1110
Memory	..... 64 MB RAM and 512 MB Internal Flash disk
Power	
Low (no GPS)	..... 0.6 Watts
Normal (with GPS)	..... 1.4 Watts
High (with GPS, backlight, and Bluetooth)	..... 2.5 Watts
Battery	..... Internal lithium-Ion, rapidly rechargeable in unit, 21 Watt-hours

Environmental

Temperature	
Operating	..... -10 °C to +50 °C (14 °F to 122 °F)
Storage	..... -20 °C to +70 °C (-4 °F to 158 °F)
Humidity	..... 99% non-condensing
Casing	..... Wind-driven rain and dust-resistant per IP 54 standard Slip-resistant grip, shock- and vibration-resistant

Input/output

Communications Bluetooth for wireless connectivity USB via support module, serial via optional DE9 serial clip adaptor
----------------	--

Bluetooth

Certification..... Bluetooth type approvals are country specific.
GeoExplorer series handhelds are approved for use with Bluetooth in the USA.
For a complete list of other countries with Bluetooth approval please refer to www.trimble.com/geoxt_ts.asp.

Profiles

Both client and host support..... Serial Port, File Transfer (using OBEX)
Client support only..... Dial-Up Networking, Lan Access
Host support only..... Basic imaging, Object Push
Display..... Advanced outdoor TFT, 240 × 320 pixel, 65,536 colors, with backlight
Audio..... Microphone and half duplex speaker, record and playback utilities
Interface..... Anti-glare coated touch screen, Soft input Panel (SIP) virtual keyboard
2 hardware control keys plus 4 programmable permanent touch buttons
Handwriting recognition software, Audio system events, warnings, and notifications

GPS

Channels	..... 12
Integrated real-time	..... WAAS ¹ or EGNOS ²
Update rate	..... 1 Hz
Time to first fix	..... 30 sec (typical)
Protocols	..... NMEA (GGA, VTG, GLL, GSA, ZDA, GSV, RMC), TSIP (Trimble Standard Interface Protocol)

Accuracy (RMS)⁴ after differential correction

Postprocessed ⁵	..... Submeter
Carrier postprocessed ⁶	
With 10 minutes tracking satellites	..... 30 cm
Real-time	..... Submeter

1 WAAS (Wide Area Augmentation System). Available in North America only.

For more information, see <http://gps.faa.gov/programs/index.htm>.

2 EGNOS (European Geostationary Navigation Overlay System). Available in Europe only.

For more information, see <http://www.esa.int/export/esaSA/navigation.html>.

3 Serial clip also required.

4 Horizontal accuracy. Requires data to be collected with minimum of 4 satellites, maximum PDOP of 6, minimum SNR of 4, minimum elevation of 15 degrees, and reasonable multipath conditions. Ionospheric conditions, multipath signals or obstruction of the sky by buildings or heavy tree canopy may degrade precision by interfering with signal reception. Accuracy varies with proximity to base station by +1 ppm for postprocessing and real-time, and by +5 ppm for carrier postprocessing.

5 Postprocessing with GPS Pathfinder Office software or GPS Analyst extension for ArcGIS.

6 Requires collection of carrier data. (Only available with the GPS Pathfinder Office software).

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ATTACHMENT 2

SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS

**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	13.0	5/23/2014	11:47:43am	1185730.306150	2470114.662309
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	6000.00	14.0	5/23/2014	11:53:38am	1185780.462085	2470121.491500
CHIMNEYROCKMINE05231	19.5	0.00	0.00	0.00	12000.00	12.0	5/23/2014	11:57:01am	1185829.795455	2470119.498910
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	2000.00	13.0	5/23/2014	12:00:01pm	1185877.106208	2470125.407279
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	14.0	5/23/2014	12:04:05pm	1185868.275709	2470178.666783
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	11.0	5/23/2014	12:06:10pm	1185928.949757	2470178.366271
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	12.0	5/23/2014	12:09:31pm	1185930.204053	2470127.372597
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	3000.00	14.0	5/23/2014	12:11:49pm	1185978.939792	2470125.057933
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	2000.00	15.0	5/23/2014	12:14:23pm	1185976.734342	2470173.770329
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	2000.00	15.0	5/23/2014	12:17:42pm	1186022.508788	2470173.108873
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	16.0	5/23/2014	12:21:16pm	1186021.890731	2470135.607145
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	16.0	5/23/2014	12:24:19pm	1186071.606335	2470128.771032
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	3000.00	13.0	5/23/2014	12:27:05pm	1186127.209086	2470128.240652
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	4000.00	13.0	5/23/2014	12:29:32pm	1186174.670713	2470124.212494
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	2000.00	15.0	5/23/2014	12:32:36pm	1186223.973095	2470121.202852
CHIMNEYROCKMINE05231	19.4	0.00	0.00	0.00	12000.00	14.0	5/23/2014	12:34:54pm	1186259.823447	2470068.706992
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	4000.00	16.0	5/23/2014	12:37:39pm	1186212.713860	2470073.503285
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	7000.00	15.0	5/23/2014	12:40:12pm	1186162.333774	2470063.830712
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	17.0	5/23/2014	12:42:41pm	1186113.431565	2470074.808377
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	3000.00	15.0	5/23/2014	12:44:43pm	1186069.147414	2470080.924135
CHIMNEYROCKMINE05231	19.8	0.00	0.00	0.00	12000.00	14.0	5/23/2014	12:47:56pm	1186018.716899	2470077.558880
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	15.0	5/23/2014	12:50:41pm	1185964.606597	2470076.489104
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	5000.00	16.0	5/23/2014	12:53:09pm	1185917.221812	2470079.118752
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	13.0	5/23/2014	12:55:59pm	1185866.716927	2470084.887976
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	17.0	5/23/2014	12:59:07pm	1185818.217024	2470073.761996
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	5000.00	18.0	5/23/2014	01:01:00pm	1185782.140608	2470082.428389
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	16.0	5/23/2014	01:03:12pm	1185732.476117	2470078.462299
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	17.0	5/23/2014	01:05:32pm	1185724.654594	2470018.707441
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	17.0	5/23/2014	01:07:48pm	1185769.850187	2470027.425537
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	16.0	5/23/2014	01:10:11pm	1185815.978788	2470027.568449
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	15.0	5/23/2014	01:12:11pm	1185875.750495	2470023.778928
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	15.0	5/23/2014	01:14:37pm	1185925.152539	2470032.076920
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	4000.00	14.0	5/23/2014	01:16:56pm	1185978.404173	2470025.543817
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	2000.00	15.0	5/23/2014	01:18:30pm	1186022.287062	2470026.637708
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	14.0	5/23/2014	01:20:55pm	1186071.945871	2470023.173849
CHIMNEYROCKMINE05231	20.0	0.00	0.00	0.00	7000.00	14.0	5/23/2014	01:22:49pm	1186113.576944	2470023.472170
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	13.0	5/23/2014	01:25:13pm	1186170.629781	2470016.354112
CHIMNEYROCKMINE05231	19.7	0.00	0.00	0.00	11000.00	14.0	5/23/2014	01:26:48pm	1186221.168139	2470017.932320
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	2000.00	15.0	5/23/2014	01:29:10pm	1186268.338655	2470017.956529
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	14.0	5/23/2014	01:31:09pm	1186271.477742	2469965.296882
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	16.0	5/23/2014	01:32:59pm	1186269.822482	2469921.748307
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	16.0	5/23/2014	01:35:18pm	1186266.890511	2469872.932145
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	17.0	5/23/2014	01:36:41pm	1186266.400837	2469821.794290



