# Petroglyph Operating Company
# August 2009
# Monthly Report

## Covering the period of 7/20/09 through 8/24/09

**Prepared for**
**Colorado Oil and Gas Conservation Commission**

**August 31, 2009**

**Prepared by**

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**Petroglyph Operating Company, Inc.**
**Monthly Report – June/July 2009**

Petroglyph Operating Company, Inc. (Petroglyph) is submitting this monthly report for the activities that have occurred at their Little Creek Field in the Raton Basin from the end of the last reporting period through August 24, 2009. Along with this monthly report, Petroglyph is submitting an electronic copy of all data including Microsoft Excel spreadsheets from which the attached summaries and graphs were created.

## 1.0 Phase I Remediation System

The Phase I remediation system associated with the Methane Investigation, Monitoring and Mitigation Program (MIMMP) has been operational for approximately eight and a half months beginning on December 8th. The system was started with pumping from Recovery 1 Kittleson and Recovery 3 PEI. Recovery 1 gas production has dropped from approximately 25.7 MCFD at the start of mitigation to approximately 6.42 MCFD on August 17, 2009. Recovery 3 gas flows were measured at approximately 0.75 MCFD at the start of mitigation and increased to approximately 1 MCFD and remained around 1 until late February and then began a slow and steady decline to approximately 0.36 to 0.4 MCFD. During this reporting period the gas flows dropped slightly to 0.3152 MCFD on August 17, 2009. Recovery 4 has shown the most variability ranging between 0.9 MCFD and 0 until mid April when the readings are consistently under 0.001 MCFD. Readings at Recovery 4 showed a slight increase beginning in late July/early August and ended the period at 0.0101 MCFD on August 17, 2009. The average pumping rate for Recovery 1 has been 18.8 gpm but on July 21, 2009 this rates was increased to 22.5 gpm. The average pumping rate at Recovery 3 has been 4 gpm intermittently (or averaging about 1 gpm over a day's time) (Table 1). Recovery 4 is not functioning properly as explained in previous monthly reports and has not been pumped since early April 2009.

Gas flow in POCI 55 monitoring well and the Recovery wells is shown graphically in Attachment 1. The POCI 55 well has not shown any gas flows since April 2008 shortly after passive venting of mitigation wells began. During the reporting period Petroglyph conducted a pump test on POCI 55 to determine if the well would produce gas when pumped and could be converted to a pumping well. The results of this pumping test are discussed below.

Injection started in Injection 01 and 04 on December 9, 2008 and Injection 02, 03, 05, 06 and 07 on December 10, 2008 (Table 1). Injection rates vary for the individual injection wells and range from 1.1 to 6.5 gpm. The two wells on the Rohr property (Injection 04 and 05) have accepted the most water. Injection 08 Haeffner has not accepted water very well. All of the approximately 6.7 million gallons of water that have been recovered have been re-injected following methane off gassing. Meter readings between recovery and injection flow rates show less than a 1% difference. Based on testing and observation there are no system gains or losses and the difference is most likely a result of limitations in calibration of the instrument readings. During this reporting period injection rates were increased at the 4 injection wells which take the most water (Injection 3 increased from

1.1 to 1.4 gpm; Injection 4 increased from 5.5 to 6.4 gpm; Injection 5 increased from 6.5 to 8.4 gpm; and Injection 6 increased from 4.5 to 6.3 gpm.)

Petroglyph installed a monitoring well, POCI 55, to monitor potential changes in the well water levels or presence of methane gas as a result of the remedial system pumping. POCI 55 was pump tested on August 18 and 19 to determine if the well would produce gas when pumped and could be used as a recovery well. Approximately 10,214 gallons were pumped from the well with no measurable gas flows although low levels of gas were detected with the handheld meter. A sample was collected for drinking water and dissolved gas analysis (with the results not yet available. Since no gas flow was observed and limited gas was measured with the handheld meter, the well will not be converted to a recovery well.

Petroglyph has an extensive monitoring program for domestic water wells surrounding the remediation system for changes in both water levels and in gas detected at the wellhead. In addition, Petroglyph monitors several of their production wells for changes in water level. All of these results are discussed in subsequent sections of this report. None of the monitoring has ever shown results that can be directly attributable to the remediation system pumping.

## 2.0 Phase II Remediation System

Petroglyph submitted the Phase II Methane Remediation System Class V Underground Injection Control (UIC) permit application to Region 8 of the EPA on January 7, 2009. The draft permit has been issued for public comment and a public meeting was held in Walsenburg on August 10th. The EPA has indicated approximately two months will be required to review and respond to the comments received. A Colorado Division of Water Resources application for the Phase II system was submitted on February 18, 2009 and is under review.

## 3.0 Ongoing Investigation

Aquifer Characterization

Petroglyph continues to evaluate data collected through the remediation system operation and ongoing monitoring to refine the aquifer characterization.

Gas Isotope, Dissolved Methane and Water Quality Sampling

The attached data disk includes the results from 25 gas isotope analyses. All of the analyses were collected prior to this reporting period. In addition the data disk includes the results for seven water samples and four dissolved gas only samples. One of the water samples (Recovery 1) and the four dissolved gas samples (Recovery 1, Recovery 3, Injection 5 and Billistrand) were collected during this reporting period. The results for all dissolved methane sampling collected to date, including the most recent sample results, are shown in Table 2 with those results received since the last reporting period highlighted in yellow.

Methane Source Investigation

Petroglyph continues to evaluate the source of methane both in the domestic wells in the vicinity of the production wells and closer to the outcrop. Monitoring of the BLM well continues and the well continues to shoe unmeasurably low levels of gas flow. A handheld measurement was not taken during this reporting period, but observations indicated a slight gas flow which was not measurable with a 1/16" orifice. The Haupt #1 well drilled closer to the outcrop was not measured during this reporting period. Any additional information on the ongoing investigation will be included in the monthly reports and/or in separate reporting as the data is collected and evaluated.

As noted below in Section 4.0 "Bi-Weekly and Monthly Water Well Monitoring" Petroglyph is evaluating completion information for all monitored domestic wells to determine if the wells were drilled into the Vermejo Formation and/or are located close to the Vermejo outcrop. Drilling into the coals and then pumping may in fact release methane gas within the coals regardless of Petroglyph's operations in the vicinity.

## 4.0 Monitoring

Down-hole Pressure and Fluid Level Monitoring

*Private Wells*

Petroglyph has installed continuous pressure monitoring for fluid levels in water wells at Barrett, Bergman and Coleman located within one mile of the remediation system; Meyer located in the River Ridge Ranch Subdivision but more than one mile from the remediation system; Bruington located in City Ranch Subdivision; and Evenden located in the Silver Spurs Ranch Subdivision. The Garza-Vela well in City Ranch is also typically monitored; however the pressure transducer in the Garza-Vela well failed and Petroglyph is awaiting a replacement gage so no data is included during this reporting period for that well. In addition, it was discovered during the reporting period that the connection to the Coleman gage is no longer working and will require replacement.

Information from these wells is downloaded monthly by Petroglyph, graphed, and included in electronic data disk with this monthly report. The POCI 55 Monitoring Well located near the remediation system also has a pressure gage. Attachment 2 shows graphically the changes in pressure for each of these wells.

POCI 55 showed a slight decrease in water levels of approximately 1.5 feet. The Barrett well water levels showed an increase of 2.4 feet. The Bergman pressures and water levels were relatively consistent with slight variations both up and down. The Bruington well continues to show an upward pressure and water levels with a rise during this reporting period of approximately 5 feet. The Meyer water well showed an increase of approximately 3 feet. The Evenden well pressures continue with a slight overall decline in pressures.

*Petroglyph Production Wells*

Fourteen Petroglyph production wells are currently monitored for fluid level and casing pressure: Lively 02-02, Lively 02-12, Lively 02-03, Lively 03-01, Lively 03-10, Lively

03-12, Lively 10-04, Rohr 04-10, Rohr 04-14, Rohr 09-05, Rohr 09-10, State 36-02, State 36-05, State 36-11. The downhole pressure sensor in the Rohr 09-05 is back in service. The pressure sensor in the Rohr 04-14 works sometimes, but not consistently. The data from the Rohr 04-14 appear to be accurate when collected. Two monitoring wells are also monitored continuously for water levels (Lively 03-03, and Lively 10-12). The monitoring occurs in the formation into which the wells are completed, the Vermejo Formation. Changes in fluid levels in Petroglyph's production wells are shown graphically in Attachment 3.

Since Petroglyph is no longer pumping these wells to draw down water levels, pressure is equalizing within the Vermejo coals. Consequently, water levels are generally rising in all wells as would be expected, although the rate of rise is leveling off. Most of the production wells show elevations between 6075 and 6109 feet. The Lively 03-12 shows readings that are higher than other elevations at approximately 6173 to 6203 feet. Subsequent to the data being recorded, the well was checked and the readings were determined to be in error. The problem has been corrected and current readings are more in line with other wells. It is not clear why the readings are higher and the data may be anomalous. The Lively 10-04 data is also slightly higher than the average at 6133 feet.

*Comparison of Production Well and Private Well Data*
Attachment 4 compares the water elevations for certain Petroglyph production wells and the private wells which are measured and discussed previously. As shown in Attachment 4 the majority of the private wells have water levels significantly higher than the production wells. Production well water levels showed a large rise after pumping ceased (250-300 feet); however domestic well water levels have remained relatively constant to decreasing during the same period indicating a lack of connection between the production wells and domestic wells. Attachment 4 also includes a table which shows the completion interval, water elevation, location and well status.

Gas Flow Monitoring In Domestic Wells
Gas flow monitors have been installed by Petroglyph at the Angely, Bounds, Bruington, Coleman, and Smith wells. All of these wells except for Bruington and Bounds lie within one mile of the remediation system. Continuous gas flow monitoring occurs at Coleman and Smith, while gas flow is spot monitored with a gage and orifice tester at Angely, Bounds, and Bruington. Gas pressure at the Bounds and Angely wells is currently monitored by COGCC or their consultant; however the data, when available, is presented in this report.

Attachment 5 includes graphs representing gas flow measurements from Bruington, Coleman, Angely, Bounds and Smith. The Coleman well has not been pumped since June 27th and only shows gas when pumped so no measurements are available for the Coleman well. No results were reported by COGCC or their consultant for the Angely and Bounds wells. The Bruington and Smith wells are not showing any gas.

A drop in gas flow in the domestic wells appears to have occurred in correlation with the drilling of remediation system wells and venting of gas through these wells. This would

indicate that the remediation system has been correctly located to remediate the area of largest gas concentration in the domestic wells.

Bi-Weekly and Monthly Water Well Monitoring

Petroglyph currently monitors for methane gas levels near approximately 90 wells in the vicinity of the site. Measurements are taken near the wellhead, at the well vent and in some cases are also taken at the cistern. Two new wells were added during the reporting period.

Table 3 shows all of the wells that have been sampled, the sampling start date, the date of the last sample, the number of samples since the last reporting period and a description of the sampling results and any changes from the previous reporting period. A column that discusses the historical readings for each site has been added to the table.

Of the 90 wells, 34 were not sampled during this reporting period. Sampling may vary during any one reporting period due to a variety of reasons. During this reporting period 31 wells were sampled once, 24 wells were sampled twice and 1 well was sampled three times.

As shown on Table 3, the comparison of monitoring results for the 54 wells previously sampled showed that overall gas levels at 36 wells had no change from the previous monitoring period measurements. Of those 36 wells with no changes, 35 wells had no detectable methane. Changes in % LEL, % by volume CH4, and % volume $O_2$ were evaluated to determine if the area around the wellheads was showing an indication of increasing or decreasing methane gas content. Of the remaining 18 wells, 5 showed increases in methane, with 1 of those only slight increases and 11 showed decreases with 3 of those well showing a slight decrease. Two of the sampled wells showed widely varying results.

Petroglyph compared those wells showing detectable methane or changes in methane monitored during the reporting period with wells known to have been drilled into the coals within the Raton or Vermejo Formations and lying within 1-1.25 miles of the outcrop. Of the 19 wells showing methane (18 with changes and 1 well with detectable methane and no changes from the previous monitoring period), 13 are believed to have been drilled into the Raton/Vermejo Formation based on well depths in well logs available from the State Engineer; another 1 well log showed coal, but it is not known if the coals that were encountered during drilled could be providing a source of methane. Of the remaining 5 wells, well drilling and completion information has not yet been researched for 2 wells; 1 well was drilled deep and cemented back and the remaining 2 wells lie within the ring of the remediation system.

Historically, 40 of the 88 wells that are monitored have never shown any detectable methane and 19 wells have shown only low to no detectable levels of methane or show only very infrequent methane readings. 10 wells showed high or variable levels of methane when first sampled and over time dropped to no detectable methane or infrequent readings of detectable methane. Nine wells show consistent higher levels of

methane. Six wells show widely variable results with large changes from 0 to higher levels at each reading and no discernable trends. One well shows increasing levels of methane. Three wells have limited sampling.

The breakdown by Subdivision or area as on Table 3 is as follows:

**Within 1 Mile of Remediation System**

***Current***

- Gas near 26 wellheads monitored
- 5 wellheads not sampled during this reporting period
- 12 wellheads showed no change and no detectable methane gas with 1 wellhead showing no change and detectable methane levels
- The wellhead showing no change and detectable levels of methane is known to be drilled into the Vermejo Formation
- 4 wellheads showed increased methane with 2 of those only a slight increase
- 2 wellheads showed slightly decreased methane levels
- 2 wellheads showed varied results through the period
- Of the 8 wellheads showing changes in detectable methane, 5 are known to be drilled into the Raton/Vermejo.

***Historic***

- 11 wellheads have shown no detectable methane ever
- 6 wellheads have shown high levels which subsequently decreased to at or near 0
- 3 wellheads have shown consistently low to 0 levels of methane
- 4 wellheads show consistent readings of methane
- 1 wellhead has shown variable readings
- 1 wellhead has had only limited sampling

**River Ridge Ranch Subdivision and Vicinity Outside of One Mile**

***Current***

- Gas near 23 wellheads monitored
- 6 wellheads not sampled during this reporting period
- 15 wellheads showed no change and no detectable methane gas
- 2 wellheads showed an increase in methane levels with one of those only a slight increase
- Of the 2 wellheads showing changes in detectable methane, both are drilled into the Raton/Vermejo and lie within 1.25 miles of the outcrop.

***Historic***

- 18 wellheads have shown no detectable methane ever
- 4 wellheads have shown consistently low to 0 levels of methane
- 1 wellhead show consistent methane readings

**City Ranch and Other Properties**

***Current***

- Gas near 15 wellheads monitored
- 7 wellheads were not sampled during the reporting period
- 3 wellheads showed no change and no detectable methane gas
- 3 wellheads showed a decrease with 1 wellheads only a slight decrease in methane gas
- 1 wellhead showed an increase in levels of methane gas
- Of the 4 wellheads showing changes in detectable methane, three are known to be drilled into the Raton/Vermejo and lie within 1.25 miles of the outcrop. The fourth wellhead with detectable methane is a well with drilling logs which indicated the well was drilled through coals.
- 1 new wellhead sampling point was added during the reporting period

***Historic***

- 4 wellheads have shown no detectable methane ever
- 5 wellheads have shown high or variable levels which subsequently decreased to at or near 0
- 1 wellhead have shown consistently low to 0 levels of methane
- 1 wellhead showed widely variable readings from 0 to higher levels
- 2 wellheads have shown consistent readings of methane
- 2 wellhead have had only limited sampling

**Silver Spurs Ranch**

***Current***

- Gas near 25 wellheads monitored
- 15 wellheads were not sampled during the reporting period
- 5 wellheads showed no change and no detectable methane
- 4 wellheads showed decreased levels of methane gas
- Of the 4 wellheads showing changes in detectable methane levels, at least two are known to be drilled into the Raton/Vermejo Formation and lie within 1 mile of the outcrop. The completion of the remaining two has not yet been examined in detail
- 1 new wellhead sampling point was added during the reporting period

***Historic***

- 6 wellheads have shown no detectable methane ever
- 11 wellheads have shown consistently low to 0 levels of methane
- 1 wellhead shows consistent readings
- 1 wellhead has shown increasing readings
- 4 wellheads have shown variable readings
- 2 wellheads have had only limited sampling

**Black Hawk Ranch**

***Current***

- The domestic well which is monitored at Black Hawk Ranch (Goza) was not sampled during this reporting period.

***Historic***

- The wellhead sampled at Black Hawk Ranch has never shown any detectable levels of methane

Table 4 shows the current monitoring schedule including which wells are monitored bi-weekly and which wells are monitored monthly or at a different frequency. The schedule has been updated to include the most recently approved monitoring schedule which eliminated all weekly monitoring in accordance with the approval of the COGCC.

Attachment 6 includes charts of gas monitoring of eighteen wells near the mitigation system. The wells being monitored have not indicated a direct response to the remediation pumping and injection. The Masters #2 wellhead, which had produced measurable methane after pumping to collect a water sample showed methane in one reading and had dropped to zero in the final reading of the period. The Smith wellhead had also dropped back to 0 in the final measurement. The Hopke wellhead continues to show a decline in CH4 % by volume although the LEL remains at >100%. Other readings have remained consistent with previous measurements.

Hand Held Measurements

Petroglyph conducts periodic ground surveys using a hand held methane detector at locations where gas has previously been detected, at locations where a property owner requests such a survey or at locations where previous surveys such as the helicopter survey have detected gas seepage. These surveys are conducted based on need or urgency so can range from several times a week to a one time survey based on concerns from a property owner. Table 5 provides a listing of the surveys that were conducted during the reporting period at previously identified seeps (Table 5a) and at residences (Table 5b). No significant concentrations have been measured in or around any residence.

## 5.0 Mitigation

Methane Alarms

Petroglyph calibrated the recently installed Gonzales monitor and recalibrated the monitor in the home of Cordova during the reporting period. There are currently a total of 15 homes with alarm systems provided by Petroglyph. No alarms have ever been triggered by the presence of methane.

Water Supply

Petroglyph is currently providing water to 16 homes. Table 6 provides a list of the homes currently receiving water. Water is delivered as needed and can vary from month to month due to residential water use and whether or not the homes are occupied. No new homes were added to the list during this reporting period.

Public Outreach

Paul Powell with Petroglyph attended the EPA Public Hearing on August 10th in Walsenburg on the Phase II Underground Injection Control Permit.

Paul Powell, Ken Smith and Craig Saldin attended the COGCC meeting held in Trinidad on August 17th and provided an update on Petroglyph's activities in regard to COGCC Order 1C-6.

Paul Powell participated in a public meeting on August 25th in which the public, local and State officials discussed the potential to extend the Walsenburg water supply system to the River Ridge Ranch subdivision.

Health and Safety/Emergency Planning

No changes to Petroglyph's health, safety and emergency planning occurred during the reporting period.

## 6.0 Schedule

The following is the currently anticipated schedule for Phase I and Phase II of the Methane Investigation Monitoring and Mitigation Program.

- Continued pumping and injection of the Phase I system with ongoing monitoring to evaluate the response in surrounding wells.
- EPA has estimated approximately two months to respond to public comment and issue the final Phase II UIC Permit. There is a 30 day waiting period prior to the permit becoming effective.
- Routine bi-weekly and monthly sampling will continue with new sampling sites added as needed. Sampling will be adjusted based on the monitoring results in accordance with the Petroglyph Monitoring and Response Plan submitted to the COGCC on April 7, 2008 and the subsequent approved reduction letter dated January 27, 2009 and approved February 10, 2009.
- Hand held seep monitoring will continue as needed.