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	15.0	5/23/2014	01:38:18pm	1186271.823886	2469770.463020
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	16.0	5/23/2014	01:40:40pm	1186268.568040	2469725.248018
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	17.0	5/23/2014	01:42:12pm	1186266.244375	2469677.020906
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	14.0	5/23/2014	01:44:28pm	1186320.587858	2469675.715654
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	14.0	5/23/2014	01:46:24pm	1186321.845678	2469626.664334
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	15.0	5/23/2014	01:48:09pm	1186270.152033	2469623.669034
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	6000.00	14.0	5/23/2014	01:50:26pm	1186279.099048	2469576.627413
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	3000.00	13.0	5/23/2014	01:52:49pm	1186272.469021	2469534.141295
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	2000.00	14.0	5/23/2014	01:55:09pm	1186277.420928	2469486.256790
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	13.0	5/23/2014	01:57:35pm	1186220.685634	2469477.097812
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	14.0	5/23/2014	01:59:04pm	1186172.270758	2469482.343961
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	12.0	5/23/2014	02:01:48pm	1186133.661885	2469485.987756
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	2000.00	13.0	5/23/2014	02:04:33pm	1186126.304713	2469530.237105
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	7000.00	14.0	5/23/2014	02:06:09pm	1186176.075976	2469531.499826
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	13.0	5/23/2014	02:07:45pm	1186229.587229	2469532.348407
CHIMNEYROCKMINE05231	19.9	0.00	0.00	0.00	8000.00	15.0	5/23/2014	02:09:51pm	1186221.544220	2469576.695001
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	12.0	5/23/2014	02:12:46pm	1186167.069969	2469579.031862
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	3000.00	15.0	5/23/2014	02:14:25pm	1186117.273120	2469587.724817
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	1000.00	14.0	5/23/2014	02:16:29pm	1186118.718578	2469626.781541
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	4000.00	16.0	5/23/2014	02:18:21pm	1186180.571014	2469623.058182
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	16.0	5/23/2014	02:20:05pm	1186227.994080	2469638.455353
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	1000.00	14.0	5/23/2014	02:21:44pm	1186214.615666	2469676.392740
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	16.0	5/23/2014	02:23:16pm	1186170.517744	2469659.816224
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	2000.00	18.0	5/27/2014	12:22:36pm	1185777.308452	2469984.710826
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	2000.00	18.0	5/27/2014	12:28:21pm	1185830.860229	2469973.236295
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	18.0	5/27/2014	12:30:32pm	1185884.253341	2469975.284534
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	18.0	5/27/2014	12:32:35pm	1185930.329726	2469978.527472
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	2000.00	17.0	5/27/2014	12:34:49pm	1185976.772536	2469975.799751
CHIMNEYROCKMINE05231	19.7	0.00	0.00	0.00	14000.00	19.0	5/27/2014	12:38:47pm	1186029.926944	2469974.716243
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	6000.00	20.0	5/27/2014	12:41:03pm	1186074.006449	2469981.466495
CHIMNEYROCKMINE05231	19.3	0.00	0.00	0.00	10000.00	18.0	5/27/2014	12:43:11pm	1186114.427317	2469982.346620
CHIMNEYROCKMINE05231	20.1	0.00	0.00	0.00	4000.00	19.0	5/27/2014	12:45:16pm	1186175.080925	2469976.324651
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	20.0	5/27/2014	12:47:22pm	1186220.807122	2469964.554891
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	19.0	5/27/2014	12:49:41pm	1186214.718514	2469916.356114
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	1000.00	21.0	5/27/2014	12:52:24pm	1186159.345174	2469915.087847
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	21.0	5/27/2014	12:55:16pm	1186111.649945	2469915.340494
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	19.0	5/27/2014	12:57:47pm	1186066.619311	2469919.915822
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	19.0	5/27/2014	01:00:03pm	1186017.204683	2469928.358635
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	3000.00	21.0	5/27/2014	01:02:22pm	1185979.257359	2469934.503534
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	22.0	5/27/2014	01:04:49pm	1185927.512538	2469928.632988
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	19.0	5/27/2014	01:07:42pm	1185864.034225	2469933.188187
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	18.0	5/27/2014	01:10:56pm	1185817.282153	2469931.910631
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	1000.00	20.0	5/27/2014	01:17:10pm	1185761.396440	2469929.046440



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	21.0	5/27/2014	01:19:42pm	1185725.213660	2469925.154222
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	1000.00	18.0	5/27/2014	01:23:30pm	1185671.897062	2469926.332640
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	18.0	5/27/2014	01:28:40pm	1185620.004205	2469879.613785
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	2000.00	16.0	5/27/2014	01:31:24pm	1185669.723425	2469882.653354
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	4000.00	18.0	5/27/2014	01:34:46pm	1185729.558331	2469881.340812
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	18.0	5/27/2014	01:38:21pm	1185774.651118	2469880.643882
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	19.0	5/27/2014	01:41:00pm	1185830.762776	2469884.071302
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	0.00	18.0	5/27/2014	01:43:32pm	1185877.441142	2469879.426969
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	18.0	5/27/2014	01:46:04pm	1185925.389407	2469873.322664
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	18.0	5/27/2014	01:48:37pm	1185978.710867	2469880.360597
CHIMNEYROCKMINE05231	20.1	0.00	0.00	0.00	2000.00	18.0	5/27/2014	01:51:12pm	1186029.830304	2469880.020380
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	2000.00	18.0	5/27/2014	01:54:27pm	1186074.918911	2469875.026046
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	0.00	19.0	5/27/2014	01:57:37pm	1186128.859572	2469875.248401
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	0.00	18.0	5/27/2014	01:59:56pm	1186174.573393	2469868.806490
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	0.00	19.0	5/27/2014	02:02:12pm	1186225.427794	2469874.769397
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	3000.00	20.0	5/27/2014	02:04:45pm	1186220.381780	2469823.067627
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	0.00	18.0	5/27/2014	02:07:46pm	1186223.253279	2469762.690760
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	2000.00	18.0	5/27/2014	02:10:08pm	1186212.779422	2469727.297892
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	1000.00	18.0	5/27/2014	02:12:53pm	1186174.974794	2469721.959826
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	2000.00	15.0	5/27/2014	02:15:56pm	1186182.739350	2469772.847837
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	0.00	15.0	5/27/2014	02:20:03pm	1186172.956195	2469821.075708
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	0.00	15.0	5/27/2014	02:22:32pm	1186128.066609	2469819.268097
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	1000.00	18.0	5/27/2014	02:25:30pm	1186072.451471	2469835.965061
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	18.0	5/27/2014	02:27:51pm	1186022.289140	2469832.398376
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	0.00	18.0	5/27/2014	02:29:57pm	1185971.324465	2469835.490224
CHIMNEYROCKMINE05231	20.1	0.00	0.00	0.00	1000.00	19.0	5/27/2014	02:32:25pm	1185910.498288	2469832.628819
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	1000.00	18.0	5/27/2014	02:35:30pm	1185860.061097	2469821.324680
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	0.00	18.0	5/27/2014	02:38:47pm	1185812.501901	2469829.329023
CHIMNEYROCKMINE05231	19.4	0.00	0.00	0.00	6000.00	19.0	5/27/2014	02:41:49pm	1185760.829330	2469832.796398
CHIMNEYROCKMINE05231	20.3	0.00	0.00	0.00	0.00	18.0	5/27/2014	02:44:06pm	1185712.847995	2469835.343340
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	0.00	19.0	5/27/2014	02:49:24pm	1185670.259965	2469837.062241
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	1000.00	19.0	5/27/2014	02:51:46pm	1185624.370478	2469835.596177
CHIMNEYROCKMINE05231	20.1	0.00	0.00	0.00	4000.00	19.0	5/27/2014	02:55:37pm	1185624.765005	2469783.972893
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	0.00	14.0	5/27/2014	02:58:48pm	1185669.950967	2469778.536961
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	11.0	5/27/2014	03:02:00pm	1185717.679002	2469787.925811
CHIMNEYROCKMINE05231	29.7	0.00	0.00	0.00	1000.00	11.0	5/27/2014	03:04:33pm	1185776.155825	2469769.660721
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	2000.00	8.0	5/27/2014	03:06:57pm	1185829.157449	2469778.347539
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	1000.00	12.0	5/27/2014	03:09:11pm	1185877.048470	2469780.675036
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	2000.00	15.0	5/27/2014	03:11:39pm	1185927.522752	2469790.378583
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	15.0	5/27/2014	03:14:03pm	1185977.947185	2469785.002248
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	18.0	5/27/2014	03:16:30pm	1186029.199104	2469774.945656
CHIMNEYROCKMINE05231	20.8	0.00	0.00	0.00	0.00	16.0	5/27/2014	03:18:52pm	1186071.784347	2469771.250459
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	0.00	18.0	5/27/2014	03:21:19pm	1186127.382817	2469779.134820