**Table 1: Recovery and Injection Rates associated with Phase I MIMMP (as of 8/23/09)**

| Well Number | TD | PBTD | Injection Tubing Depth | Start-up Date | Average Injection Rate (gpm) | Water Totals as of 8/23/09 (gal) | Notes |
|---|---|---|---|---|---|---|---|
| Injection 01 Pascual | 600 | 526 | 458 | 12/9/2008 | 1.1 | 367,700 | |
| Injection 02 Gonzales | 600 | 575 | 362 | 12/10/2008 | 1.2 | 357,700 | |
| Injection 03 Benevides | 725 | 629 | 454 | 12/10/2008 | 1.4 | 369,700 | Increased injection rate from 1.1 to 1.4 gpm 7/21/09 |
| Injection 04 Rohr | 675 | 667 | 455 | 12/9/2008 | 6.4 | 1,804,000 | Increased injection rate from 5.5 to 6.4 gpm 7/21/09 |
| Injection 05 Rohr | 750 | 735 | 458 | 12/10/2008 | 8.4 | 2,144,000 | Increased injection rate from 6.5 to 8.4 gpm 7/21/09 |
| Injection 06 Masters | 725 | 695 | 438 | 12/10/2008 | 6.3 | 1,501,000 | Increased injection rate from 4.5 to 6.3 gpm 7/21/09 |
| Injection 07 Walden | 750 | 713 | 457 | 12/10/2008 | 1.1 | 301,700 | |
| Injection 08 Haeffner | 650 | 713 | 365 | 12/10/2008 | see note | 2,420 | Well does not accept water very well. Inject approx. 150 gallons every two weeks. |
| | | | | | | | |
| | | | **Pump Depth** | | **Average Pump Rate (gpm)** | | |
| Recovery 1 Kittleson | 715 | 705 | 686 | 12/8/2008 | 22.5 | 6,379,000 | Increased pump rate from 18.8 to 22.5 gpm 7/21/09 |
| Recovery 3 PEI | 625 | 591 | 575 | 12/8/2008 | 1 (see note) | 329,000 | Intermittent pumping at 4 gpm. Rate over 24 hrs is approx 1 gpm |
| Recovery 4 Barrett | 500 | 484 | 463 | 2/10/2009 | (see note) | 3,580 | Started pump 2/10/09 to develop well. Pumps about 100 gallons in 15 minutes, per day . Water has not been injected. Last pump date 4/8/09 |

| Table 2: Sampling of Dissolved Gases in Water Wells | | | | | |
|---|---|---|---|---|---|
| | **Well** | **Sample Date** | **Analyte** | **Results (In ug/l)** | **Comments** |
| **Mitigation wells** | Injection 03 Benavides | 7/17/08 | Ethane | 4.9 | Grabbed during pump testing |
| | Injection 03 Benavides | 7/17/08 | Methane | 280 | Grabbed during pump testing |
| | Injection 04 Rohr | 7/22/08 | Ethane | 2.3 | Grabbed during pump testing |
| | Injection 04 Rohr | 7/22/08 | Methane | 4,500 | Grabbed during pump testing |
| | Injection 05 Rohr | 7/28/08 | Ethane | 3.0 | Grabbed during pump testing |
| | Injection 05 Rohr | 7/28/08 | Methane | 3,100 | Grabbed during pump testing |
| | Injection 05 Rohr | 3/9/09 | Ethane | 11 | Injection Water |
| | Injection 05 Rohr | 3/9/09 | Methane | 5,200 | Injection Water |
| | Injection 05 Rohr | 7/30/09 | Ethane | 4.4 | Injection Water |
| | Injection 05 Rohr | 7/30/09 | Ethene | ND | Injection Water |
| | Injection 05 Rohr | 7/30/09 | Methane | 2400 | Injection Water |
| | Injection 06 Masters | 7/15/08 | Ethane | 3.9 | Grabbed during pump testing |
| | Injection 06 Masters | 7/15/08 | Methane | 6,300 | Grabbed during pump testing |
| | Injection 07 Walden | 7/29/08 | Ethane | 12 | Grabbed during pump testing |
| | Injection 07 Walden | 7/29/08 | Methane | 12,000 | Grabbed during pump testing |
| | Injection 02 Gonzales | 8/20/08 | Ethane | 2.7 | Grabbed during pump testing |
| | Injection 02 Gonzales | 8/20/08 | Methane | 4.2 | Grabbed during pump testing |
| | Recovery 1 Kittleson | 7/8/08 | Ethane | 3.0 | Grabbed during pump testing |
| | Recovery 1 Kittleson | 7/8/08 | Methane | 4,800 | Grabbed during pump testing |
| | Recovery 1 Kittleson | 8/4/08 | Ethane | 6.8 | Grabbed during pump testing |
| | Recovery 1 Kittleson | 8/4/08 | Methane | 6,800 | Grabbed during pump testing |
| | Recovery 1 Kittleson | 1/15/09 | Ethane | 2.5 | IP 12/8/08 |
| | Recovery 1 Kittleson | 1/15/09 | Methane | 2,000 | IP 12/8/08 |
| | Recovery 1 Kittleson | 7/21/09 | Ethane | ND | |
| | Recovery 1 Kittleson | 7/21/09 | Ethene | ND | |
| | Recovery 1 Kittleson | 7/21/09 | Methane | 2700 | |
| | Recovery 1 Kittleson | 7/30/09 | Ethane | 3.7 | |
| | Recovery 1 Kittleson | 7/30/09 | Ethene | ND | |
| | Recovery 1 Kittleson | 7/30/09 | Methane | 4100 | |
| | Recovery 2 Reiss | 4/4/08 | Ethane | ND | Water while drilling |
| | Recovery 2 Reiss | 4/4/08 | Methane | ND | Water while drilling |
| | Recovery 3 PEI | 8/25/08 | Ethane | 13 | Grabbed during pump testing |
| | Recovery 3 PEI | 8/25/08 | Methane | 9,600 | Grabbed during pump testing |
| | Recovery 3 PEI | 1/16/09 | Ethane | 15 | IP 12/8/08 |
| | Recovery 3 PEI | 1/16/09 | Methane | 13,000 | IP 12/8/08 |
| | Recovery 3 PEI | 7/30/09 | Ethane | 15 | |
| | Recovery 3 PEI | 7/30/09 | Ethene | ND | |
| | Recovery 3 PEI | 7/30/09 | Methane | 17000 | |
| | Recovery 4 Barrett | 7/10/08 | Ethane | 5 | Grabbed during pump testing |
| | Recovery 4 Barrett | 7/10/08 | Methane | 3,500 | Grabbed during pump testing |
| | Recovery 4 Barrett | 3/12/09 | Ethane | 12 | IP 2/10/09 |
| | Recovery 4 Barrett | 3/12/09 | Ethene | 48 | IP 2/10/09 |

| Table 2: Sampling of Dissolved Gases in Water Wells | | | | | |
|---|---|---|---|---|---|
| | **Well** | **Sample Date** | **Analyte** | **Results (In ug/l)** | **Comments** |
| | Recovery 4 Barrett | 3/12/09 | Methane | 8,600 | IP 2/10/09 |
| **Wells within 1 mile of Mitigation System** | Angely, J | 3/26/08 | Ethane | 35 | by COGCC |
| | Angely, J | 3/26/08 | Methane | 15,000 | by COGCC |
| | Barrett, T | 6/24/09 | Methane | 18,000 | |
| | Barrett, T | 6/24/09 | Ethane | 11 | |
| | Barrett, T | 6/24/09 | Ethene | 12 | |
| | Bergman | 6/29/09 | Ethane | ND | Grabbed during pump testing |
| | Bergman | 6/29/09 | Ethene | ND | Grabbed during pump testing |
| | Bergman | 6/29/09 | Methane | 2,300 | Grabbed during pump testing |
| | Burge, K | 8/5/08 | Methane | 3,900 | |
| | Burge, K | 12/18/08 | Ethane | 2.3 | |
| | Burge, K | 12/18/08 | Methane | 3,600 | |
| | Burge, K | 6/9/09 | Ethane | 3 | |
| | Burge, K | 6/9/09 | Ethene | 2.4 | |
| | Burge, K | 6/9/09 | Methane | 3,300 | |
| | Coleman, V | 3/1/08 | Methane | 4,600 | filtered via house water filter |
| | Coleman, V | 9/23/07 | Methane | 4,300 | filtered via house water filter |
| | Coleman, V | 9/23/07 | Methane | 5,000 | raw- not filtered |
| | Coleman, V | 3/1/08 | Methane | 5,100 | raw- not filtered |
| | Coleman, V | 12/4/08 | Ethane | 7 | raw- not filtered |
| | Coleman, V | 12/4/08 | Methane | 5,900 | raw- not filtered |
| | Coleman, V | 5/9/09 | Ethene | 2.4 | raw- not filtered |
| | Coleman, V | 5/9/09 | Ethane | 9 | raw- not filtered |
| | Coleman, V | 5/9/09 | Methane | 6,100 | raw- not filtered |
| | Conley, J | 3/24/08 | Methane | ND | |
| | Conley, J | 12/4/08 | Ethane | U | |
| | Conley, J | 12/4/08 | Methane | 1.5 | |
| | Conley, J | 6/15/09 | Ethane | 1.6 | |
| | Conley, J | 6/15/09 | Ethene | 2.4 | |
| | Conley, J | 6/15/09 | Methane | 2.5 | |
| | Dee | 6/30/09 | Ethane | ND | Grabbed during pump testing |
| | Dee | 6/30/09 | Ethene | ND | Grabbed during pump testing |
| | Dee | 6/30/09 | Methane | 5.7 | Grabbed during pump testing |
| | Deroswitch, D | 3/1/08 | Methane | 4,000 | |
| | Deroswitch, D | 1/15/09 | Ethane | 4.1 | |
| | Deroswitch, D | 1/15/09 | Methane | 2,200 | |
| | English, B | 3/14/08 | Methane | ND | |
| | English, B | 12/8/08 | Ethane | U | |
| | English, B | 12/8/08 | Methane | U | |
| | English, B | 7/8/09 | Ethane | ND | |
| | English, B | 7/8/09 | Ethene | ND | |
| | English, B | 7/8/09 | Methane | ND | |
| | Hopke, B | 2/25/08 | Methane | 5,900 | |

| Table 2: Sampling of Dissolved Gases in Water Wells | | | | | |
|---|---|---|---|---|---|
| | **Well** | **Sample Date** | **Analyte** | **Results (In ug/l)** | **Comments** |
| | Hopke, B | 3/26/08 | Ethane | 11 | by COGCC |
| | Hopke, B | 3/26/08 | Methane | 3,000 | by COGCC |
| | Hopke, B | 12/31/08 | Ethane | U | |
| | Hopke, B | 12/31/08 | Methane | 660 | |
| | Hopke, B | 6/22/09 | Methane | 4,200 | |
| | Hopke, B | 6/22/09 | Ethane | 7.2 | |
| | Hopke, B | 6/22/09 | Ethene | 2.4 | |
| | Hoppe, C | 10/23/08 | Ethane | ND | |
| | Hoppe, C | 10/23/08 | Methane | 19 | |
| | Houghtling, J | 2/25/08 | Methane | 9.2 | |
| | Kerman, T | 3/1/08 | Methane | 170 | |
| | Kerman, T | 12/4/08 | Ethane | U | |
| | Kerman, T | 12/4/08 | Methane | 1.1 | |
| | Kerman, T | 7/8/09 | Ethane | ND | |
| | Kerman, T | 7/8/09 | Ethene | ND | |
| | Kerman, T | 7/8/09 | Methane | ND | |
| | Masters, T | 6/29/09 | Ethane | 10 | |
| | Masters, T | 6/29/09 | Ethene | 2.4 | |
| | Masters, T | 6/29/09 | Methane | 14,000 | |
| | McPherson | 3/29/08 | Methane | 54 | |
| | McPherson, P | 12/4/08 | Ethane | U | |
| | McPherson, P | 12/4/08 | Methane | 950 | |
| | McPherson, P | 6/3/09 | Ethane | 16 | |
| | McPherson, P | 6/3/09 | Ethene | 24 | |
| | McPherson, P | 6/3/09 | Methane | 1,700 | |
| | Rohr, W | 7/6/09 | Ethane | ND | Grabbed during pump testing |
| | Rohr, W | 7/6/09 | Ethene | ND | Grabbed during pump testing |
| | Rohr, W | 7/6/09 | Methane | 800 | Grabbed during pump testing |
| | Searle, S | 3/14/08 | Methane | 7.5 | |
| | Searle, S | 12/8/08 | Ethane | U | |
| | Searle, S | 12/8/08 | Methane | 5.8 | |
| **Wells on RRR ex near Mitigation System** | Campbell, J | 2/23/09 | Ethane | 0.6 | |
| | Campbell, J | 2/23/09 | Methane | 110 | |
| | Goodwin, R | 3/14/08 | Methane | 240 | |
| | Goodwin, R | 12/15/08 | Ethane | U | |
| | Goodwin, R | 12/15/08 | Methane | U | |
| | Goodwin, R | 6/29/09 | Ethane | 1.6 | |
| | Goodwin, R | 6/29/09 | Ethene | 2.4 | |
| | Goodwin, R | 6/29/09 | Methane | 5.2 | |
| | Rhoads, K | 2/23/09 | Methane | 21 | |
| | Roloff, B | 8/5/08 | Methane | 3,800 | |
| | Speh, D | 10/8/08 | Methane | 7,200 | |
| | Wolahan | 3/10/08 | Methane | 75 | |

| Table 2: Sampling of Dissolved Gases in Water Wells | | | | | |
|---|---|---|---|---|---|
| | **Well** | **Sample Date** | **Analyte** | **Results (In ug/l)** | **Comments** |
| | Wolahan, E | 12/4/08 | Ethane | U | |
| | Wolahan, E | 12/4/08 | Methane | 210 | |
| | Wolahan, E | 6/4/09 | Methane | 24 | |
| | Wolahan, E | 6/4/09 | Ethene | 2.4 | |
| | Wolahan, E | 6/4/09 | Ethane | 1.6 | |
| | Meyer, J | 4/29/09 | Ethane | ND | |
| | Meyer, J | 4/29/09 | Methane | 19,000 | |
| **Wells on Silver Spurs Ranch unless noted** | Goza, C | 1/15/09 | Ethane | 1.4 | Blackhawk Ranch |
| | Goza, C | 1/15/09 | Methane | 580 | Blackhawk Ranch |
| | Gumpert, K | 8/5/08 | Methane | 1,700 | |
| | Sample, Mitch | 3/10/08 | Methane | 19,000 | |
| | Stephens, K | 9/30/08 | Methane | ND | |
| | Evenden, V | 9/30/08 | Methane | 20,000 | |
| | Fitzner, P | 12/1/08 | Methane | 4,600 | |
| | Geisklbrecht, G | 9/30/08 | Methane | ND | |
| | Haynes, E | 6/4/09 | Methane | 0.8 | |
| | Haynes, E | 6/4/09 | Ethane | 1.6 | |
| | Haynes, E | 6/4/09 | Ethene | 2.4 | |
| | Morine, J | 1/15/09 | Methane | 14 | |
| | Palmer (GIS) | 10/1/08 | Methane | ND | |
| | Stetler | 3/20/09 | Methane | 20,000 | |
| | Stetler | 3/20/09 | Ethane | 50 | |
| | Modlish | 3/20/09 | Methane | 0.33 | |
| | Modlish | 3/20/09 | Ethane | ND | |
| | Billstrand | 7/31/09 | Ethane | ND | |
| | Billstrand | 7/31/09 | Ethene | ND | |
| | Billstrand | 7/31/09 | Methane | 0.42 | |
| | Bruington | 7/6/09 | Ethane | 12 | Grabbed during pump testing |
| | Bruington | 7/6/09 | Ethene | 2.4 | Grabbed during pump testing |
| | Bruington | 7/6/09 | Methane | 7,900 | Grabbed during pump testing |
| **Other** | Rohr 04-14 | 11/11/07 | Methane | 10,070 | CBM water |
| | Rohr 09-04 | 11/11/07 | Methane | 6,350 | CBM water |

Shading indicates sampling added since last reporting period.

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| **Wells Within Approximately One Mile of pumping and Injection System or of Special Interest** | | | | | | |
| 238689 | Angely | 7/5/07 | 6/23/09 | None | Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 4/9/08, then began dropping and reached approximately 0 by 5/28/08. Have remained at or near 0 except for jump in 12/10/08 and 3/18/09 readings. | Not sampled during this reporting period. |
| 257994 | Barrett | 7/12/07 | 8/10/09 | 7/28/09 and 8/10/09 | Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 9/4/07, then began dropping through 3/25/09 and have remained at or near 0 since that time. | • % LEL decreased from 88 to 40<br>• CH4% volume decreased from 4.4 to 2.0<br>• O2% volume decreased from 20.9 to 20.2<br>• CO and H2S remained unchanged at 0 ppm |
| 244403 | Bergman | 7/6/07 | 8/12/09 | 7/28/09 and 8/12/09 | The methane has been variable with higher and lower values until 11/28/07 and then mostly levels at >100 %LEL and greater than 10% CH4 by volume. | • % LEL remained unchanged at >100<br>• CH4% volume increased from 15 to 63<br>• O2% volume decreased from 17.2 to 9.0<br>• CO and H2S remained unchanged at 0 ppm |
| 181278 | Bounds | 7/12/07 | 6/23/09 | None | Readings from this wellhead have been consistently at or above 100 %LEL with levels of CH4% by volume near 100. This wellhead has also shown fairly consistent low levels of H2S until 6/25/08 with variable levels after that time. | Not sampled during this reporting period. |
| 169043 | Burge | 3/20/09 | 8/13/09 | 7/31/09 and 8/13/09 | Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 1/17/08, then began dropping through 3/14/08 and have remained at or near 0 since that time except for a single high reading on 7/2/08. | • % LEL and CH4 % by volume remained unchanged at 0<br>• O2% volume increased from 17.8 to 20.9 in last reading<br>• CO and H2S remained unchanged at 0 ppm<br>At the cistern: no changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 267694 | Coleman | 7/5/07 | 8/10/09 | 7/28/09 and 8/10/09 | Methane detected at wellhead at levels >100 % LEL and above 5% CH4 by volume until approximately 8/15/07, then began dropping with no methane detected since 10/30/07. Most recent reading showed a detectable level of methane. Well vent has shown more variable and generally higher readings than the wellhead. | At the wellhead no change from previous measurements for 6/17/ and 6/26 readings with 0% LEL and CH4, O2% volume at 20.9 and no detectable CO and H2S.<br>At the well vent:<br>• % LEL decreased from >100 to 0<br>• CH4% volume decreased from 5 to 0<br>• O2% volume increased from 20.2 to 20.9<br>• CO and H2S remained unchanged at 0 ppm |
| 235516 | Colorado Switzer | 7/12/07 | 8/12/09 | 8/12/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 255929 | Conley | 7/11/07 | 7/2/09 | None | No methane has ever been detected at this wellhead. | Sampling attempted 8/10/09 but gate was locked preventing access. |
| 260097 | Dee | 7/5/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | • % LEL increased from 0 to 5<br>• CH4 % remained at 0<br>• O2% volume decreased from 20.9 to 19.2<br>Other measurements unchanged with no detectable methane and CO and H2S at 0 ppm. |
| 252931 | Derowitsch | 7/6/07 | 8/10/09 | 7/28/09 and 8/10/09 | Methane detected at wellhead at levels approximately 100 % LEL and mostly above 5% CH4 by volume until approximately 9/4/07, then methane levels dropped to 0 and has remained at 0 since that time.<br>Both the well vent and cistern have historically shown very low to 0 levels of methane. | At the wellhead: no changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.<br>At the well vent there was no detectable methane, O2% volume at 20.9 and no CO or H2S.<br>At the cistern there was no change with no detectable methane, O2% at 20.9 and 0 ppm CO and H2S. |
| 235515 | English | 8/16/07 | 8/10/09 | 7/30/09 and 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% at 20.9 and no CO or H2S. |

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 16861-F | Golden Cycle Land | 7/12/07 | 8/10/09 | 7/28/09 and 8/10/09 | Readings initially showed methane at 100% LEL and greater than 20% by volume CH4, but dropped to 0 by 9/24/07 and remained at 0 (with two readings above 0 on 11/16/07 and 4/23/08) until 10/20/08. Starting 10/20/08 methane was once again detected at higher values along with CO at high levels and showings of H2S. | • %LEL remained at unchanged at >100<br>• CH4% volume increased from 69 to 70 during the period<br>• O2% volume remained unchanged at 0<br>• CO decreased rom 178 ppm to 140 ppm<br>• H2S decreased from 16 ppm to 0 ppm |
| 253317 | Gonzalez | 7/12/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% at 20.9 and no CO or H2S. |
| 256504 | Hopke | 7/5/07 | 8/10/09 | 7/28/09 and 8/10/09 | Readings consistently measure methane at >100% LEL and at values of CH4% by volume fairly consistently above 20. The well has shown an overall slow decline in CH4 % by volume over time. H2S also has shown a decline over time such that most recent readings have been at or slightly above 0.<br>No methane has ever been detected at the cistern. | At the wellhead:<br>• % LEL remained unchanged at >100<br>• CH4% volume remained at 19<br>• O2% volume decreased slightly from 15.5 to 13<br>• CO and H2S remained unchanged at 0 ppm<br>At the cistern: no changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 236272 | Houghtling | 7/6/07 | 8/10/09 | 7/28/09 and 8/10/09 | Methane levels at this wellhead have been consistently >100% LEL with CH4% by volume fairly consistently above 20 with some lower values (but not 0).<br>No methane has ever been detected at the cistern. | At the wellhead:<br>• % LEL remained unchanged at >100<br>• CH4% volume decreased from 97 to 84<br>• O2% volume decreased from 1.8 to 0<br>• CO and H2S remained at 0 ppm<br>Cistern is being redone so no measurement was taken at the cistern. |
| 35292 | Kerman/Hanson | 7/6/07 | 8/10/09 | 7/28/09 and 8/10/09 | Values at this wellhead have been at or near 0 with two readings of >100% LEL and greater than 5% by volume CH$ on 12/2/08 and 12/22/08.<br>No methane has ever been detected at the cistern. | At the wellhead:<br>• % LEL remained at 0 with a high reading of 74 on 7/28<br>• CH4% volume decreased slightly from 0.02 to 0 with a high reading of 3.7 on 7/28<br>• O2% volume increased slightly from 20.7 to 20.9 with a low reading of 1 on 7/28<br>• CO remained unchanged at 0 ppm<br>• H2S decreased from 4.5 to 0 ppm<br>The cistern values remained unchanged with no detectable methane, O2% at 20.9 and no CO or H2S. |
| | Lively 10-02 | 12/22/2008 | 7/28/09 | 7/28/09 | Readings from this well are somewhat variable with mostly 0 to low levels of methane and higher readings of >100% LEL and 5% or greater by volume CH4 from 1/14/09 to 1/26/09 and 5/1/09 to 5/5/09. | • % LEL increased from 0 to 11<br>• CH4% volume increased from 0 to 0.55<br>• O2% volume decreased from 20.9 to 8.8<br>• CO increased from 0 ppm to 26 ppm<br>• H2S increased from 0 ppm to 4.5 ppm |
| 222539 | Lively | 7/6/07 | 8/10/09 | 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 16861-F | Masters #1 | 8/13/07 | 8/10/09 | 7/28/09 and 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 257113 | Masters #2 | 7/6/07 | 8/10/09 | 7/28/09, 7/30/09, 8/10/09 | Methane is typically not detected at this wellhead. For the period from 9/24/07 through 10/30/07 low values of methane were detected with 10 % or less LEL and 1 % by volume or less CH4. The 7/13/09 reading also detected methane at higher levels. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm in first and last readings. The 7/30/09 readings showed an increase;<br>• % LEL increased from 0 to 29<br>• CH4% volume increased from 0 to 1.45<br>• O2% decreased from 20.9 to 19.9<br>• CO and H2S remained at 0 |

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 271136 | May | 7/12/07 | 7/30/09 | 7/3009 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 84108-A | McPherson | 7/6/07 | 8/10/09 | 7/28/09 and 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 84106 | Rohr | 7/06/07 | 7/7/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 123144 | Searle | 7/11/07 | 8/10/09 | 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 239657 | Smith | 7/5/07 | 8/12/09 | 7/28/09 and 8/12/09 | Detectable methane in early readings with % LEL at 100 or greater and % by volume of CH4 at up to 100. Began showing some variability in readings on 9/9/07 eventually decreasing until levels at 0 beginning 5/5/08. Three readings since that time on 5/21/08, 10/27/08 and 7/13/09 have shown >100% LEL and CH4 % by volume at or above 5. | At the well head:<br>• % LEL decreased from >100 to 0<br>• CH4% volume decreased from 8 to 0<br>• O2% volume increased from 18 to 20.9<br>• CO and H2S remained at 0 ppm<br>At the well vent:<br>• % LEL increased from 25 to 84<br>• CH4% volume increased from 1.25 to 4.2<br>• O2% volume decreased from 18.3 to 10<br>• CO and H2S remained at 0 ppm<br>At the cistern all values remained unchanged with 0 %LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| | BLM 15-12 | 6/1/09 | 7/15/09 | None | Only two readings from this wellhead and both have shown similar levels of methane. | No handheld measurements at wellhead. Slight indication of gas flow but not measurable. |
| **Wells Within or in Close Proximity to River Ridge Ranch Subdivision** | | | | | | |
| 249362 | Andexler | 9/9/07 | 7/30/09 | 7/30/09 | Two readings (3/25/09 and 7/30/09) have shown less the 0.25% CH4 methane, otherwise no detectable methane. | • % LEL increased from 0 to 5<br>• CH4% volume increased from 0 to 0.25<br>• O2% volume decreased from 20.9 to 18.8<br>• O and H2S remained at 0 ppm |
| 215706 | Brice | 7/12/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 248680 | Campbell | 8/14/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 270552 | Chaves | 9/9/07 | 8/10/09 | 7/28/09 and 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 20783 | Goemmer Cattle | 7/12/07 | 7/2/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 258815 | Goodwin | 7/12/07 | 8/10/09 | 7/28/09 and 8/10/09 | Readings have shown methane levels at or near 0 with no readings above 0 since 1/26/09. | No change from previous measurements with no detectable methane, O2% at 20.9, no detectable CO or H2S. |
| | Haynes | 5/5/09 | 6/4/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 249181 | Hentschel | 9/9/07 | 8/12/09 | 7/28/09 and 8/12/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 259122 | Higgins | 9/26/07 | 8/12/09 | 7/28/09 and 8/12/09 | No methane has ever been detected at this wellhead | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 269435 | Hoppe (formerly Goacher) | 7/11/07 | 8/12/09 | 7/28/09 and 8/12/09 | No methane has ever been detected at this wellhead | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 264581 | Ireland | 7/12/07 | 8/10/09 | 7/28/09 and 8/10/09 | Typically no methane, but methane has been detected on 12/2/08, 12/22/08, 1/6/09, and 9/24/09 with 100% or greater LEL and 5% by volume CH4. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| | Lang | 10/29/07 | 7/28/08 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 93386 | Lowry | 7/12/07 | 7/2/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 250369 | Martin | 7/12/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 248862 | Meyer | 8/14/07 | 8/12/09 | 7/28/09 and 8/12/09 | Methane levels generally at >100% LEL and CH4 % by volume of greater than 5. Readings were a bit variable with some lower methane levels until 5/22/08 and then became consistently >100% LEL and CH4% by volume greater than 5. | • % LEL remained unchanged at >100<br>• CH4 % volume increased from 5 to 54<br>• O2% volume decreased from 14.4 to 11<br>• CO and H2S remained at 0 |
| 192203 | Rankins | 7/12/07 | 4/21/09 | None | No methane has ever been detected at this wellhead. | Not sampled during the reporting period. |
| 276994 | Rhodes | 9/9/08 | 7/30/09 | 7/30/09 | Slight LEL (5%) reported 7/30/09, but no methane detected. No methane has ever been previously detected at this wellhead. | % LEL increased from 0 to 5 and 02% volume decreased from 20.9 to 19.2. CO and H2S remained at 0. |
| 274468 | Roloff | 9/9/07 | 7/30/09 | 7/30/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 254577 | Ryerson | 9/9/07 | 8/12/09 | 7/28/09 and 8/12/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 246775 | Sharp | 9/9/07 | 8/12/09 | 7/28/09 and 8/12/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 267695 | Speh | 9/4/07 | 8/10/09 | 7/20/09 and 8/10/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 230572 | Willis | 7/11/07 | 7/7/09 | 6/18/09, 7/7/09 | No methane has ever been detected at this wellhead. | Not sampled during the reporting period. |
| 240947 | Wolahan | 7/12/07 | 8/10/09 | 7/31/09 and 8/10/09 | No detectable methane except one measurement on 2/9/09 with levels at 5% LEL and 0.25% by volume CH4. | No change from previous measurements at the wellhead and cistern with both showing 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| **City Ranch and Other Properties** | | | | | | |
| | Andreatta | 8/14/07 | 7/7/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 197472 | Williams/Bartlett | 8/15/07 | 7/2/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 210526 | Bruington | 8/7/07 | 8/15/09 | 7/31/09 and 8/15/09 | Wellhead readings have shown consistent levels of methane at >100% LEL and CH4 % by volume at greater than 50. Some CO and H2S readings in mid to late 2008 but current readings have shown little to no CO and H2S.<br>No methane has ever been detected at the cistern. | At the wellhead:<br>• % LEL remained unchanged at >100<br>• CH4% volume decreased from 93 to 44<br>• O2% volume decreased slightly from 0.2 to 0<br>• CO remained unchanged at 0 ppm<br>• H2S decreased from 0.5 to 0<br>At the cistern: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| 220100 | Cordova | 10/30/07 | 8/4/09 | 7/31/09 and 8/4/09 | Initial readings were variable with readings as low as 0 and as high as >100% LEL and greater the 5% CH4 by volume. After 3/14/08 mostly readings at 0 with some readings at levels slightly above 0. | No changes from previous measurements with % LEL and CH4% volume at 0, O2% volume at 20.9 and CO and H2S at 0 ppm |
| 191079 | Brian Dale | 8/15/07 | 7/31/09 | 7/31/09 | Variability between 0 and >100% LEL and 5% or greater CH4 by volume until 11/14/08 and since that time no methane has been detected. | No change from previous measurement at Well #1 or Well #2 with 0% LEL, no detectable methane, O2% volume at 20.9, and CO and H2S at 0 ppm. |
| 193092 | Degan | 8/25/08 | 7/2/09 | None | Initial readings were variable between 0 and >100% LEL and 5% by volume CH4. Since 2/17/09 there has been no detectable methane. | Not sampled during this reporting period. |
| | Dernell | 8/15/07 | 7/31/09 | 7/31/09 | No methane has ever been detected at this wellhead. | No changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |

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**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 258651 | Gonzalez | 5/22/08 | 8/12/09 | 7/30/09 and 8/12/09 | Methane readings were >100% LEL and CH4 % by volume mostly above 20 until 4/9/09 when values began to reduce. Readings since that time have shown % LEL below 50 and CH4 % by volume below 3.<br>There has been no detectable methane at the cistern. | At the wellhead:<br>• % LEL increased 16 to >100<br>• CH4% volume increased from 0.80 to 5<br>• O2% volume increased from 16.4 to 20.0<br>• CO and H2S remained at 0 ppm<br>At the cistern: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| | Haupt #1 | 6/1/09 | 7/15/09 | None | There have only been 3 readings from this wellhead. All readings have shown % LEL at >100 with CH4 % by volume at 5-6 and O2% at less than 5. | Not sampled during this reporting period. |
| 203536 | Hurley | 8/2/07 | 7/30/09 | 7/30/09 | Readings have fairly consistently shown >100% LEL and CH4 % by volume between 10 and 50 with a couple lower readings. H2S has also been measured, but starting around 9/08 values have been reduced to at or near 0 ppm. | At the wellhead:<br>• % LEL decreased from >100 to 0<br>• CH4% volume decreased from 16 to 0<br>• O2% volume increased from 16.4 to 20.9<br>• CO and H2S remained unchanged at 0 ppm<br>The cistern was not sampled during the reporting period. |
| 205195 | Johnson | 8/15/07 | 7/14/09 | None | Readings have shown mostly low values of methane (% LEL less than 20 and CH4 % by volume less than 1) with some 0 values. No detectable methane since 4/22/09. | Not sampled during this reporting period. |
| 193520X | McEntee | 8/2/07 | 7/14/09 | None | Initially methane was detected at this wellhead at values of >100% LEL and greater than 10% by volume CH4. Starting 1/28/08 values dropped to at or near 0 with only one higher value on 2/17/09 (>100% LEL and 5% By volume CH4). No values above 0 since 4/22/09. | Not sampled during this reporting period. |
| 191345 | Pennington | 8/7/09 | 8/7/09 | 8/7/09 | | • % LEL at >100<br>• CH4% volume at 5<br>• O2% volume at 17.7<br>CO and H2S at 0 ppm |
| 121013 | Schafer | 8/15/07 | 7/2/09 | None | No methane has ever been detected at this wellhead | Not sampled during this reporting period. |
| 248983 | Tobyas | 8/3/07 | 8/12/09 | 7/30/09 and 8/12/09 | Historically this wellhead has shown wide variance between o and higher methane values of >100% LEL and greater than 5% by volume CH4 with no discernable long term trends. | • % LEL decreased from >100 to 10<br>• CH4% volume decreased from 16 to 0.5<br>• O2% volume increased from 16.5 to 20<br>• CO remained at 0 ppm<br>• H2S decreased from 3 to 0 ppm |
| **Silver Spurs Ranch** | | | | | | |
| 268180 | Billstrand | 8/12/08 | 7/14/09 | None | No methane has been detected at this wellhead except for a low reading on 5/6/09 (5% LEL and 0.25% by volume CH4). | Not sampled during this reporting period. |
| 215807 | Brown | 12/8/08 | 7/31/09 | 7/31/09 | No methane has ever been detected at this wellhead. | No change from previous measurements with no detectable methane, O2% at 20.9 and 0 ppm CO and H2S. |
| 222294 | Cramer | 8/3/07 | 7/31/09 | 7/31/09 | Most methane readings have been at or near 0 with higher readings on 5/22/08 and 3/26/09 at >100% LEL and 5% by volume CH4. | At the wellhead:<br>• % LEL decreased from 13 to 0<br>• CH4% volume decreased from 0.65 to 0<br>• O2% volume increased from 0 to 18.2<br>• CO decreased from 59 ppm to 0 ppm<br>• H2S decreased from 4.5 ppm to 0 ppm<br>No change from previous measurements at the cistern with no detectable methane; O2% at 20.9 and 0 ppm CO and H2S. |

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 192509 | Eddleman, Paul | 1/17/08 | 7/14/09 | None | Readings mostly above >100% LEL and 5% by volume CH$ until 9/23/08 and then levels dropped to mostly 0 until 1/26/09. Since 1/26/09 readings have shown wide variability between low to 0 methane and >100% LEL and greater than 5% by volume methane. Since 6/9/09 methane levels have been consistently higher. | Not sampled during this reporting period. |
| 226536 | Eddleman, Todd | 1/17/08 | 7/14/07 | None | Methane readings have been widely variable from 0 to >100% LEL and 5% by volume CH4. | Not sampled during this reporting period. |
| 221465 | Evenden | 8/2/07 | 7/14/09 | None | Methane readings have generally been at or near 0 with no detectable methane since 4/23/09 and higher readings on 3/24/08 (>100% LEL and 45% by volume methane) and 1/12/09 (>100% LEL and 5% by volume methane). | Not sampled during this reporting period. |
| | Fischer | 1/26/09 | 8/3/09 | 8/3/09 | Only one reading has ever detected methane; on 2/17/09 methane values were 5% LEL and 0.25% by volume CH4. | No changes from previous measurement with no detectable methane, O2% volume at 20.9 and no CO or H2S. |
| 214145A | Fitzner | 11/18/08 | 7/14/09 | None | Methane levels have been at 0 except for readings on 12/15/08, 1/26/09, and 3/26/09 when values were >100% LEL and 5% by volume CH4. | Not sampled during this reporting period. |
| 31935 | Garza-Vela | 1/30/08 | 7/14/09 | None | Generally there is 0 to low methane levels except for readings on 3/1/08, 5/22/08, and 6/3/08. | Not sampled during this reporting period. |
| 196372 | Geiselbrecht | 8/12/08 | 7/7/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 246350 | Gumpert | 7/29/08 | 7/14/09 | None | Methane readings have been widely variable with most readings either 0 or >100% LEL and 5% by volume CH4. | Not sampled during this reporting period. |
| 196371 | Lyon | 8/15/07 | 7/31/09 | 7/31/09 | Most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 5/22/08 and 4/22/09. | • % LEL decreased from 25 to 12<br>• CH4% volume decreased from 1.25 to 0.6<br>• O2% volume increased from 5.2 to 8.5<br>• CO and H2S remained unchanged at 0 ppm |
| 271524-A | Modlish | 1/30/08 | 7/7/09 | None | Most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 10/21/08 and 5/20/09. | Not sampled during this reporting period. |
| 28093MH | Morine | 9/10/08 | 7/31/09 | 7/31/09 | Only on reading above 0 has been detected at this wellhead. This reading occurred 1/12/09 and showed 5% LEL and 0.25% by volume CH4. | No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm |
| 35227MH | Morris | 10/8/08 | 7/31/09 | 7/31/09 | Only four readings have occurred at this well with two showing no methane and the other two at 43-44%LEL and 2.15-2.20% CH4 by volume. | • % LEL decreased from 44 to 0<br>• CH4% volume decreased slightly from 2.20 to 0<br>• O2% volume increased from 8.7 to 20.9<br>• CO decreased from 59 to 0 ppm<br>• H2S decreased from 4.5 to 0 |
| 190327 | Palmer | 8/12/08 | 7/7/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 197128 | Roberts | 4/08/08 | 7/14/09 | None | Methane readings have historically been widely variable from 0 to >100% LEL and 5% by volume CH4. | Not sampled during this reporting period. |
| 271748 | Sample | 3/10/08 | 7/14/09 | None | Most of the readings from this wellhead have been at or near 0 detectable methane with higher readings on 5/22/08, 6/3/08, and 5/20/09 of >100% LEL and 5% by volume CH4. | Not sampled during this reporting period. |
| 192144 | Snow | 8/2/07 | 7/31/09 | 7/31/09 | No measurable methane until 10/4/07, then widely variable levels ranging from 0 to >100% LEL and 5% by volume CH4 with no discernable trends. | • % LEL decreased from 25 to 5<br>• CH4% volume decreased from 1.25 to 0.25<br>• O2% volume increased from 5 to 15.8<br>• CO and H2S remain unchanged at 0 ppm |

**Table 3**
**Water Well Measurements for the Period of June 14 to July 19, 2009**

| Permit Number | Name | Sampling Start Date | Last Sample | Samples Since Last Monthly Report | History | If sampled, comparison of results from this period to last period |
|---|---|---|---|---|---|---|
| 213070 | Stephens | 8/12/08 | 7/7/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |
| 233286A | Stetler | 3/17/09 | 7/14/09 | None | Methane levels have been showing an overall increase since the start of monitoring with levels general very low at the start of monitoring in early 2009 and increasing to present, although not a consistent increase.<br>No methane has ever been detected at the cistern. | Not sampled during this reporting period. |
| 261753 | Wahl | 8/5/09 | 8/5/09 | 8/5/09 | | 0% LEL; no detectable methane; O2% volume at 20.9 and no detectable CO or H2S. |
| 234836 | White, Jim | 1/4/08 | 7/14/09 | None | Methane levels have been widely variable between no detectable methane and methane levels at >100% LEL and 5% by volume CH4 with no discernable trends.<br>No methane has ever been detected at the cistern. | Not sampled during this reporting period. |
| 219376 | White, Orlie | 8/2/07 | 7/31/09 | 7/31/09 | Methane values historically at low to 0 with %LEL above 100 and CH4 % by volume at 5 to 10 on 5/22/08 and from 9/10/08 to 10/29/08. | No change from previous measurement with no detectable methane, O2% volume at 20.9 and no detectable CO and H2S. |
| 234839 | Waltz | 8/12/08 | 7/31/09 | 7/31/09 | No methane has ever been detected at this wellhead. | No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. |
| **Black Hawk Ranch** | | | | | | |
| 218719 | Goza | 1/14/09 | 7/14/09 | None | No methane has ever been detected at this wellhead. | Not sampled during this reporting period. |