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	1000.00	19.0	5/27/2014	03:23:59pm	1186127.397272	2469720.732639
CHIMNEYROCKMINE05231	20.1	0.00	0.00	0.00	2000.00	19.0	5/27/2014	03:26:18pm	1186111.976710	2469678.065505
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	0.00	10.0	5/27/2014	03:28:56pm	1186070.661538	2469676.456222
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	1000.00	18.0	5/27/2014	03:31:19pm	1186065.640024	2469721.012625
CHIMNEYROCKMINE05231	20.6	0.00	0.00	0.00	1000.00	20.0	5/27/2014	03:36:23pm	1186035.737607	2469726.688325
CHIMNEYROCKMINE05231	20.0	0.00	0.00	0.00	3000.00	15.0	5/27/2014	03:39:05pm	1186022.992297	2469678.186200
CHIMNEYROCKMINE05231	20.2	0.00	0.00	0.00	1000.00	14.0	5/27/2014	03:41:44pm	1185980.819374	2469679.519009
CHIMNEYROCKMINE05231	20.5	0.00	0.00	0.00	2000.00	15.0	5/27/2014	03:45:01pm	1185984.199303	2469732.157596
CHIMNEYROCKMINE05231	18.7	0.00	0.00	0.00	12000.00	12.0	5/27/2014	03:47:10pm	1185924.118391	2469732.374080
CHIMNEYROCKMINE05231	20.4	0.00	0.00	0.00	2000.00	10.0	5/27/2014	03:49:26pm	1185919.151750	2469682.841224
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	11.0	5/27/2014	03:52:14pm	1185876.450471	2469683.868888
CHIMNEYROCKMINE05231	19.4	0.00	0.00	0.00	8000.00	11.0	5/27/2014	03:54:33pm	1185881.391113	2469725.521991
CHIMNEYROCKMINE05231	18.0	0.00	0.00	0.00	14000.00	10.0	5/27/2014	03:57:26pm	1185832.163544	2469730.660658
CHIMNEYROCKMINE05231	20.7	0.00	0.00	0.00	0.00	10.0	5/27/2014	04:01:15pm	1185823.569667	2469674.603508
CHIMNEYROCKMINE05231	20.9	0.00	0.00	0.00	0.00	0.0	5/27/2014	04:03:54pm	1185778.842557	2469676.660218
CHIMNEYROCKMINE05231	19.7	0.00	0.00	0.00	7000.00	13.0	5/27/2014	04:06:36pm	1185783.798742	2469726.451376
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	5000.00	-1.0	5/30/2014	11:18:04am	1234999.834240	2425380.079062
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	3000.00	0.0	5/30/2014	11:21:47am	1234993.995716	2425441.954657
COLUMBINEMINE_053014	20.4	0.00	0.00	0.00	7000.00	0.0	5/30/2014	11:23:28am	1234990.373113	2425481.691802
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	2000.00	0.0	5/30/2014	11:25:45am	1234993.897272	2425523.648398
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	-1.0	5/30/2014	11:27:50am	1235045.056617	2425521.111376
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	0.0	5/30/2014	11:30:20am	1235053.768556	2425493.082488
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	2000.00	0.0	5/30/2014	11:32:32am	1235099.045442	2425527.306907
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	3.0	5/30/2014	11:34:26am	1235149.267421	2425524.088840
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	6.0	5/30/2014	11:36:44am	1235197.776655	2425571.131614
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	3000.00	7.0	5/30/2014	11:38:28am	1235196.543827	2425610.149878
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	6.0	5/30/2014	11:41:35am	1235249.794836	2425623.607795
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	6.0	5/30/2014	11:43:11am	1235264.938410	2425644.347762
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	6000.00	4.0	5/30/2014	11:45:31am	1235294.042819	2425627.245251
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	3000.00	4.0	5/30/2014	11:49:23am	1235339.826035	2425629.481358
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	5.0	5/30/2014	11:52:20am	1235411.389904	2425636.289201
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	4.0	5/30/2014	11:53:55am	1235454.986017	2425624.584574
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	3000.00	4.0	5/30/2014	11:55:42am	1235456.600796	2425584.990574
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	0.0	5/30/2014	11:57:03am	1235414.352404	2425575.752457
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	1000.00	2.0	5/30/2014	11:59:29am	1235360.336193	2425579.728412
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	2.0	5/30/2014	12:02:39pm	1235314.923069	2425581.461274
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	0.00	0.0	5/30/2014	12:08:14pm	1235246.546060	2425593.152751
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	0.00	3.0	5/30/2014	12:11:17pm	1235202.571516	2425536.548012
COLUMBINEMINE_053014	20.4	0.00	0.00	0.00	3.00	4000.0	5/30/2014	12:13:35pm	1235258.625447	2425549.573338
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	4.0	5/30/2014	12:16:24pm	1235313.847989	2425528.140805
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	0.0	5/30/2014	12:18:16pm	1235349.684633	2425535.128817
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	0.0	5/30/2014	12:20:05pm	1235408.956863	2425529.970100
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	1.0	5/30/2014	12:22:02pm	1235447.687335	2425511.416750



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	1.0	5/30/2014	12:24:23pm	1235438.001441	2425475.600176
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	1000.00	1.0	5/30/2014	12:26:42pm	1235414.824820	2425485.680898
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	1000.00	-1.0	5/30/2014	12:29:15pm	1235355.268266	2425483.940557
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	3000.00	1.0	5/30/2014	12:31:39pm	1235317.206033	2425476.922102
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	-1.0	5/30/2014	12:34:12pm	1235260.553449	2425468.364638
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	-1.0	5/30/2014	12:36:57pm	1235232.103519	2425484.283317
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	0.0	5/30/2014	12:40:38pm	1235212.625205	2425485.171048
COLUMBINEMINE_053014	20.2	0.00	0.00	0.00	5000.00	4.0	5/30/2014	12:43:15pm	1235162.786460	2425486.540040
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	0.00	6.0	5/30/2014	12:45:35pm	1235093.514084	2425474.471836
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	5.0	5/30/2014	12:48:00pm	1235056.572625	2425432.833866
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	6.0	5/30/2014	12:50:49pm	1235042.799250	2425376.860959
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	8.0	5/30/2014	12:52:37pm	1235049.965618	2425321.921742
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	7.0	5/30/2014	12:54:14pm	1235000.065779	2425311.046446
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	7.0	5/30/2014	12:55:49pm	1234991.927329	2425276.130016
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	8.0	5/30/2014	12:57:44pm	1234996.957796	2425223.992462
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	6.0	5/30/2014	12:59:22pm	1235003.916022	2425172.849678
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	4.0	5/30/2014	01:01:20pm	1235060.384856	2425176.546033
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	1.0	5/30/2014	01:03:29pm	1235037.448209	2425223.637138
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	4.0	5/30/2014	01:05:41pm	1235063.317836	2425275.914338
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	6.0	5/30/2014	01:07:41pm	1235095.559307	2425283.974762
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	4000.00	8.0	5/30/2014	01:10:07pm	1235112.358694	2425337.841287
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	8.0	5/30/2014	01:12:08pm	1235114.908082	2425378.011051
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	4.0	5/30/2014	01:13:59pm	1235111.686570	2425424.539070
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	4.0	5/30/2014	01:16:01pm	1235154.031694	2425422.896892
COLUMBINEMINE_053014	20.4	0.00	0.00	0.00	5000.00	1.0	5/30/2014	01:18:00pm	1235202.939297	2425419.953235
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	4000.00	2.0	5/30/2014	01:20:03pm	1235252.445369	2425429.520986
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	3000.00	2.0	5/30/2014	01:21:59pm	1235323.299070	2425432.159497
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	3.0	5/30/2014	01:24:01pm	1235357.445619	2425422.171359
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	1.0	5/30/2014	01:26:03pm	1235409.600853	2425435.118197
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	-2.0	5/30/2014	01:28:16pm	1235443.919276	2425443.686864
COLUMBINEMINE_053014	20.3	0.00	0.00	0.00	5000.00	0.0	5/30/2014	01:31:11pm	1235460.010334	2425368.540967
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	4000.00	0.0	5/30/2014	01:33:18pm	1235411.594032	2425377.393026
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	3000.00	3.0	5/30/2014	01:35:21pm	1235368.039341	2425364.881004
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	-1.0	5/30/2014	01:37:54pm	1235310.196119	2425379.249096
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	1.0	5/30/2014	01:39:50pm	1235254.697310	2425361.210300
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	1.0	5/30/2014	01:42:37pm	1235203.330385	2425376.653302
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	-1.0	5/30/2014	01:44:38pm	1235157.959703	2425382.835806
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	3.0	5/30/2014	01:48:51pm	1235148.279175	2425320.714212
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	6.0	5/30/2014	01:51:13pm	1235218.654217	2425328.232427
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	0.00	0.0	5/30/2014	01:53:37pm	1235268.596772	2425329.112567
COLUMBINEMINE_053014	20.4	0.00	0.00	0.00	3000.00	0.0	5/30/2014	01:56:11pm	1235305.648893	2425324.606024
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	3000.00	5.0	5/30/2014	01:58:35pm	1235359.425694	2425327.826569
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	4000.00	4.0	5/30/2014	02:00:49pm	1235418.735492	2425340.310769