**Table 4**
**Methane Readings Schedule**
**(17 August 2009)**

| Landowner | Subdivision | Water Level | Cistern | Bi-Monthly | Monthly | Quarterly | Weekly |
|---|---|---|---|---|---|---|---|
| **Monitoring Within 1 Mile Radius or of Special Interest** | | | | | | | |
| **Kathy Dee** | River Ridge | | | | X | | |
| **R. Gonzalez** | River Ridge | | | | X | | |
| **McPherson** | River Ridge | | | X | | | |
| **Rohr** | River Ridge | | | | | X | |
| **Houghtling** | River Ridge | | X | X | | | |
| **Kent Smith** | River Ridge | | X | X | | | |
| **Bergman** | River Ridge | | | X | | | |
| **Lively** | River Ridge | | | | | X | |
| **Kerman** | River Ridge | | X | X | | | |
| **Conley** | River Ridge | | | | X | | |
| **Searle** | River Ridge | | | | X | | |
| **Derowitsch** | River Ridge | | X | X | | | |
| **Colorado-Switzer** | River Ridge | | | | X | | |
| **English** | River Ridge | | X | | X | | |
| **Golden Cycle Land (Goemmer)** | River Ridge | | | X | | | |
| **Burge** | La Veta Pines | | | X | | | |
| **Barrett** | River Ridge | | | X | | | |
| **Hopke** | River Ridge | | X | X | | | |
| **Masters #1** | River Ridge | | | X | | | |
| **Masters #2** | River Ridge | X | | X | | | |
| **Coleman** | River Ridge | | | X | | | |
| **BLM 15-12** | La Veta Pines | | | | X | | |
| **Lively 10-02** | River Ridge | | | X | | | |

| Table 4<br>Methane Readings Schedule<br>(17 August 2009) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Landowner** | **Subdivision** | **Water Level** | **Cistern** | **Bi-Monthly** | **Monthly** | **Quarterly** | **Weekly** |
| **River Ridge Ranch** | | | | | | | |
| **Wolahan** | River Ridge | | X | X | | | |
| **Martin** | River Ridge | | | | X | | |
| **Speh** | River Ridge | | | X | | | |
| **Lang** | River Ridge | | X | | | X | |
| **Roloff** | River Ridge | X | | | X | | |
| **Hoppe (Goacher)** | River Ridge | | | X | | | |
| **May** | River Ridge | | | | X | | |
| **Brice** | River Ridge | | | | X | | |
| **Goodwin** | River Ridge | | X | X | | | |
| **Ireland** | River Ridge | | | X | | | |
| **Andexler** | River Ridge | | X | | X | | |
| **Sharp** | River Ridge | | X | X | | | |
| **Ryerson** | River Ridge | X | | X | | | |
| **Meyers** | River Ridge | | | X | | | |
| **Chaves** | River Ridge | X | | X | | | |
| **Hentschel** | River Ridge | | | X | | | |
| **Rankins** | River Ridge | | | | | X | |
| **Lowry** | River Ridge | | | | | X | |
| **Goemmer Cattle** | River Ridge | | | | | X | |
| **Higgins** | River Ridge | X | | X | | | |
| **Campbell** | River Ridge | | | | X | | |
| **Rhodes** | River Ridge | | | | X | | |
| **City Ranch** | | | | | | | |
| **T. Gonzalez** | City Ranch | | X | X | | | |
| **Hurley** | City Ranch | X | X | | X | | |

| Table 4<br>Methane Readings Schedule<br>(17 August 2009) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Landowner** | **Subdivision** | **Water Level** | **Cistern** | **Bi-Monthly** | **Monthly** | **Quarterly** | **Weekly** |
| **Tobyas** | City Ranch | | | X | | | |
| **Dale** | City Ranch | | | | X | | |
| **McEntee** | City Ranch | | | | X | | |
| **Johnson** | City Ranch | | X | | X | | |
| **Cordova** | City Ranch | | | X | | | |
| **Dernell** | City Ranch | | | | X | | |
| **Schaefer** | City Ranch | | | | | X | |
| **Bruington** | City Ranch | | X | X | | | |
| **Bartlett** | City Ranch | | | | | X | |
| **Pennington – Birkman** | City Ranch | | | | X | | |
| **HAUPT #1** | City Ranch | | | | X | | |
| **Deagan** | City Ranch | | | | | X | |
| **Bear Creek/Silver Spurs** | | | | | | | |
| **Andreatta/Carsella** | Bear Creek | | | | X | | |
| **Orlie White** | Silver Spurs | X | | | X | | |
| **Evenden** | Silver Spurs | | | | X | | |
| **Roberts** | Silver Spurs | | | | X | | |
| **Snow** | Silver Spurs | X | | | X | | |
| **Cramer** | Silver Spurs | X | X | | X | | |
| **Lyon** | Silver Spurs | | | | X | | |
| **Jim White** | Silver Spurs | | X | | X | | |
| **Garza-Vela** | Silver Spurs | | | | X | | |
| **Modlish** | Silver Spurs | | | | X | | |
| **Todd Eddleman** | Silver Spurs | | | | X | | |
| **Paul Eddleman** | Silver Spurs | | | | X | | |
| **Sample** | Silver Spurs | | X | | X | | |

| Table 4<br>Methane Readings Schedule<br>(17 August 2009) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Landowner** | **Subdivision** | **Water Level** | **Cistern** | **Bi-Monthly** | **Monthly** | **Quarterly** | **Weekly** |
| **Billstrand** | Silver Spurs | | | | X | | |
| **Waltz** | Silver Spurs | | | | X | | |
| **Stephens** | Silver Spurs | | | | X | | |
| **Palmer (G/S)** | Silver Spurs | | | | X | | |
| **Geoselbrecht** | Silver Spurs | | | | X | | |
| **Morine** | Silver Spurs | | | | X | | |
| **Morris** | Silver Spurs | | | | X | | |
| **Brown** | Silver Spurs | X | | | X | | |
| **Fitzner** | Silver Spurs | | | | X | | |
| **Fischer** | Silver Spurs | | | | | X | |
| **Wahl** | Silver Spurs | | | | X | | |
| **Stetler** | Silver Spurs | | X | | X | | |
| **Black Hawk Ranch** | | | | | | | |
| **Goza** | Black Hawk | | | | X | | |

**Rohr will be checked Quarterly with Rankin, Lowry, and Goemmer Cattle.**

**Table 5a**
**Handheld Measurements**
**Methane Seeps**
**Ground CheckPoint**

| Location | Date | Time | Weather Conditions | Location | Notes |
|---|---|---|---|---|---|
| Dike near Derowitsch | 8/5/09 | 15:11 | 10-15 Wind | Purple F2 Dike on hill behind 10-02. | Background 30-60; stake W 80-112, N 60-120, S 25-131; & Meadow by stake N 135-164, W 35-45, S 66-104, E 90-167. |
| Dike on hogback behind Lathrop Park | 8/4/09 | 11:55 | | Dike on hogback behind Lathrop Park. C4 - C2 Purple by Lake. | N face of Lathrop Dike background N 20-30; road 50-63, near dead trees 73, 47; E 6y0-70 near road edge; W 50-60; N 25-65, 71, 100-113 near city ranch road; & top of dike 50-73. S face of Lathrop Dike Background 25-35, 40; E 50-70 across from 160, 70-102 sunken depression near lake; N of lake 28-43, 92 near swamp; W of golf course 50-54; road 80-83, 40-50 near dike; W 71-91; S of dike 28-46, 24-68 E of restrooms; W of restrooms 25-75; base of dike 87-112 W of restrooms; dead trees 54-64 base of dike & 95-103 near rock base. |
| Ideal Canyon Mine Vent | 8/4/09 | 14:52 | Partly Cloudy 0-5 Wind | Mine venting along Ideal Canyon Road. Purple A-14. | Background 23-30; N road W 36-88, 47-62, E 23-36, N 23-38; S road W 36-54, 80, S 74-81 drainage, E 60-70; N drain 41-50; & S drain & road 60-80. |
| Pictou Site (COGCC soil survey area) | 8/4/09 | 7:50 | Clear | Old Pictou Camp site (COGCC soil survey area) NW of Walsenburg A - Z. | Background 25-34; N 30-40, 50, 55; S 48-55; E 100-105 along ridge; W berm 52-88, 102; & E sink hole 50-80. |
| Rohr Water Well | 8/5/09 | 14:47 | 10-15 Wind | Rohr Water Well | Background 27-42; N 20-30; S 35-50; E 37-57; W 25-48; & pit 55-65. |
| Old Mine Storage N of Hellifiknow Rd | 8/4/09 | 14:30 | Partly Cloudy 0-5 Wind | Old mine storage North of Hellifiknow Road | Background 20-30; N 28-50, 25-43, 23; S 18-40, 40-51; E 55-63; W 28-42; inside N 18-26; E powerline 45-58, 61; S powerline 45-51; & W powerline 40-50. |
| Seep by Bound's Home | 8/4/09 | 10:02 | Calm | H1-3 Yellow/Purple County Rd seep by Bounds. | Background N 26-35, S 28-40; fence 25-41, 44, road 99-159, 233; dead trees N 66,82, 159,165, 403; trees & rocks 280, 686; road 44-99, 750; S trees 35-46; meadow 86-119, 136, 173; S dead tree 320, 100, 720; Bounds fence 105, 205, 208; & Bounds gate 24-36, 55, 67. |
| Montoys Mine Camp | 8/4/09 | 8:15 | Clear | Montoya Mine Camp | Background 26-30; N 70-80 facing fines; S 40-72 near drainage; E 77, 56 across mine fill 88; W 37=61; road 70-104 facing S; & SE drainage 50-70's. |
| Black Hawk Mine | 8/4/09 | 15:23 | Clear 0-5 Wind | (Y) 37° 30.333; (X) 104° 42.761; (Z) 6532 (Y) 37° 29.561; (X) 104° 42.733; (Z) 6471 | Background 25-35; S road W 50-69, 47, N 52-57, 46-50, E 45-51; S arroyo 47-50; N arroyo 50-80, S 35-60; W 50-60, E 40-69 near mine camp; dead trees 50-66; Blackhawk enterence 86; W 86-88; & S draw 45-63. |
| Pryor Mine | 8/4/09 | 15:36 | Clear | (Y) 37° 30.520; (X) 104° 42.813; (Z) 6419 | Background 25-35; N of road down road 35-45; arroyo S of hs 62, 59, 50; coal pile 37-57, 65; old pipe stands 55, 68, 81, 92; & arroyo N 45-65, 33 flat. |
| Angely Seep | 8/3/09 | 14:00 | Clear | | Background 28-34; driveway 28-42; W well 34-50; & E well 35-65. |
| | | | | | |
| | | | | | |

**Table 5b**
**Handheld Measurements**
**Methane at Residences**

| Name | Date | Time | Weather Conditions | North RMLD Readings Outside House | East RMLD Readings Outside House | West RMLD Readings Outside House | South RMLD Readings Outside House | Notes |
|---|---|---|---|---|---|---|---|---|
| Kent Smith | 8/5/09 | 14:19 | Partly Cloudy<br>0 - 5 mph wind | 15 - 33 | 22 - 31 | 30 - 50 | 16 - 25 | Background 25-30; W pasture near trees 18-35; driveway 18-27; vent 80-220; & wellhead 25-250. |
| Mitch Sample | 7/31/09 | 10:00 | 0 - 5 mph wind | 18 -30 | 11.0 - 25 | 15 - 21, 31 | 18 - 30 | Background 25 - 35; Pool 55 - 104, 120; & driveway 36 - 67. |
| Terri Kerman | 8/5/09 | 14:34 | 10 - 15 mph wind | 22 - 65 | 19 - 63 | 20 - 25 | 18 - 45 | Background 26-37; & driveway 18-27. |
| Bruington | 8/3/09 | 12:19 | Clear | 14 - 18 | 18 - 26 | 18 - 27 | 21 - 32 | Background 28-35; well vent 12830; N draw 22-36 & 36-50; S pasture 25-44; S drainage 42-50; & driveway 66-80. |
| Jim White | 8/3/09 | 10:10 | Clear<br>10 -15 mph wind | 23 - 33 | 18 - 34 | 24 - 37 | 24 - 37 | Background 25-35 & S pasture 28-41. |
| Donald Derowitsch | 8/3/09 | 14:07 | Partly Cloudy | 21 - 32 | 23 - 28 | 20 - 25 | 19 - 26 | Background 18-32; hot tub 23-25; cooler 42-63; W pasture 27-43; & driveway 33-56. |
| Jack Houghtling | 8/5/09 | 14:56 | 10 - 15 mph wind | 22 - 37 | 40 - 70 | 20 - 25 | 25 - 35 | Background 37-67 possible drift from well; driveway 60-71; E arroyo 60-70; W slope 80-100 bottom; & tank 102. |
| Vince Coleman | 8/3/09 | 13:47 | Clear | 18 - 26 | 25 - 30 | 19 - 30 | 18 - 24 | Background 24-32; driveway 48-50 & 104; E vent 18-23; & W pasture 22-64. |
| John Ireland / Kevin Murphy | 8/3/09 | 14:36 | Cloudy | | | | | Gate locked w/no access to home. |
| Janet Campbell | 8/3/09 | 15:02 | Cloudy<br>0 - 5 mph wind | 23 - 30, 31 | 20 - 34, 17 | 23 - 26 | 25 - 35 | Background 26-39; well 27-45; driveway 50-71, 49; inside house N 16-24; S 18-26; W 18-25, 17, 16, 14; pipes W 17-24; S upstairs 18-42, 18-25; N upstairs 18-24; & sink H2O running 18-27, 30. |
| Richard Goodwin | 8/3/09 | 14:27 | Cloudy | 19 - 22 | 20 - 22<br>19 - 22 | 20 - 24<br>18 - 24 | 20 - 23<br>21 - 30 | Background 18-29; W pasture 33-47; driveway 40-50; & S pasture 38-45. |
| Bruce Hopke | 8/3/09 | 13:38 | Clear | 19 - 25 | 16 - 23 | 19 - 23 | 19 - 20 | Background 13-36; well 144-228; & driveway 38-63 |
| Bill Cordova | 8/3/09 | 12:27 | Clear | | | | | Gate locked w/no access to home. |
| Paul Eddleman | 8/3/09 | 9:00 | Clear | 15 - 25 | 15 - 20 | 16 - 23 | 14 - 23 | Background 25-32; W vent 23-24; #1 well 56-60; #2 well 50-70; E vent 15-20; & E pasture 20-25. |
| Todd Eddleman | 7/31/09 | 9:27 | Clear<br>0-5 mph wind | 25 - 27 19 | 22 - 24 | 14 - 18 | 18 - 38 | Background 22-30; S vents 18-24; Driveway 42-52; S pasture 50-64; E pasture 30-48; & W pasture 42-68 |
| Roberts | 8/3/09 | 10:29 | Cloudy<br>15 - 20 mph wind | 22 - 37 | 27 - 31 | 26 - 35 | 23 - 26 | Background 24-32; & driveway 48-78 |
| Burge | 8/4/09 | 9:08 | | 25 - 30 | 28 - 39 | 36 - 44 | 27 - 54 | Background 25-35; dike W 105-117, 82, 145, 77; N 44-55; E 48-60, 92; S 57-63, 71, 82; & 145 near W edge of dike. |
| Garza | 7/31/09 | 9:17 | Clear<br>0 -5 mph wind | 12.0 - 33 | 24 - 33 | 18 - 33 | 12.0 - 18 | Background 25-35; driveway 26-48, 32 & 54; sewer 76; W pasture 45-60; N drive 44-48; & E pasture 50-72 |
| Evenden | 8/3/09 | 10:40 | Partly Cloudy<br>15 - 20 mph wind | 18 - 24 | 18 - 28 | 21 - 27 | 24 - 39 | Background 28-34; N vent 20-23; S vent 20-22; Old well E 40-50, N 80-100, S 38-60, W 100-116; inside E 21-30; basement N 21-25; & S storage 15-20 |
| Scott Billstrand | 7/31/09 | 10:18 | Partly Cloudy<br>0 - 5 mph wind | 17 - 20 | 17 - 26 | 18 - 26 | 17 - 26 | Background 28-33 & 36; N vent 22-24; S vent 17-22; E vent 17-26; W vent 18-26; W pasture 50's; S pasture 62-87; East pasture (near driveway) 20-109; & driveway 40-80 & 105 |

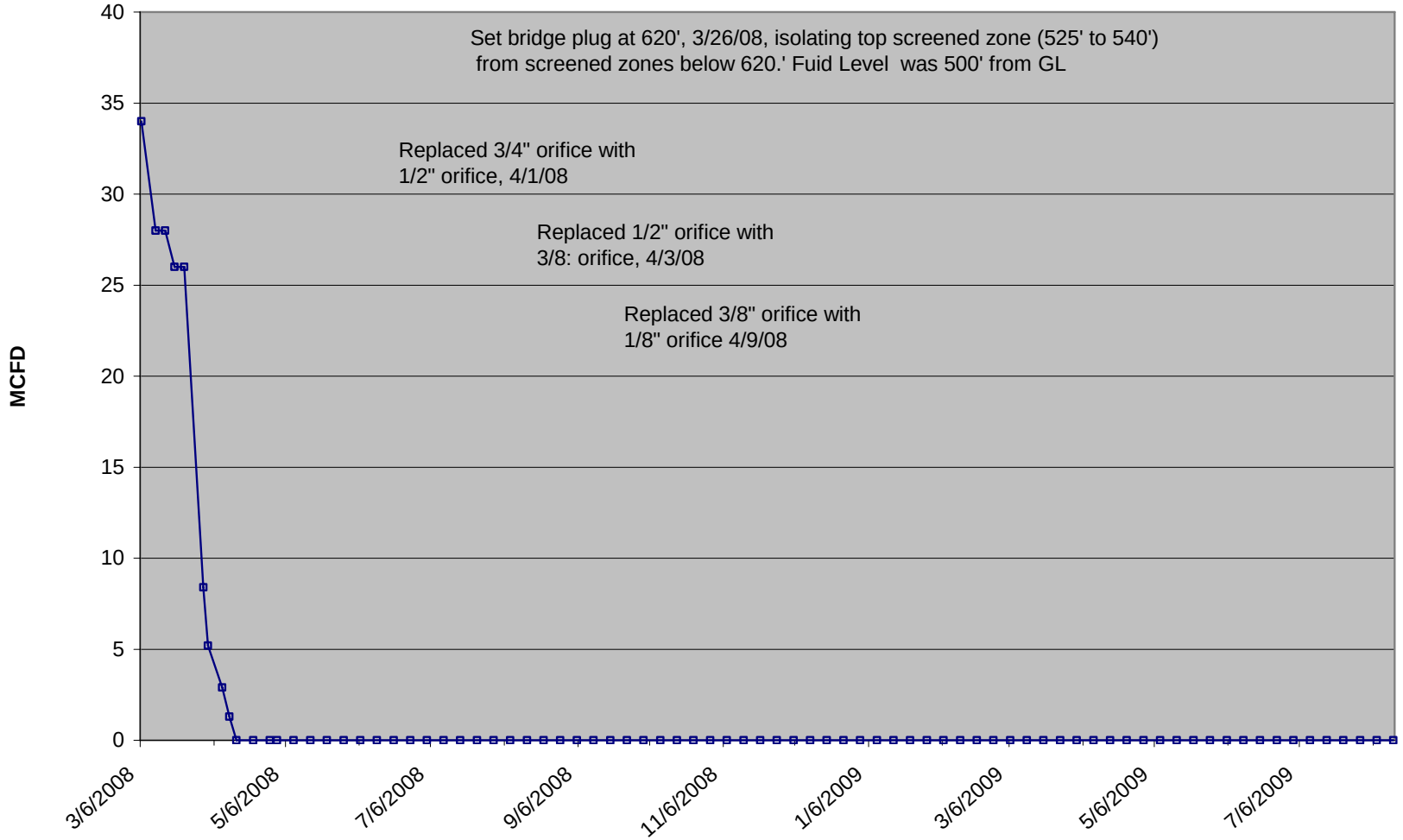
| Table 5b<br>Handheld Measurements<br>Methane at Residences | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Name** | **Date** | **Time** | **Weather Conditions** | **North RMLD Readings Outside House** | **East RMLD Readings Outside House** | **West RMLD Readings Outside House** | **South RMLD Readings Outside House** | **Notes** |
| Orlie White | 8/3/09 | 11:00 | Clear | 18 - 27 | 25 - 30 | 24 - 32 | 24 - 32 | Background 28-36; W pasture 35-46 |
| Fischer, Jack | 8/3/09 | 11:10 | Clear | 34 - 45 | 38 - 44 | 26 - 44 | 25 - 40 | Background 34-45 |
| Goza, Charles | 8/3/09 | 11:24 | Clear<br>10 - 15 mph wind | 19 - 24 | 19 - 24 | 24 - 36 | 16 - 23 | Background 28-34; driveway 38-71 |
| Stetler, J | 7/31/09 | 9:40 | Clear<br>5 - 10 mph wind | 18 - 23 30 | 16 - 30 | 18 - 25 | 18 - 29 | Background 30-45; S vent 18-20; W pasture 80-121 & 126 (results repeated 200' from the W side of house); well 26-50; S well 28-38, 17 & 16; W well 45-110 (near W pasture); E well 20-30; & E pasture 70-120 (near horses) |

| Table 6<br>Residences Receiving Water | |
|---|---|
| | |
| Jerry Angely | Has received water provided by PEI |
| Kent Smith | Has received water provided by PEI |
| Alan Cramer | Has received water provided by PEI |
| Tom Gonzales | Has received water provided by PEI |
| Spencer/Carol Snow | Has received water provided by PEI |
| Bruington | Has received water provided by PEI |
| Todd Eddleman | Has received water provided by PEI |
| Paul Eddleman | Has received water provided by PEI |
| Jim White | Has received water provided by PEI |
| Edward Lyon | Has received water provided by PEI |
| Donald Sharp | Has received water provided by PEI |
| Edward Johnson | Has received water provided by PEI |
| Richard McEntee | Has received water provided by PEI |
| P.C. Roberts | Has received water provided by PEI |
| Ireland-Murphy | Has received water provided by PEI |
| Keith Lightcap | Has received water provided by PEI 9 |

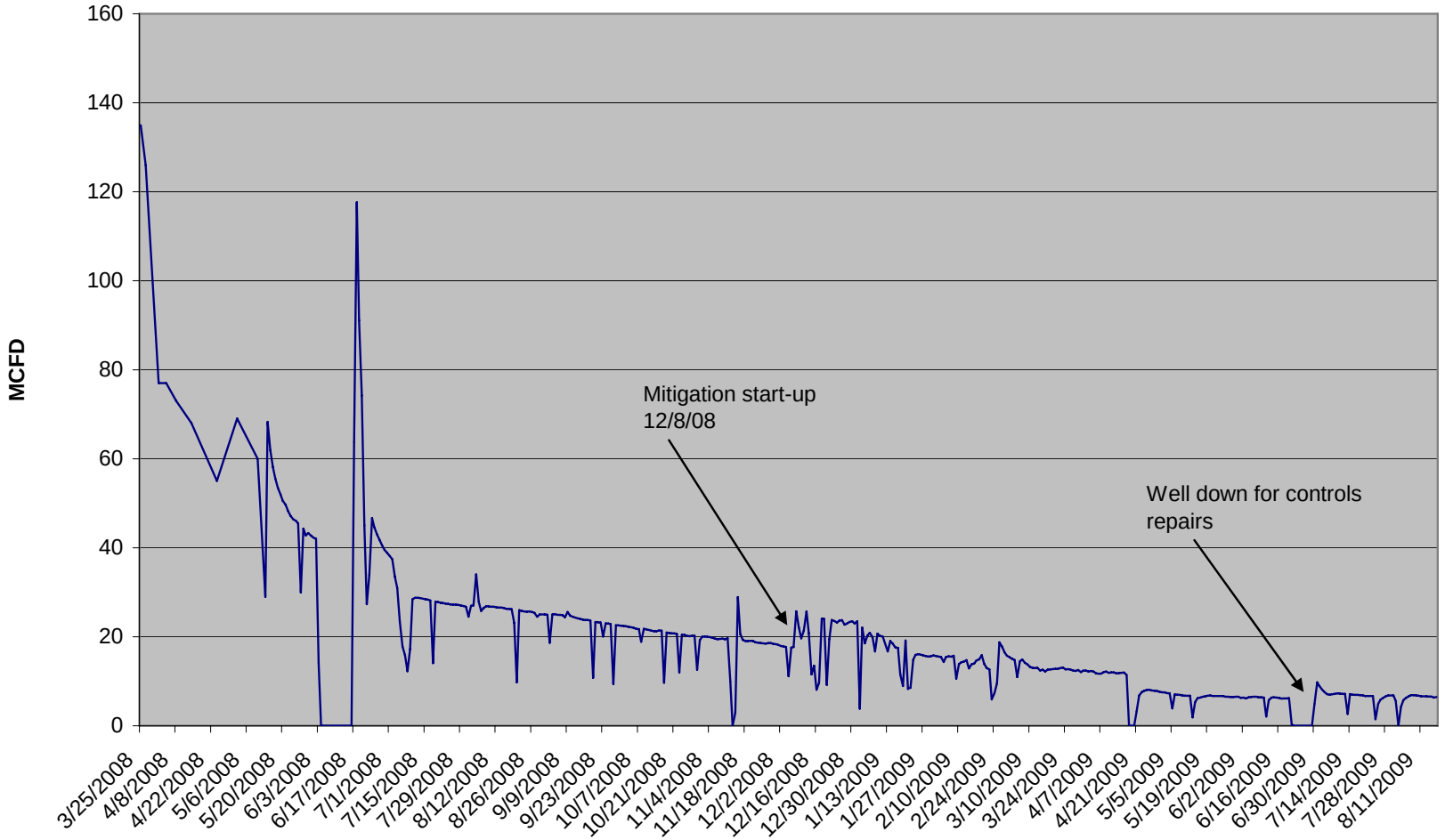
No new residences have been added during this reporting period.

**Attachment 1**
**Gas Flow in Monitoring Well POCI 55, Recovery 1 Kittleson,**
**Recovery 3 PEI and Recovery 4 Barrett**

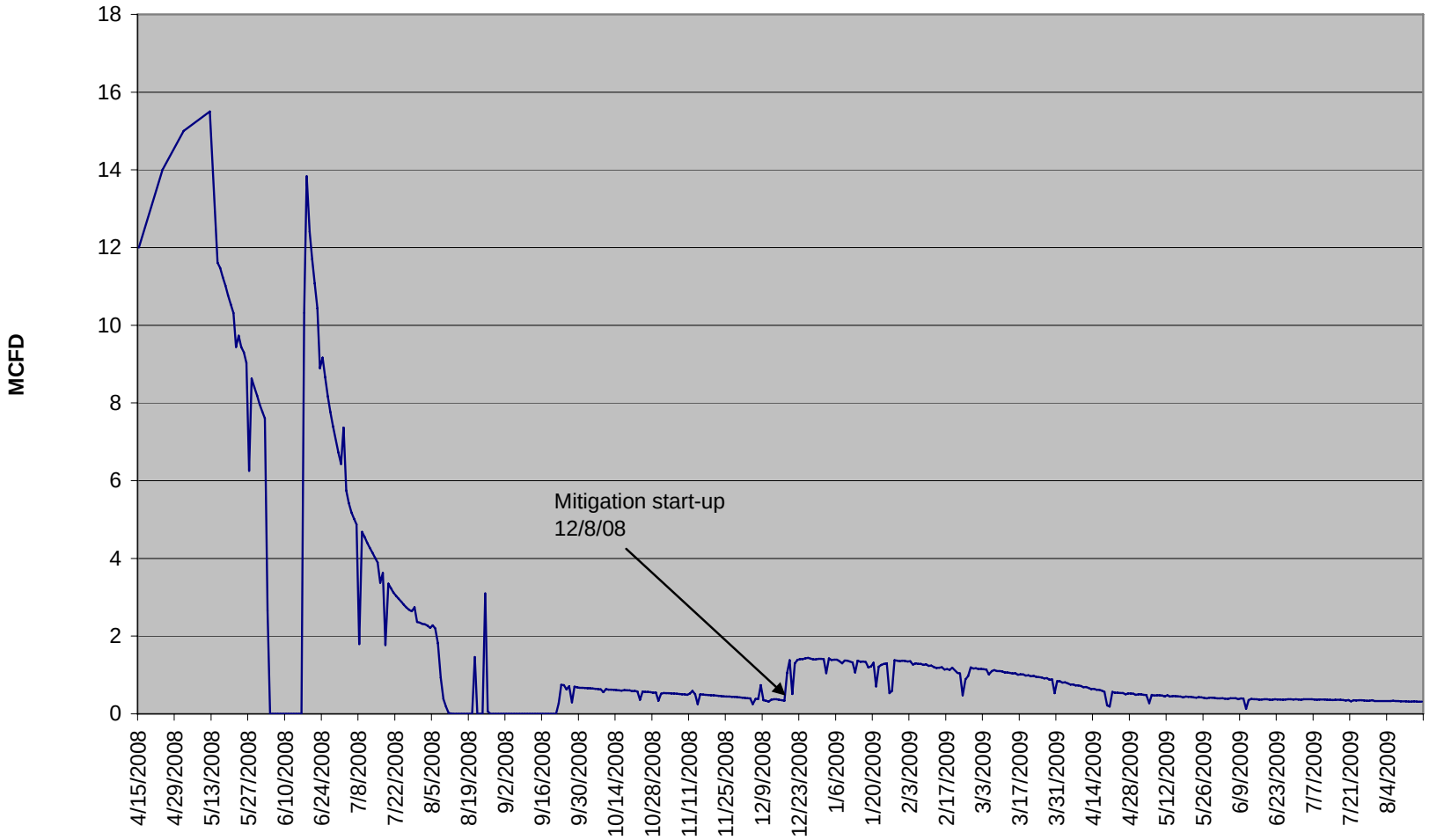
## POCI 55 MW Gas Flow from 3/6/08 to 8/14/09



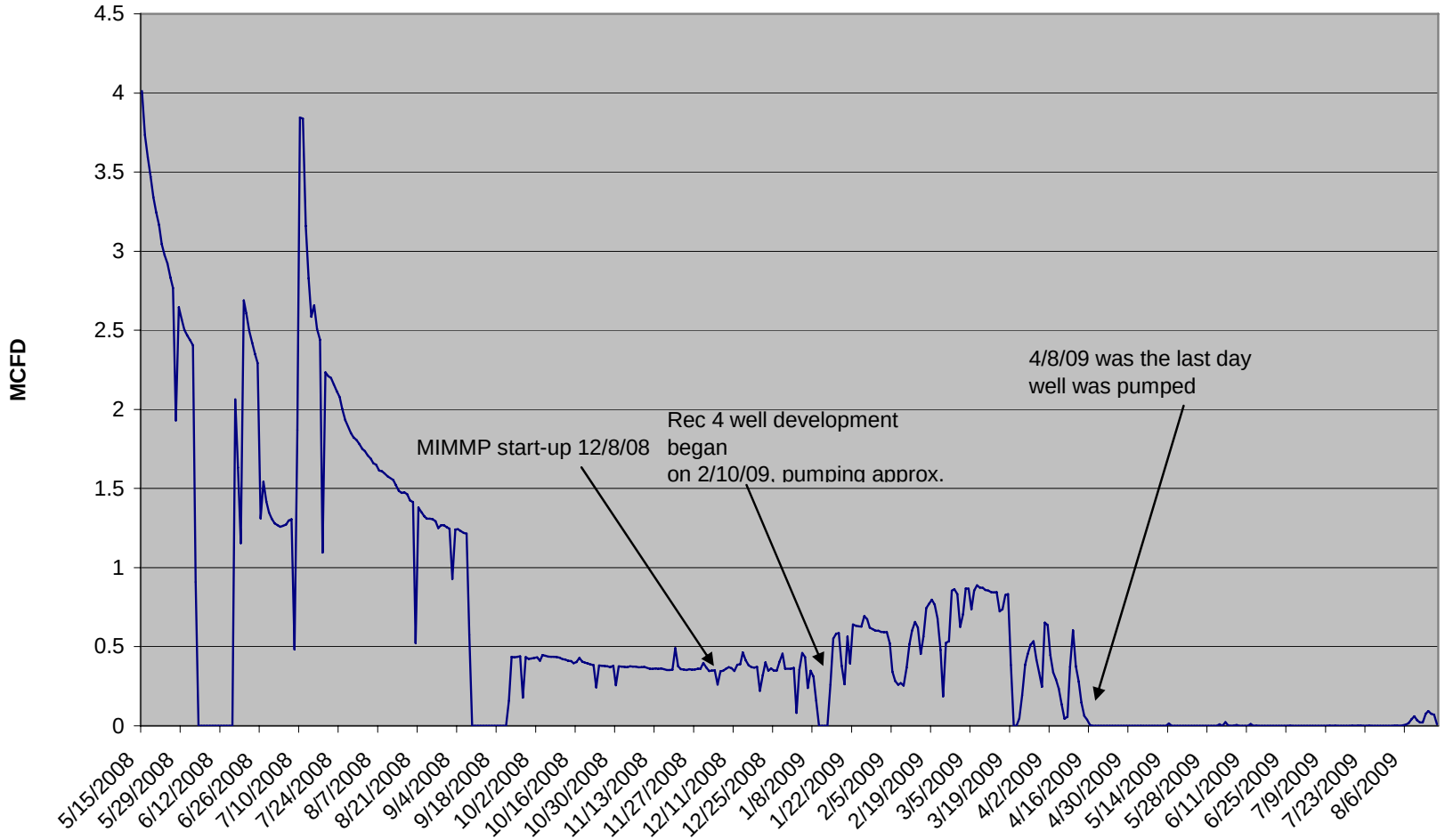
**Recovery 1 Kittleson Gas Flow**
**from 3/25/08 to 8/17/09**



**Recovery 3 PEI Gas Flow**
**from 4/15/08 to 8/17/09**

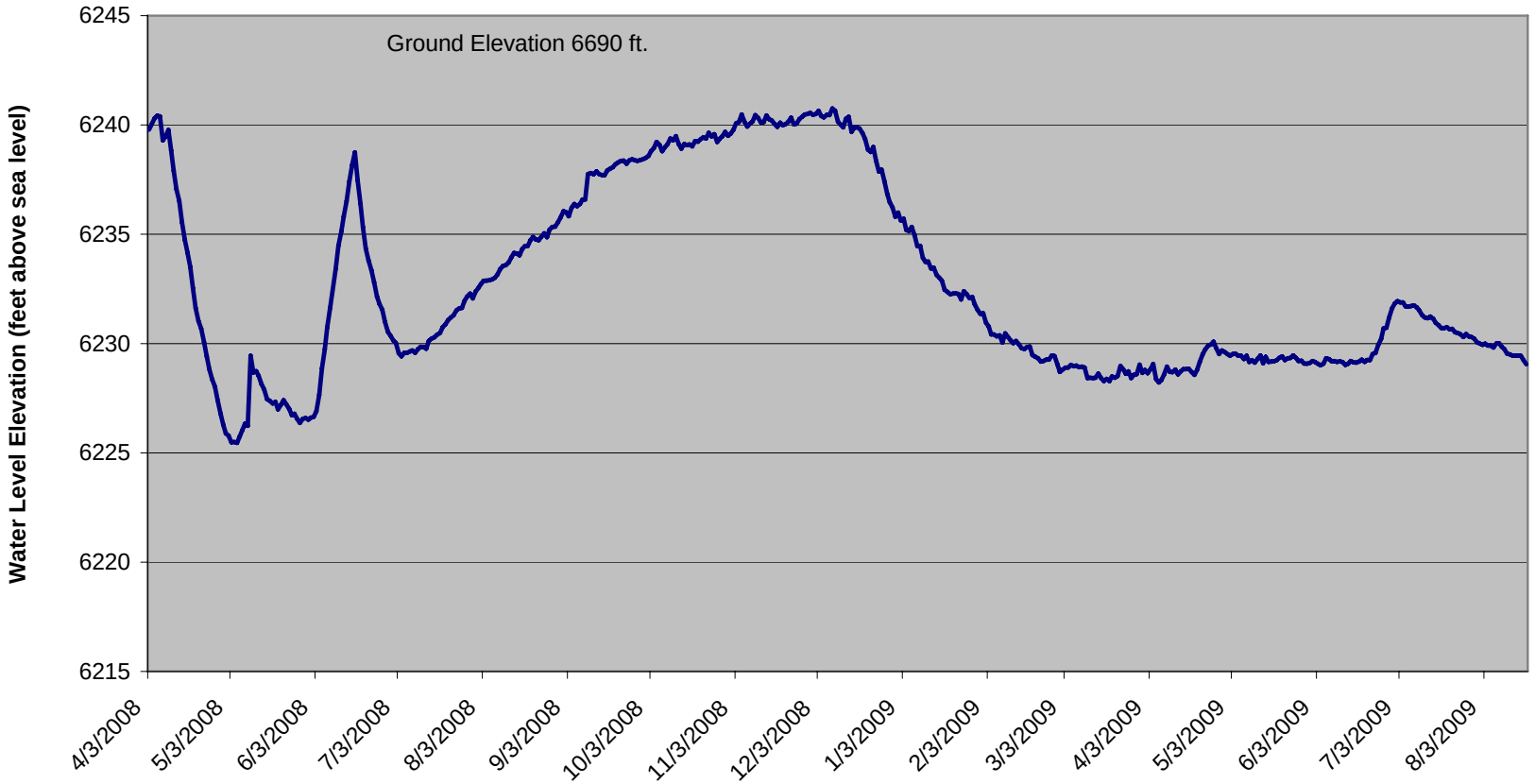


**Recovery 4 Barrett Gas Flow**
**from 5/15/08 to 8/17/09**

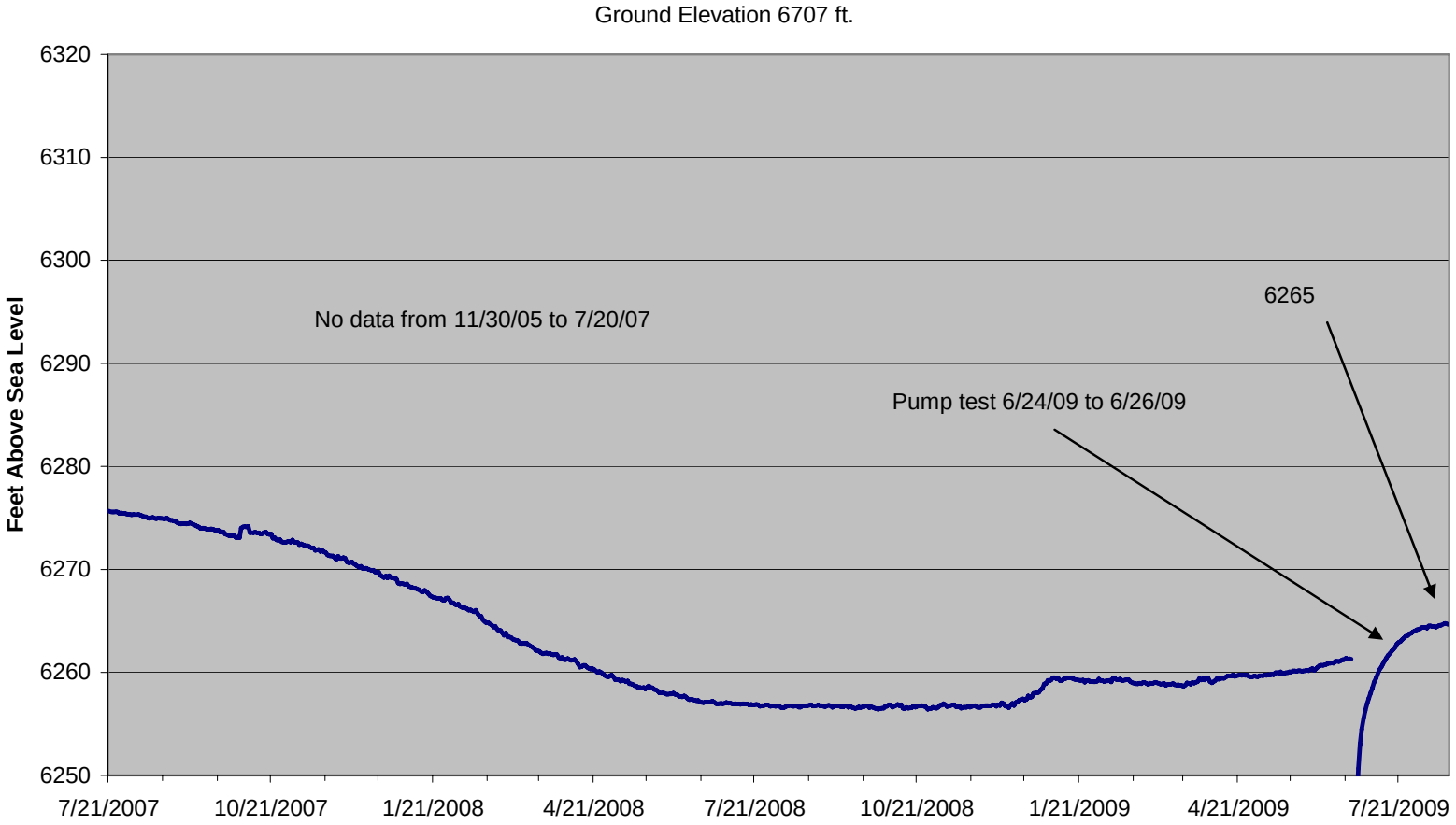


**Attachment 2**
**Graphs of Pressure and Fluid Level Data From**
**POCI 55, Barrett, Bergman, Bruington, Coleman, Evenden, Garza-Vela and Meyer**