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	2.0	5/30/2014	02:03:20pm	1235448.375863	2425329.196837
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	2.0	5/30/2014	02:05:18pm	1235446.581307	2425277.137973
COLUMBINEMINE_053014	20.3	0.00	0.00	0.00	4000.00	6.0	5/30/2014	02:07:56pm	1235411.630163	2425279.455448
COLUMBINEMINE_053014	20.5	0.00	0.00	0.00	3000.00	5.0	5/30/2014	02:09:59pm	1235359.147930	2425276.472657
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	0.0	5/30/2014	02:12:15pm	1235309.079507	2425270.861406
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	1.0	5/30/2014	02:14:17pm	1235239.414013	2425285.088099
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	5000.00	0.0	5/30/2014	02:16:21pm	1235194.372909	2425276.845428
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	2.0	5/30/2014	02:17:57pm	1235166.620669	2425262.572912
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	1000.00	6.0	5/30/2014	02:21:06pm	1235108.157789	2425223.183157
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	2000.00	6.0	5/30/2014	02:23:08pm	1235143.100003	2425220.830783
COLUMBINEMINE_053014	20.2	0.00	0.00	2.00	7000.00	3.0	5/30/2014	02:25:02pm	1235198.166928	2425225.292707
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	6.0	5/30/2014	02:27:27pm	1235267.137453	2425233.785075
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	0.00	6.0	5/30/2014	02:29:44pm	1235305.830916	2425226.820237
COLUMBINEMINE_053014	20.2	0.00	0.00	0.00	6000.00	4.0	5/30/2014	02:31:43pm	1235365.758570	2425229.775868
COLUMBINEMINE_053014	20.4	0.00	0.00	0.00	4000.00	3.0	5/30/2014	02:33:46pm	1235410.386176	2425232.242589
COLUMBINEMINE_053014	20.3	0.00	0.00	0.00	5000.00	4.0	5/30/2014	02:35:50pm	1235452.612116	2425235.636978
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	2000.00	4.0	5/30/2014	02:38:34pm	1235454.639936	2425175.151282
COLUMBINEMINE_053014	20.6	0.00	0.00	0.00	2000.00	4.0	5/30/2014	02:40:32pm	1235406.000810	2425169.931291
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	9.0	5/30/2014	02:42:40pm	1235358.205143	2425173.321193
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	1000.00	8.0	5/30/2014	02:44:22pm	1235315.791543	2425173.780753
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	0.00	4.0	5/30/2014	02:46:55pm	1235262.224025	2425188.028008
COLUMBINEMINE_053014	20.7	0.00	0.00	0.00	1000.00	6.0	5/30/2014	02:48:58pm	1235197.081596	2425181.566480
COLUMBINEMINE_053014	20.9	0.00	0.00	0.00	0.00	5.0	5/30/2014	02:50:55pm	1235155.229275	2425171.229653
COLUMBINEMINE_053014	20.8	0.00	0.00	0.00	0.00	4.0	5/30/2014	02:52:25pm	1235108.267886	2425182.798948
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	2000.00	2.0	5/28/2014	09:54:32am	1185727.785503	2471591.143883
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	0.0	5/28/2014	09:58:54am	1185721.700545	2471621.089378
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	3000.00	11.0	5/28/2014	10:00:46am	1185718.124904	2471665.065874
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	11.0	5/28/2014	10:02:47am	1185714.088042	2471712.014538
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	2000.00	12.0	5/28/2014	10:04:45am	1185711.008809	2471765.128980
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	2000.00	11.0	5/28/2014	10:07:02am	1185724.962501	2471813.750322
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	11.0	5/28/2014	10:09:46am	1185708.522846	2471868.040086
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	1000.00	0.0	5/28/2014	10:12:00am	1185717.044070	2471911.734709
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	2000.00	2.0	5/28/2014	10:14:44am	1185709.812205	2471978.183480
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	2.0	5/28/2014	10:17:15am	1185719.301477	2472015.618846
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	1000.00	3.0	5/28/2014	10:19:20am	1185781.695829	2472019.160196
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	3000.00	3.0	5/28/2014	10:21:29am	1185764.143125	2471973.230248
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	9.0	5/28/2014	10:23:25am	1185755.276085	2471930.670471
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	0.0	5/28/2014	10:26:40am	1185770.431343	2471874.601641
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	1.0	5/28/2014	10:29:38am	1185760.800769	2471817.898348
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	1.0	5/28/2014	10:32:55am	1185761.842199	2471785.688991
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	2000.00	2.0	5/28/2014	10:35:30am	1185748.126478	2471735.384774
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	2.0	5/28/2014	10:38:25am	1185768.800086	2471677.624052
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	5.0	5/28/2014	10:41:05am	1185774.928824	2471621.473581



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	1000.00	5.0	5/28/2014	10:44:21am	1185788.661676	2471578.724410
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	0.0	5/28/2014	10:47:00am	1185826.772933	2471577.585857
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	2000.00	5.0	5/28/2014	10:49:42am	1185812.696123	2471616.691335
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	5.0	5/28/2014	10:52:13am	1185821.032908	2471659.527742
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	8.0	5/28/2014	10:54:32am	1185806.892376	2471725.192062
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	3000.00	5.0	5/28/2014	10:57:11am	1185802.799662	2471781.050876
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	2000.00	10.0	5/28/2014	11:00:36am	1185825.370668	2471832.322723
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	11.0	5/28/2014	11:03:00am	1185818.031461	2471882.129105
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	0.0	5/28/2014	11:05:40am	1185809.790894	2471934.861651
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	2.0	5/28/2014	11:09:44am	1185830.181297	2471990.138441
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	5.0	5/28/2014	11:13:40am	1185834.301234	2472021.769310
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	3000.00	2.0	5/28/2014	11:16:23am	1185869.098411	2472029.507911
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	10.0	5/28/2014	11:20:15am	1185875.721813	2471983.825938
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	8.0	5/28/2014	11:23:28am	1185873.544075	2471927.119309
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	5.0	5/28/2014	11:27:22am	1185879.807796	2471876.285730
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	5000.00	0.0	5/28/2014	11:29:37am	1185876.756809	2471840.353230
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	2000.00	5.0	5/28/2014	11:32:25am	1185876.402435	2471777.394140
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	5.0	5/28/2014	11:34:58am	1185872.658820	2471716.553235
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	1.0	5/28/2014	11:37:21am	1185876.527960	2471683.736782
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	1000.00	-1.0	5/28/2014	11:40:22am	1185883.036559	2471619.372471
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	1000.00	2.0	5/28/2014	11:42:54am	1185879.040777	2471579.344976
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	2000.00	5.0	5/28/2014	11:45:45am	1185924.385388	2471572.804001
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	1000.00	5.0	5/28/2014	11:48:45am	1185926.975104	2471627.849684
STOLSTIEMER_MINE_281	20.2	0.00	0.00	0.00	1000.00	5.0	5/28/2014	11:52:35am	1185919.880853	2471689.511297
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	2000.00	5.0	5/28/2014	11:55:03am	1185936.770645	2471726.256768
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	1000.00	8.0	5/28/2014	11:57:54am	1185929.285559	2471766.985049
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	10.0	5/28/2014	12:01:53pm	1185917.842812	2471835.844017
STOLSTIEMER_MINE_281	20.1	0.00	0.00	0.00	0.00	10.0	5/28/2014	12:05:26pm	1185927.987679	2471874.302407
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:07:46pm	1185921.974793	2471919.423616
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:10:49pm	1185911.027300	2471971.157003
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	0.00	10.0	5/28/2014	12:13:36pm	1185919.537225	2472023.846378
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	1000.00	2.0	5/28/2014	12:15:59pm	1185967.056145	2472029.536883
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	1000.00	8.0	5/28/2014	12:19:26pm	1185974.235858	2471967.163183
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	10.0	5/28/2014	12:22:10pm	1185955.057310	2471932.037517
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:25:11pm	1185961.651642	2471880.253388
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	4.0	5/28/2014	12:28:06pm	1185965.865017	2471816.581359
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:30:50pm	1185981.828397	2471770.287807
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	1000.00	9.0	5/28/2014	12:32:51pm	1185977.684341	2471725.580780
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	10.0	5/28/2014	12:34:59pm	1185964.918318	2471676.418930
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	2000.00	11.0	5/28/2014	12:37:19pm	1185974.105447	2471640.495877
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	1000.00	10.0	5/28/2014	12:40:25pm	1185967.379876	2471577.622802
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:43:48pm	1186022.774352	2471591.390865
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	1000.00	5.0	5/28/2014	12:48:16pm	1186014.459756	2471613.000430



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:50:53pm	1186021.594145	2471639.205451
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	2000.00	10.0	5/28/2014	12:52:47pm	1186017.703335	2471675.296050
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	10.0	5/28/2014	12:55:07pm	1186014.580656	2471715.323299
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	5.0	5/28/2014	12:57:20pm	1186025.467593	2471768.046596
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	12.0	5/28/2014	01:01:38pm	1186023.488557	2471823.144980
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	0.00	13.0	5/28/2014	01:04:04pm	1185991.071038	2471875.024212
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:06:19pm	1186017.095382	2471877.457218
STOLSTIEMER_MINE_281	19.9	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:08:24pm	1186049.270275	2471884.463454
STOLSTIEMER_MINE_281	20.3	0.00	0.00	0.00	2000.00	10.0	5/28/2014	01:10:53pm	1186076.660206	2471878.267252
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:13:14pm	1186097.842165	2471878.867818
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	0.00	12.0	5/28/2014	01:15:02pm	1186133.633330	2471886.602268
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	10.0	5/28/2014	01:17:51pm	1186174.285783	2471893.673924
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	0.0	5/28/2014	01:20:04pm	1186168.620241	2471941.452540
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:21:49pm	1186178.682179	2471988.099152
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:23:39pm	1186172.468701	2472034.142904
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	1000.00	8.0	5/28/2014	01:26:02pm	1186120.542266	2472030.890385
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	5.0	5/28/2014	01:28:36pm	1186085.719811	2472024.746295
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:31:16pm	1186026.222974	2472025.164708
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	1000.00	11.0	5/28/2014	01:34:21pm	1186024.652756	2471982.831819
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	1000.00	10.0	5/28/2014	01:37:22pm	1186085.180355	2471983.313036
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:39:01pm	1186117.526154	2471993.961891
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	0.0	5/28/2014	01:41:32pm	1186113.337037	2471937.084550
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	12.0	5/28/2014	01:43:17pm	1186073.554874	2471931.623708
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	1000.00	11.0	5/28/2014	01:46:07pm	1186008.744318	2471926.999697
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	0.0	5/28/2014	01:49:53pm	1186069.566296	2471830.753522
STOLSTIEMER_MINE_281	20.6	0.00	0.00	0.00	0.00	21.0	5/28/2014	01:51:38pm	1186116.842891	2471826.305223
STOLSTIEMER_MINE_281	20.4	0.00	0.00	0.00	0.00	20.0	5/28/2014	01:54:38pm	1186174.012153	2471832.396472
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	12.0	5/28/2014	01:56:59pm	1186178.470335	2471790.880614
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	10.0	5/28/2014	01:58:58pm	1186121.194333	2471783.509168
STOLSTIEMER_MINE_281	20.7	0.00	0.00	0.00	0.00	21.0	5/28/2014	02:01:03pm	1186057.399319	2471766.833142
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	22.0	5/28/2014	02:03:14pm	1186068.982960	2471723.974128
STOLSTIEMER_MINE_281	20.5	0.00	0.00	0.00	0.00	20.0	5/28/2014	02:05:38pm	1186127.454958	2471731.951089
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	6.0	5/28/2014	02:07:40pm	1186171.719524	2471730.825948
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	11.0	5/28/2014	02:10:49pm	1186165.461927	2471673.239861
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	12.0	5/28/2014	02:12:52pm	1186131.014556	2471680.053574
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	21.0	5/28/2014	02:14:42pm	1186075.639651	2471659.039479
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	21.0	5/28/2014	02:16:16pm	1186069.440240	2471620.482635
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	20.0	5/28/2014	02:17:20pm	1186113.074071	2471636.167177
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	0.00	18.0	5/28/2014	02:20:23pm	1186181.885226	2471630.621161
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	15.0	5/28/2014	02:22:53pm	1186150.486182	2471571.967409
STOLSTIEMER_MINE_281	20.8	0.00	0.00	0.00	1000.00	15.0	5/28/2014	02:25:01pm	1186116.098349	2471572.057727
STOLSTIEMER_MINE_281	20.9	0.00	0.00	0.00	0.00	12.0	5/28/2014	02:28:00pm	1186064.826116	2471578.854715
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	10.0	5/29/2014	09:31:18am	1229379.595919	2432100.951807