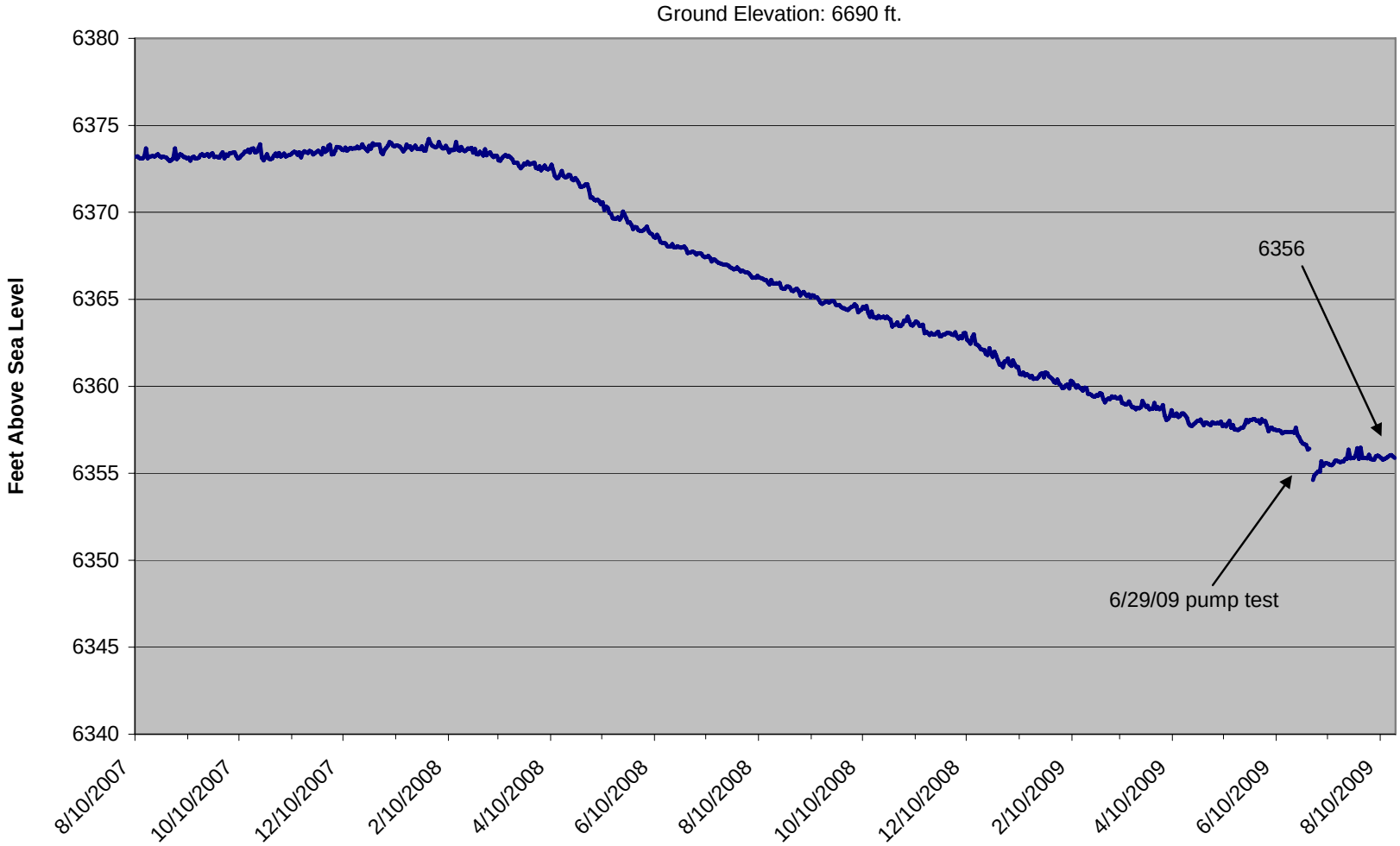
**POCI 55 Monitor Well,**
**Static Water Level Elevation**
**from 4/2/08 to 7/18/09**
**Permit # 275819**
**Lot 55 RRR, SE SW Sec 3 29S 67W, GL elev. 6690'**



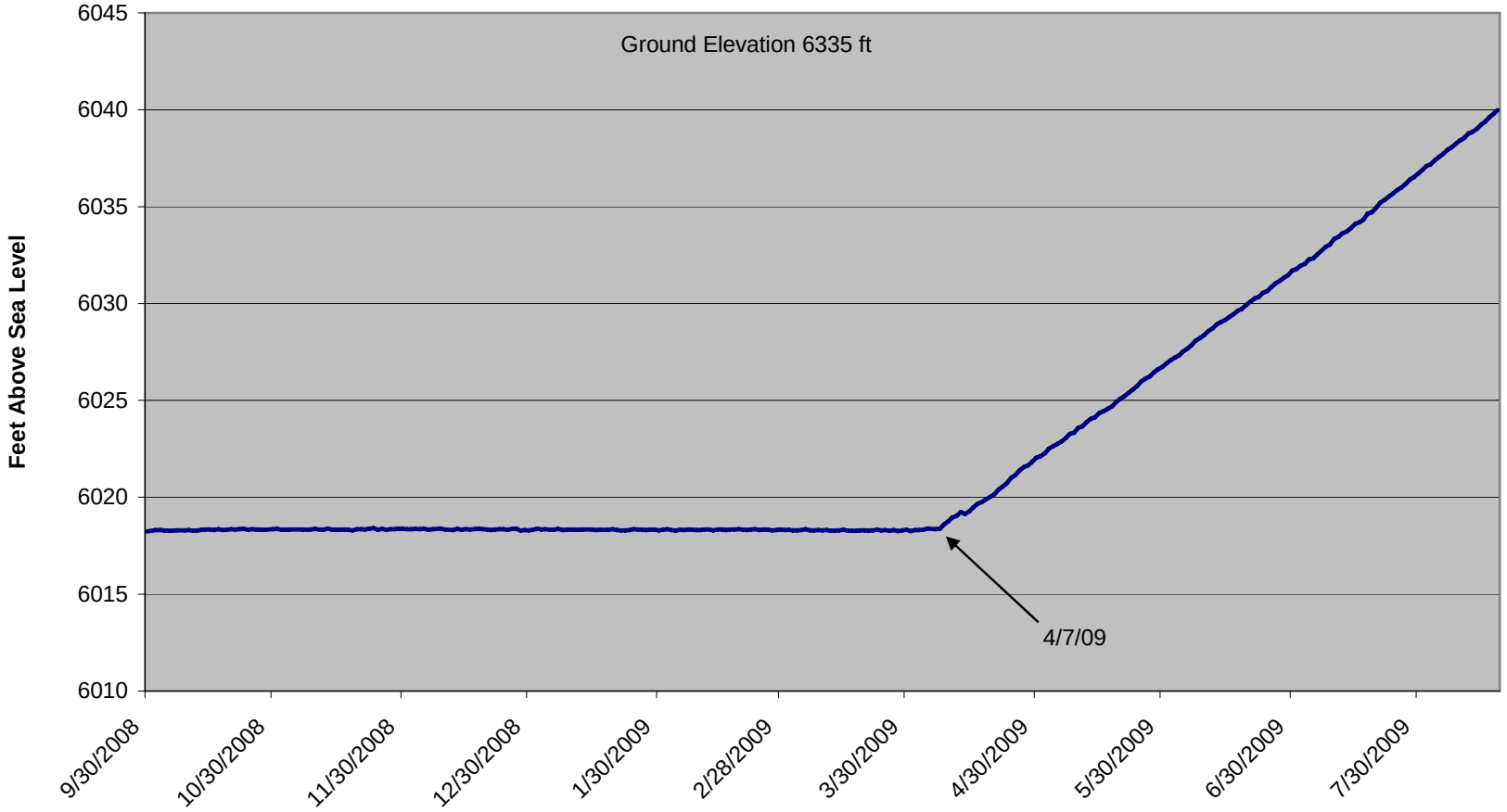
**Barrett WW**
**Static Water Level from 7/21/05 to 8/18/09**
**Permit # 257994**
**Lot 57 RRR**



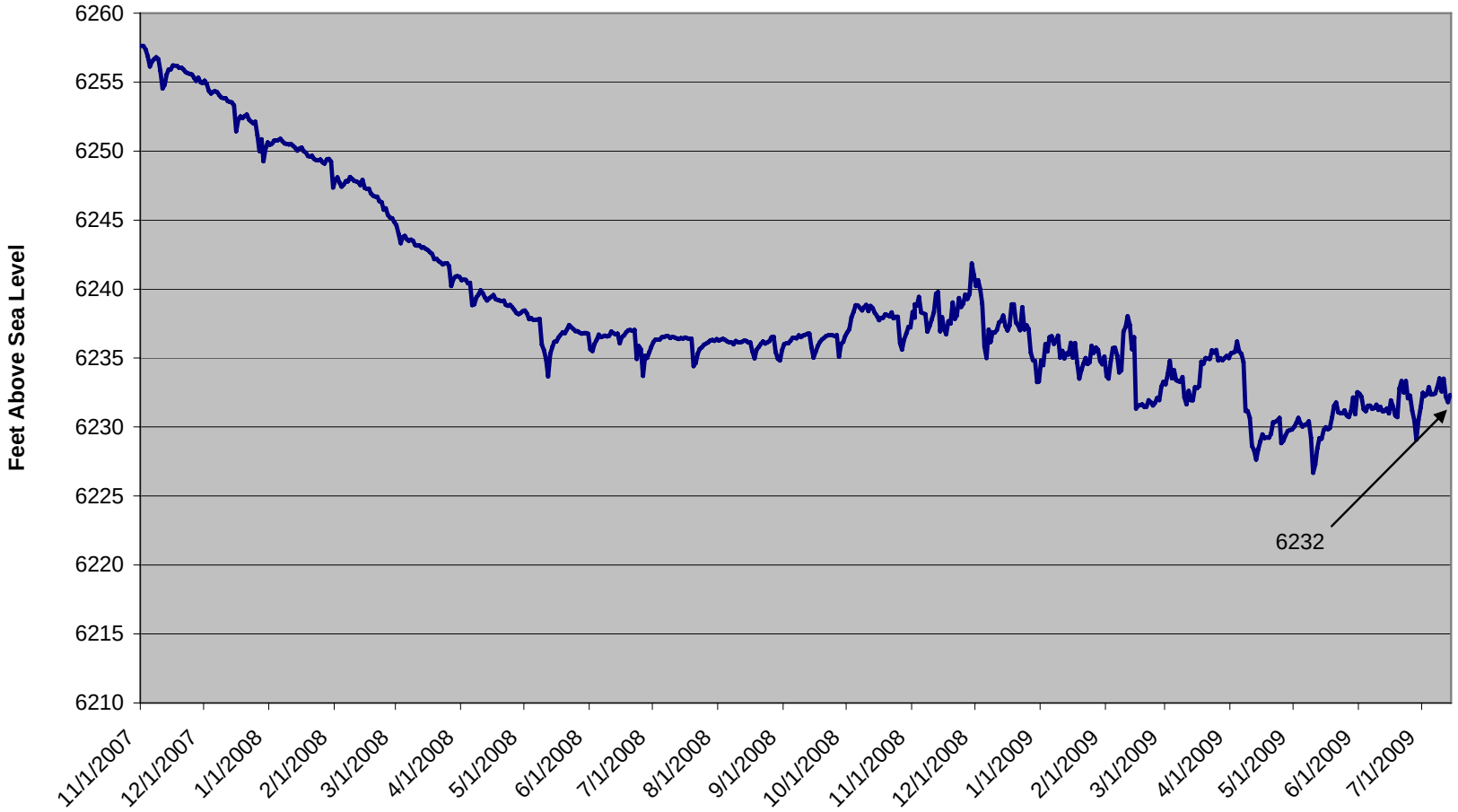
**Bergman WW, Static Water Level from 8/10/07 to 8/18/09**
**Permit # 244403, Lot 48 RRR**



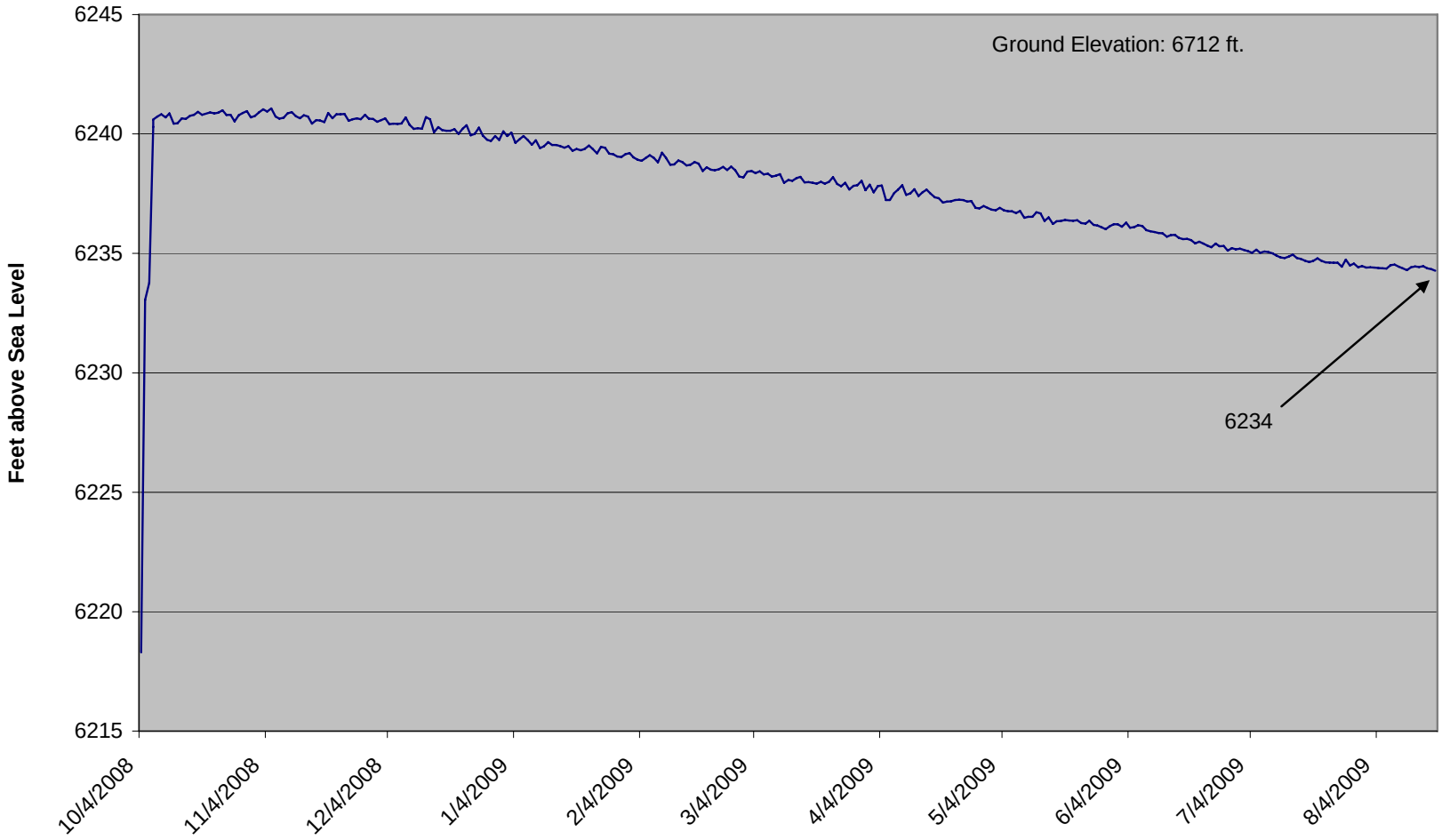
**Bruington WW, Permit # 210526, City Ranches Lot 15**
**Static Water Level**
**from 9/30/08 to 8/18/09**



**Coleman WW, Water Level from 10/31/07 to 7/14/09**
**Permit # 267694 Lot 70 RRR**
**G.L. elev. 6848'**

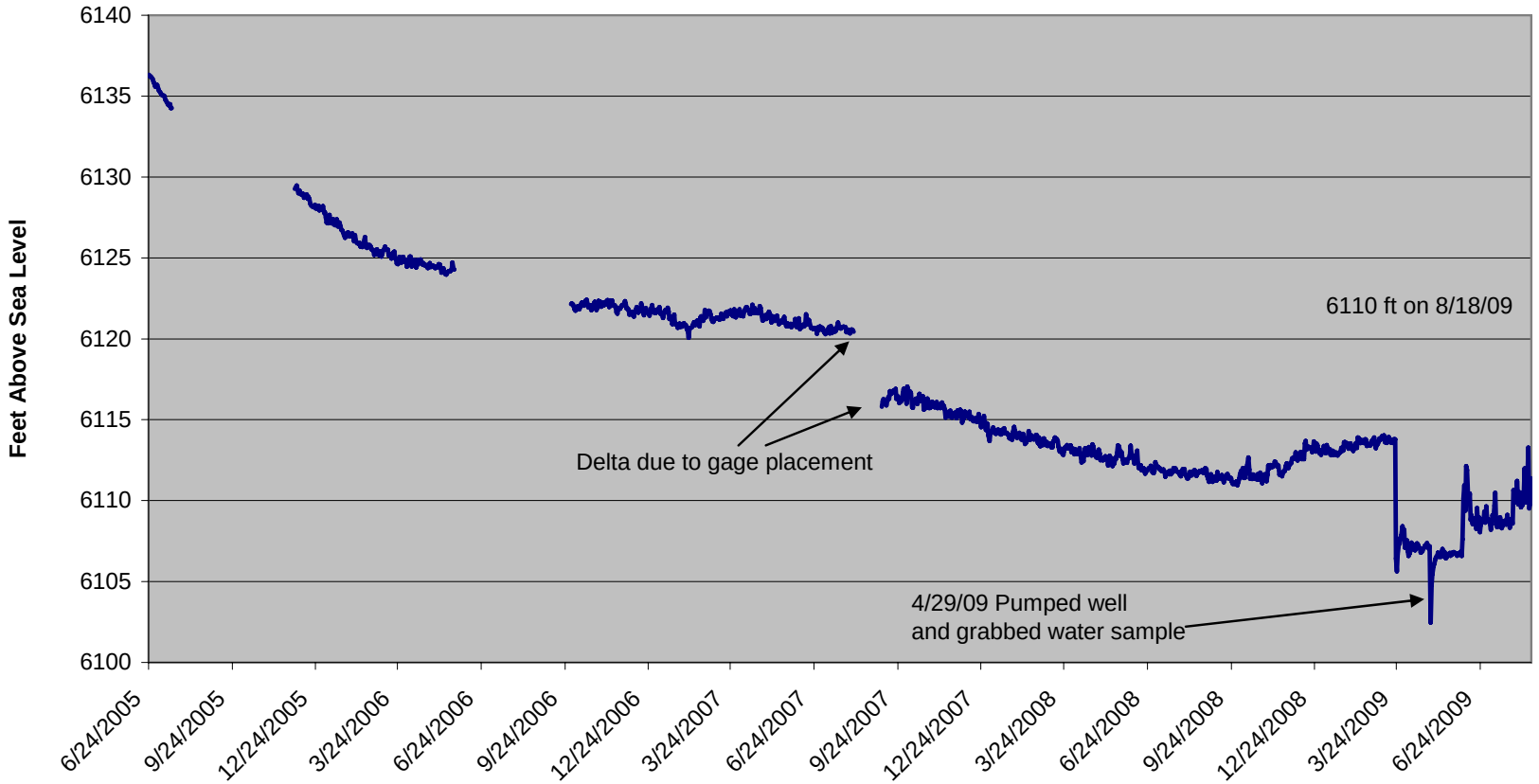


**Evenden WW Permit # 221465**
**Static Water Level from 10/3/08 to 8/18/09**



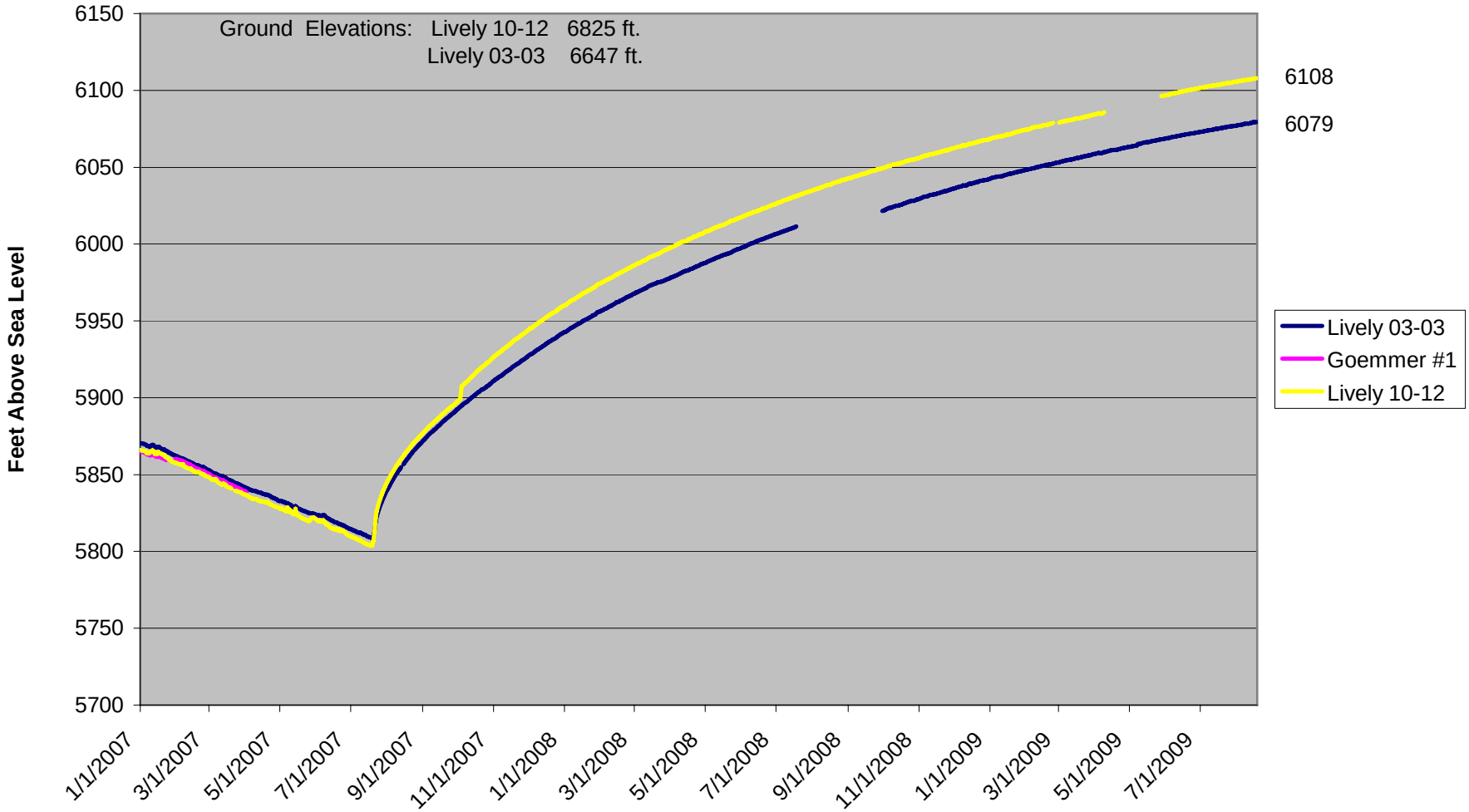
**Meyer WW Permit # 248862**
**Static Water Level**
**from 6/24/05 to 8/18/09**

Ground Elevation: 6575 ft.