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	11.0	5/29/2014	09:33:26am	1229378.778903	2432053.513142
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	0.0	5/29/2014	09:35:32am	1229437.606651	2432057.238623
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	1000.00	4.0	5/29/2014	09:37:39am	1229427.989155	2432106.227518
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	5.0	5/29/2014	09:39:45am	1229427.194181	2432160.168026
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	3.0	5/29/2014	09:42:25am	1229419.634764	2432199.003622
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	2.0	5/29/2014	09:44:33am	1229428.939570	2432259.613911
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	4000.00	2.0	5/29/2014	09:46:26am	1229415.543975	2432312.230462
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	0.00	1.0	5/29/2014	09:48:47am	1229418.598322	2432360.318656
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	3.0	5/29/2014	09:51:11am	1229418.283638	2432410.130575
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	5.0	5/29/2014	09:53:08am	1229425.213455	2432453.582333
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	7.0	5/29/2014	09:55:32am	1229429.536167	2432504.547719
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	9.0	5/29/2014	09:58:35am	1229367.651697	2432492.589915
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	8.0	5/29/2014	09:59:43am	1229377.228061	2432453.653456
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	4.0	5/29/2014	10:01:45am	1229363.774423	2432406.747302
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	3000.00	6.0	5/29/2014	10:06:11am	1229379.707822	2432363.178639
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	4.0	5/29/2014	10:09:11am	1229372.137554	2432312.393832
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	0.00	7.0	5/29/2014	10:11:23am	1229377.871527	2432266.634848
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	0.0	5/29/2014	10:13:57am	1229376.697390	2432209.114642
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	6.0	5/29/2014	10:16:40am	1229376.612144	2432150.566450
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	5.0	5/29/2014	10:20:02am	1229339.774477	2432168.405838
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	4.0	5/29/2014	10:21:47am	1229321.764118	2432202.415499
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	9.0	5/29/2014	10:24:01am	1229318.719185	2432265.306167
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	7.0	5/29/2014	10:26:04am	1229312.909776	2432329.550032
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	3.0	5/29/2014	10:28:49am	1229320.680717	2432380.005674
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	0.00	1.0	5/29/2014	10:30:49am	1229334.143772	2432416.973682
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	4.0	5/29/2014	10:33:09am	1229322.948667	2432457.269113
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	3000.00	3.0	5/29/2014	10:34:57am	1229320.740145	2432513.617062
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	9.0	5/29/2014	10:37:30am	1229268.963742	2432517.888604
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	10.0	5/29/2014	10:39:05am	1229267.631533	2432461.767560
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	9.0	5/29/2014	10:40:37am	1229274.744355	2432410.638049
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	2.0	5/29/2014	10:42:23am	1229274.725321	2432366.316145
TRIPPLES_MINE_052914	20.2	0.00	0.00	0.00	4000.00	0.0	5/29/2014	10:44:31am	1229261.193459	2432330.615480
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	8.0	5/29/2014	10:47:06am	1229276.659826	2432263.303109
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	12.0	5/29/2014	10:49:33am	1229280.234209	2432214.736765
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	14.0	5/29/2014	10:51:48am	1229282.310417	2432166.062951
TRIPPLES_MINE_052914	20.3	0.00	0.00	0.00	3000.00	8.0	5/29/2014	10:54:03am	1229262.186620	2432121.988185
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	4000.00	10.0	5/29/2014	10:57:07am	1229321.729459	2432111.573741
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	3000.00	9.0	5/29/2014	10:59:26am	1229318.907851	2432054.438249
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	8.0	5/29/2014	11:02:09am	1229278.609083	2432061.395201
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	9.0	5/29/2014	11:04:28am	1229228.303620	2432064.475803
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	9.0	5/29/2014	11:06:16am	1229185.297229	2432056.349182
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	3000.00	10.0	5/29/2014	11:10:14am	1229118.222094	2432063.002134
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	5.0	5/29/2014	11:13:08am	1229075.406729	2432057.379144



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O₂ (%)	Sub CH₄ (PPM)	Sub H₂S (PPM)	Sub CO (PPM)	Sub CO₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	0.0	5/29/2014	11:16:44am	1229037.830750	2432067.632811
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	1.0	5/29/2014	11:20:30am	1228992.408350	2432066.588190
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	1000.00	4.0	5/29/2014	11:24:02am	1228973.817784	2432115.091072
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	2.0	5/29/2014	11:26:45am	1228981.074335	2432160.857577
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	-2.0	5/29/2014	11:28:52am	1228991.113270	2432217.524065
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	1.0	5/29/2014	11:32:51am	1228974.934189	2432273.688925
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	1000.00	4.0	5/29/2014	11:35:25am	1228984.045723	2432306.843285
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	1000.00	4.0	5/29/2014	11:37:56am	1229002.341773	2432364.468156
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	5.0	5/29/2014	11:40:25am	1228983.042671	2432404.917962
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	1.0	5/29/2014	11:43:53am	1228996.875068	2432464.378450
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	4.0	5/29/2014	11:49:17am	1229000.749549	2432523.335426
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	3.0	5/29/2014	11:51:48am	1229041.396157	2432520.154968
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	2.0	5/29/2014	11:55:09am	1229070.776033	2432512.701129
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	2.0	5/29/2014	11:58:26am	1229142.097117	2432521.930339
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	0.0	5/29/2014	12:00:44pm	1229171.661735	2432508.247118
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	4.0	5/29/2014	12:03:20pm	1229228.455424	2432524.462573
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	1000.00	0.0	5/29/2014	12:06:27pm	1229228.389592	2432488.710364
TRIPPLES_MINE_052914	20.2	0.00	0.00	0.00	4000.00	2.0	5/29/2014	12:11:26pm	1229218.524473	2432403.808937
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	1000.00	2.0	5/29/2014	12:13:40pm	1229228.811404	2432362.119923
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	8.0	5/29/2014	12:15:25pm	1229231.020311	2432313.965154
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	4000.00	11.0	5/29/2014	12:17:10pm	1229226.830545	2432271.787185
TRIPPLES_MINE_052914	20.4	0.00	0.00	0.00	5000.00	-2.0	5/29/2014	12:19:30pm	1229227.798270	2432206.437805
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	3000.00	11.0	5/29/2014	12:22:10pm	1229235.789290	2432164.827241
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	2000.00	11.0	5/29/2014	12:24:48pm	1229217.604632	2432103.945946
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	4.0	5/29/2014	12:26:50pm	1229183.235672	2432111.160154
TRIPPLES_MINE_052914	20.4	0.00	0.00	0.00	4000.00	0.0	5/29/2014	12:29:17pm	1229120.572016	2432101.786630
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	4.0	5/29/2014	12:32:41pm	1229071.386246	2432119.500850
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	4.0	5/29/2014	12:35:05pm	1229037.608826	2432120.607999
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	1000.00	1.0	5/29/2014	12:39:09pm	1229029.043178	2432191.788889
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	4.0	5/29/2014	12:42:42pm	1229037.178372	2432218.095194
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	2.0	5/29/2014	12:44:53pm	1229017.582950	2432266.826646
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	1.0	5/29/2014	12:47:00pm	1229019.557740	2432313.248556
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	3.0	5/29/2014	12:49:30pm	1229011.920229	2432356.824893
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	4.0	5/29/2014	12:52:06pm	1229026.395326	2432409.223327
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	4.0	5/29/2014	12:54:47pm	1229065.016352	2432401.605793
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	5.0	5/29/2014	12:58:43pm	1229061.269691	2432365.651364
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	0.0	5/29/2014	01:02:54pm	1229073.389658	2432468.040941
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	2000.00	2.0	5/29/2014	01:05:14pm	1229103.101337	2432448.925654
TRIPPLES_MINE_052914	20.5	0.00	0.00	0.00	1000.00	0.0	5/29/2014	01:08:06pm	1229172.583412	2432467.259842
TRIPPLES_MINE_052914	20.6	0.00	0.00	0.00	3000.00	3.0	5/29/2014	01:10:00pm	1229182.508865	2432420.561633
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	-1.0	5/29/2014	01:12:33pm	1229188.100184	2432369.481871
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	1000.00	-1.0	5/29/2014	01:14:26pm	1229165.511921	2432312.588069
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	0.0	5/29/2014	01:16:55pm	1229163.961978	2432262.944740



**ATTACHMENT 2
SUBSURFACE SOIL GAS AND TEMPERATURE MEASUREMENTS**

Datafile	Sub O ₂ (%)	Sub CH ₄ (PPM)	Sub H ₂ S (PPM)	Sub CO (PPM)	Sub CO ₂ (PPM)	Temp (°C)	GPS_Date	GPS_Time	Northing	Easting
TRIPPLES_MINE_052914	20.4	0.00	0.00	0.00	4000.00	-1.0	5/29/2014	01:18:53pm	1229158.078126	2432214.875547
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	2.0	5/29/2014	01:20:52pm	1229165.093033	2432163.705076
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	5.0	5/29/2014	01:22:49pm	1229123.612397	2432175.178088
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	6.0	5/29/2014	01:24:59pm	1229068.928500	2432171.534511
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	5.0	5/29/2014	01:27:07pm	1229090.631046	2432213.495925
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	2000.00	6.0	5/29/2014	01:28:59pm	1229074.343467	2432264.054202
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	1000.00	6.0	5/29/2014	01:31:30pm	1229082.326085	2432327.119242
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	1000.00	2.0	5/29/2014	01:33:56pm	1229102.785321	2432352.363526
TRIPPLES_MINE_052914	20.9	0.00	0.00	0.00	0.00	-2.0	5/29/2014	01:36:16pm	1229121.714070	2432412.751399
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	6.0	5/29/2014	01:41:21pm	1229123.146920	2432321.135200
TRIPPLES_MINE_052914	20.7	0.00	0.00	0.00	1000.00	5.0	5/29/2014	01:43:48pm	1229120.652044	2432252.124161
TRIPPLES_MINE_052914	20.8	0.00	0.00	0.00	0.00	6.0	5/29/2014	01:48:13pm	1229115.133093	2432216.344496

Notes:

CH₄ - methane

ppm - parts per million

O₂ - oxygen

H₂S - hydrogen sulfide

CO - carbon monoxide

CO₂ - carbon dioxide

° - degree

C - Celsius