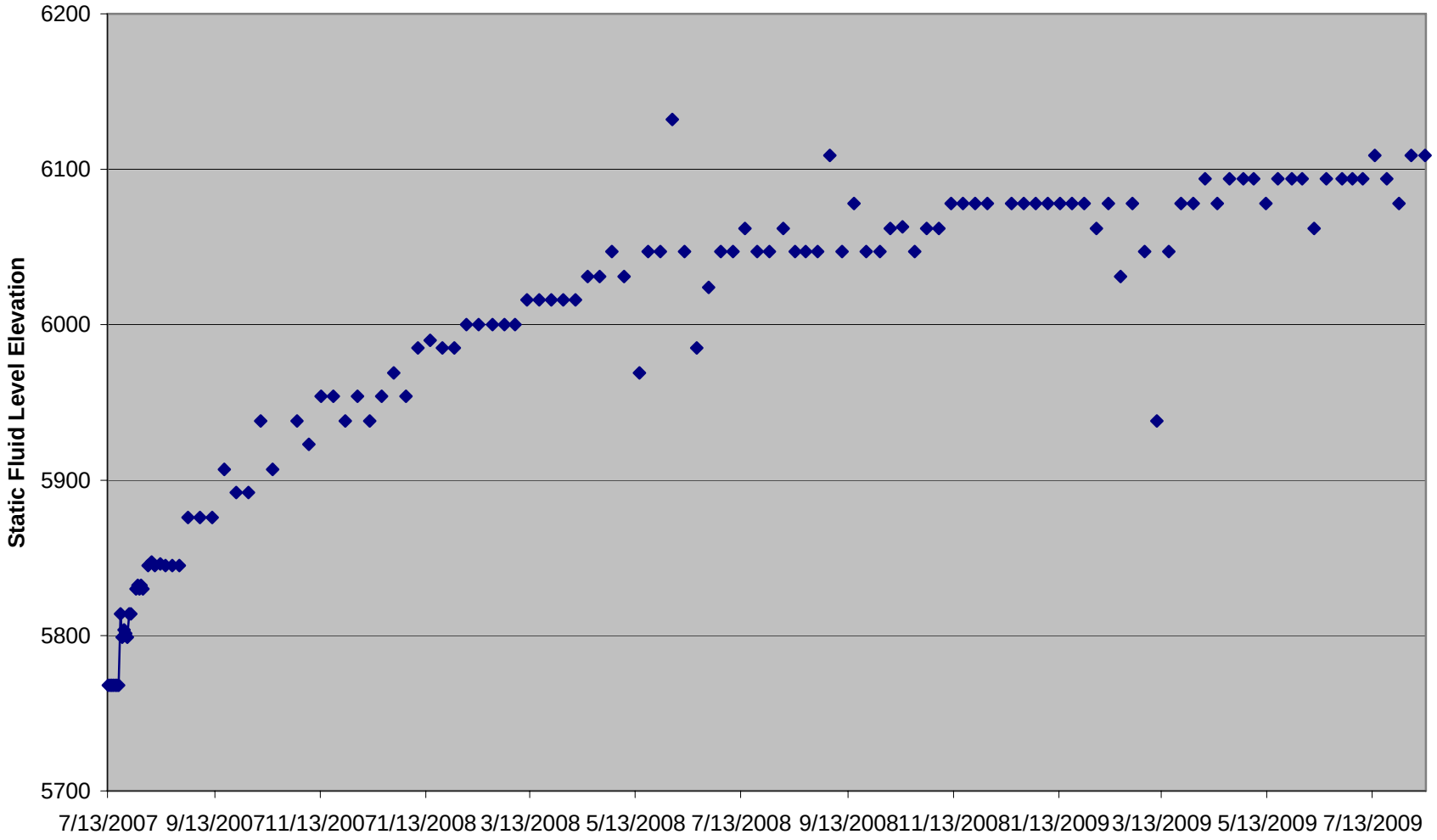


**Attachment 3**
**Fluid Levels in Petroglyph Production Wells**
**(Results in psia, unless stated otherwise)**

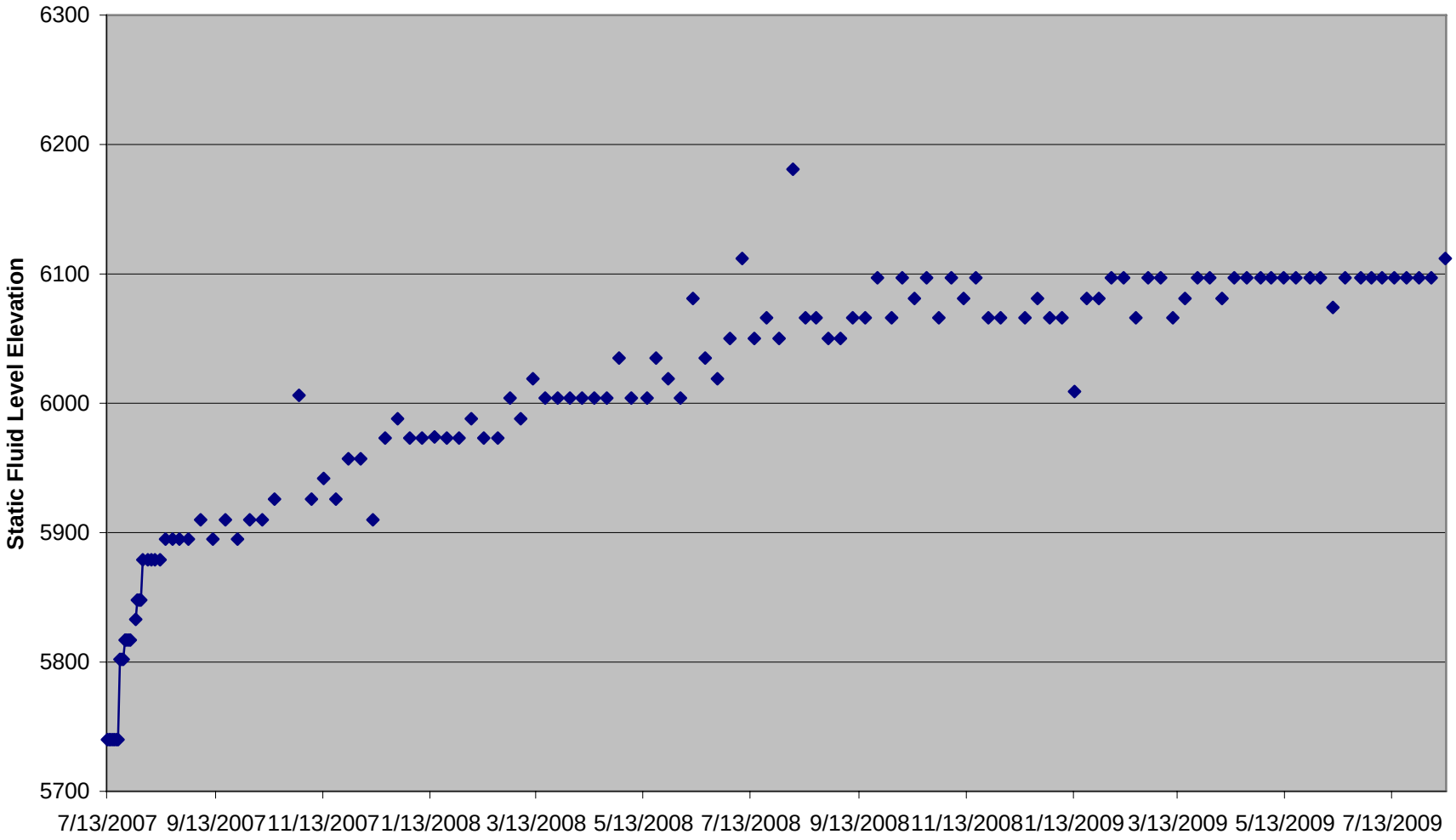
**Vermejo/Trinidad Monitor Wells**
**Static Water Level**
**from 1/1/07 to 8/18/09**



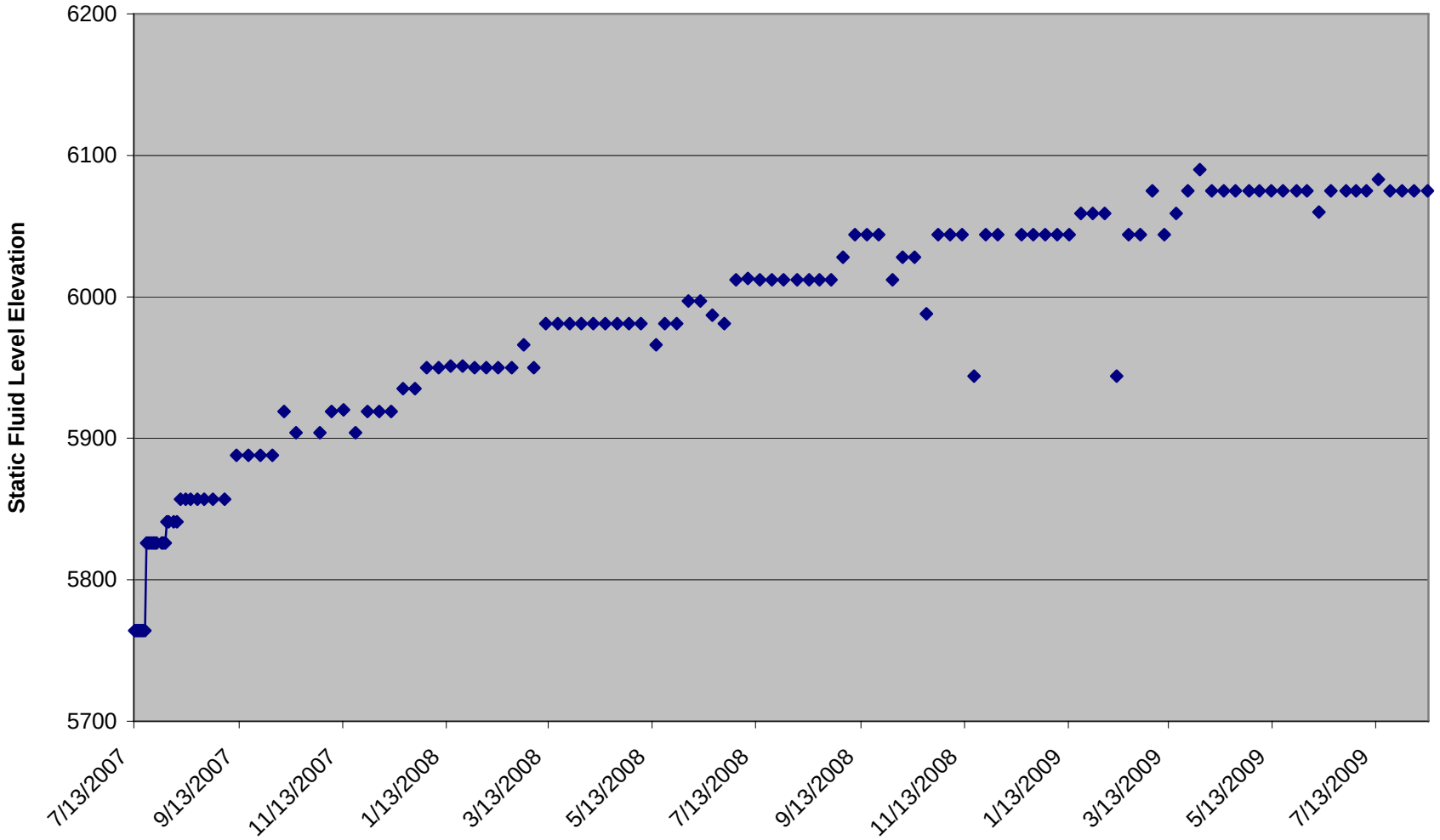
**Lively 02-02**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



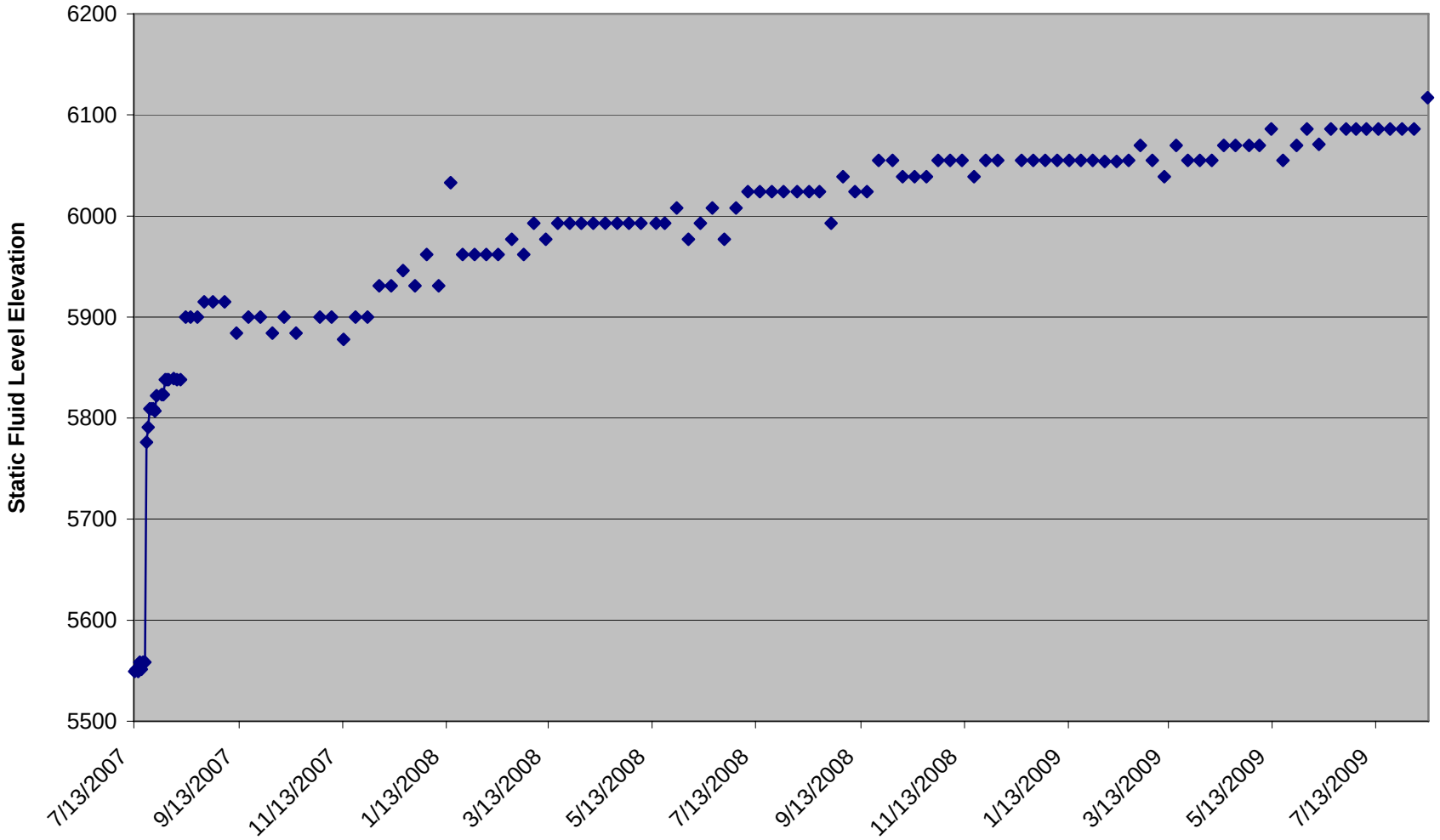
**Lively 02-12**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



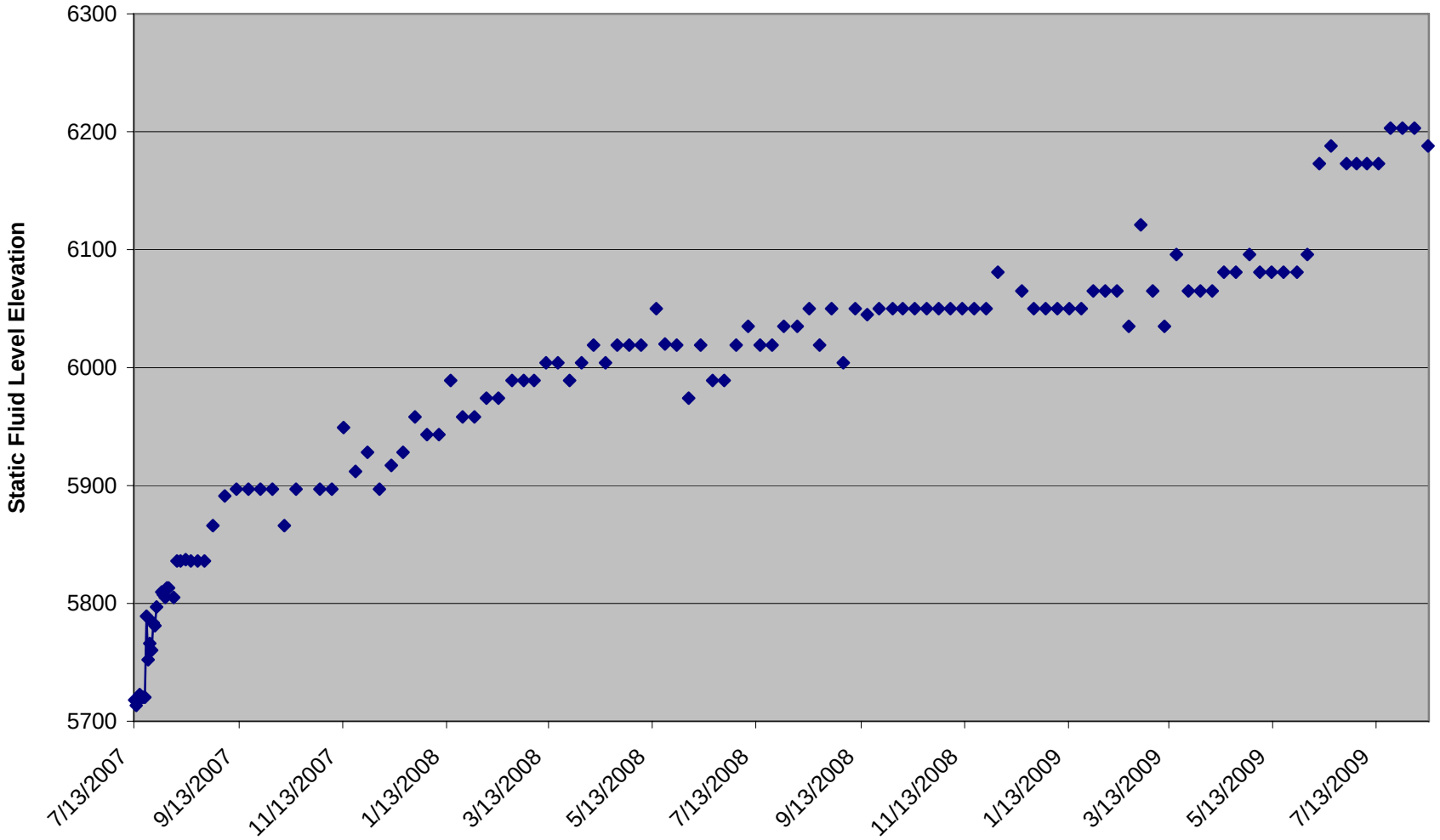
**Lively 03-01**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



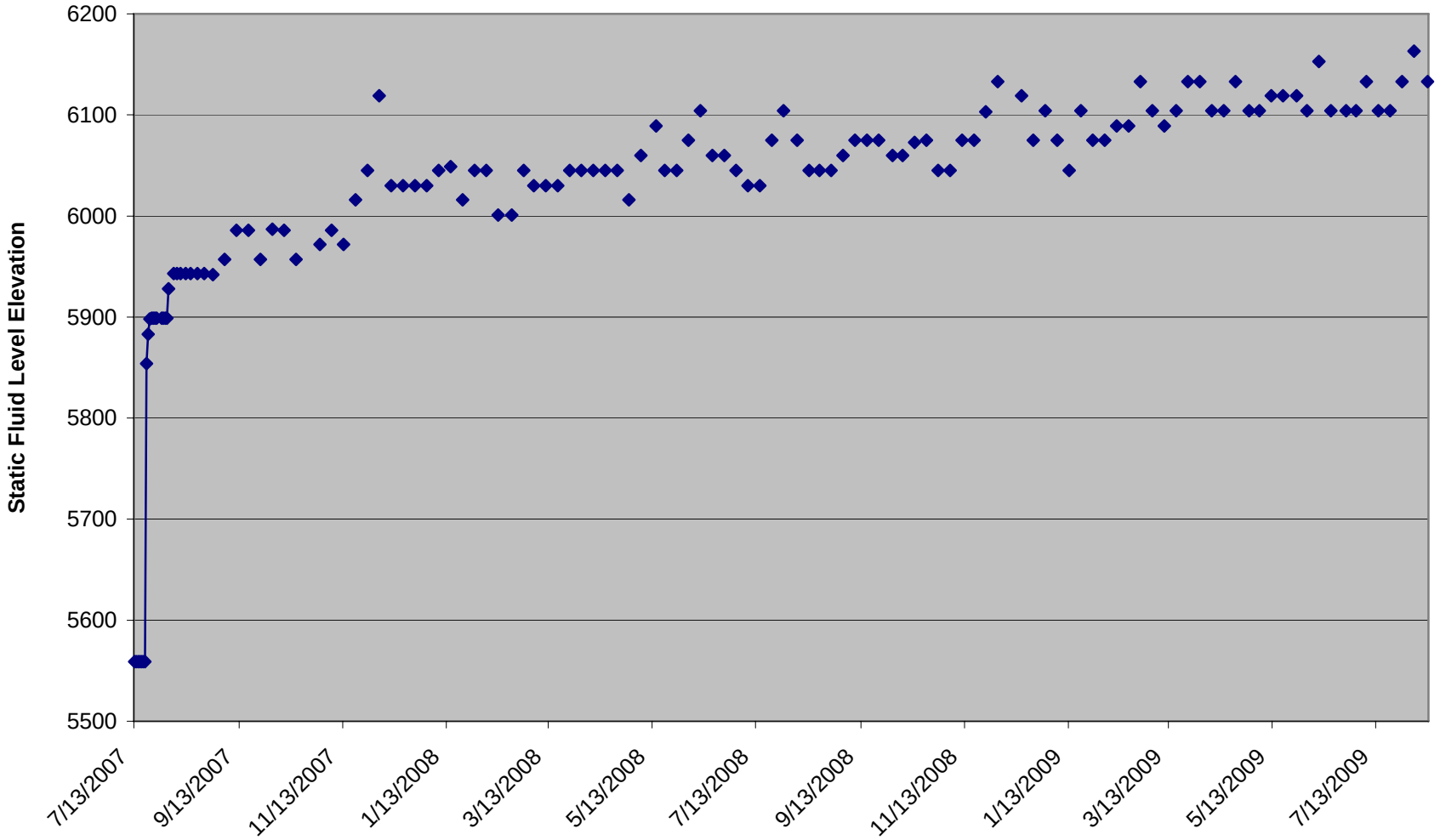
**Lively 03-10**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



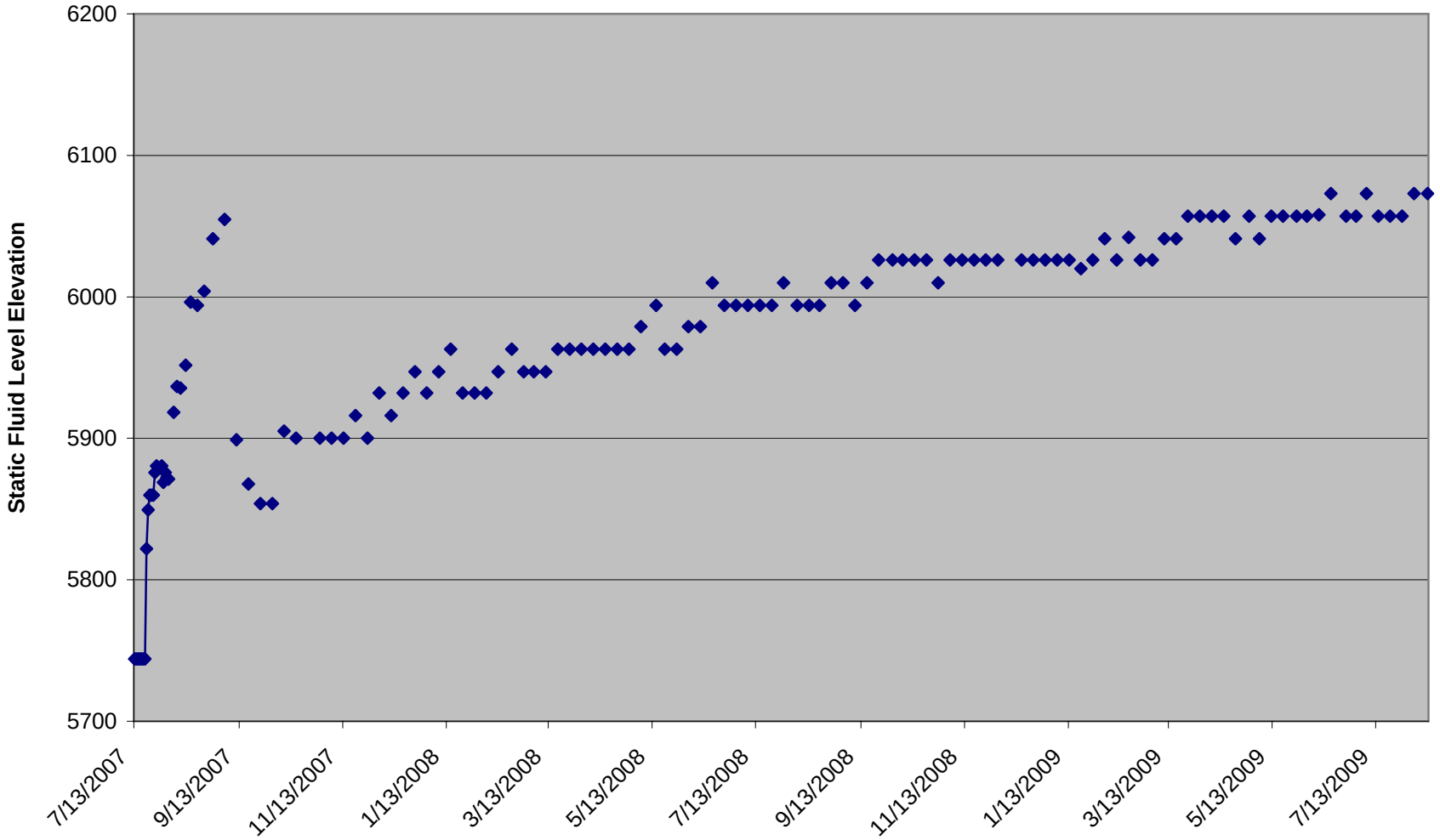
**Lively 03-12**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



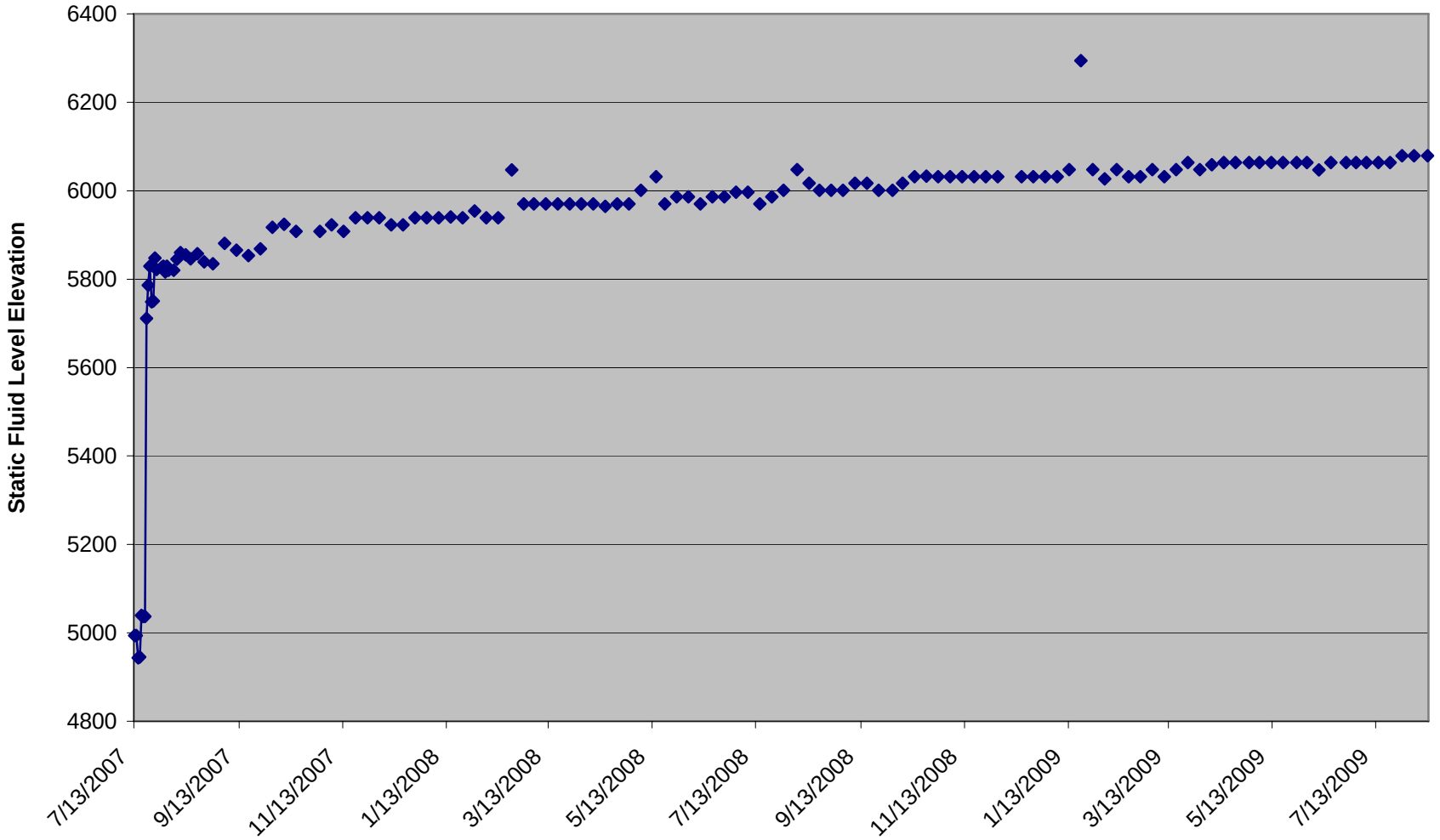
**Lively 10-04**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



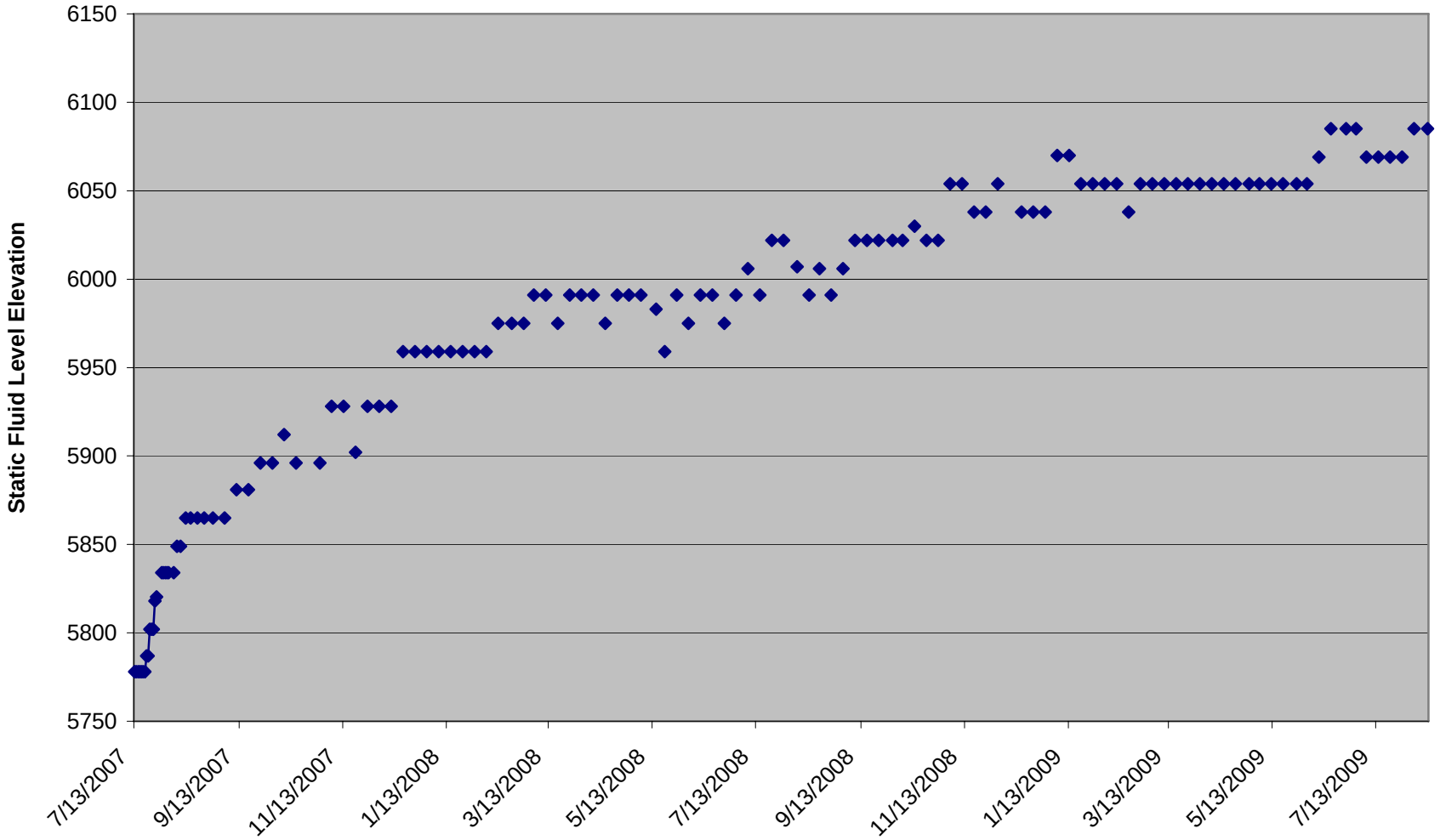
**Rohr 04-10**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



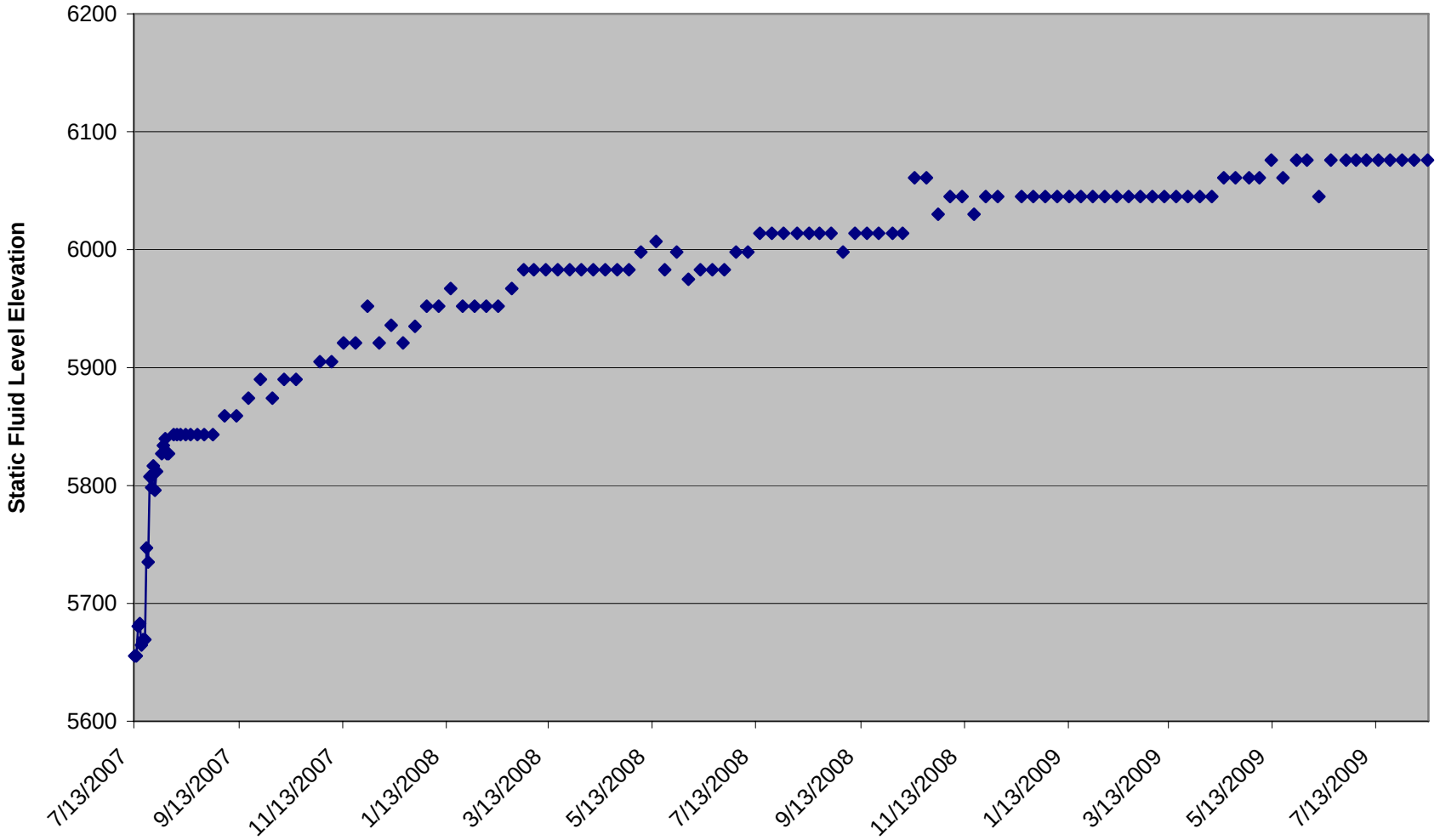
**Rohr 09-10**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



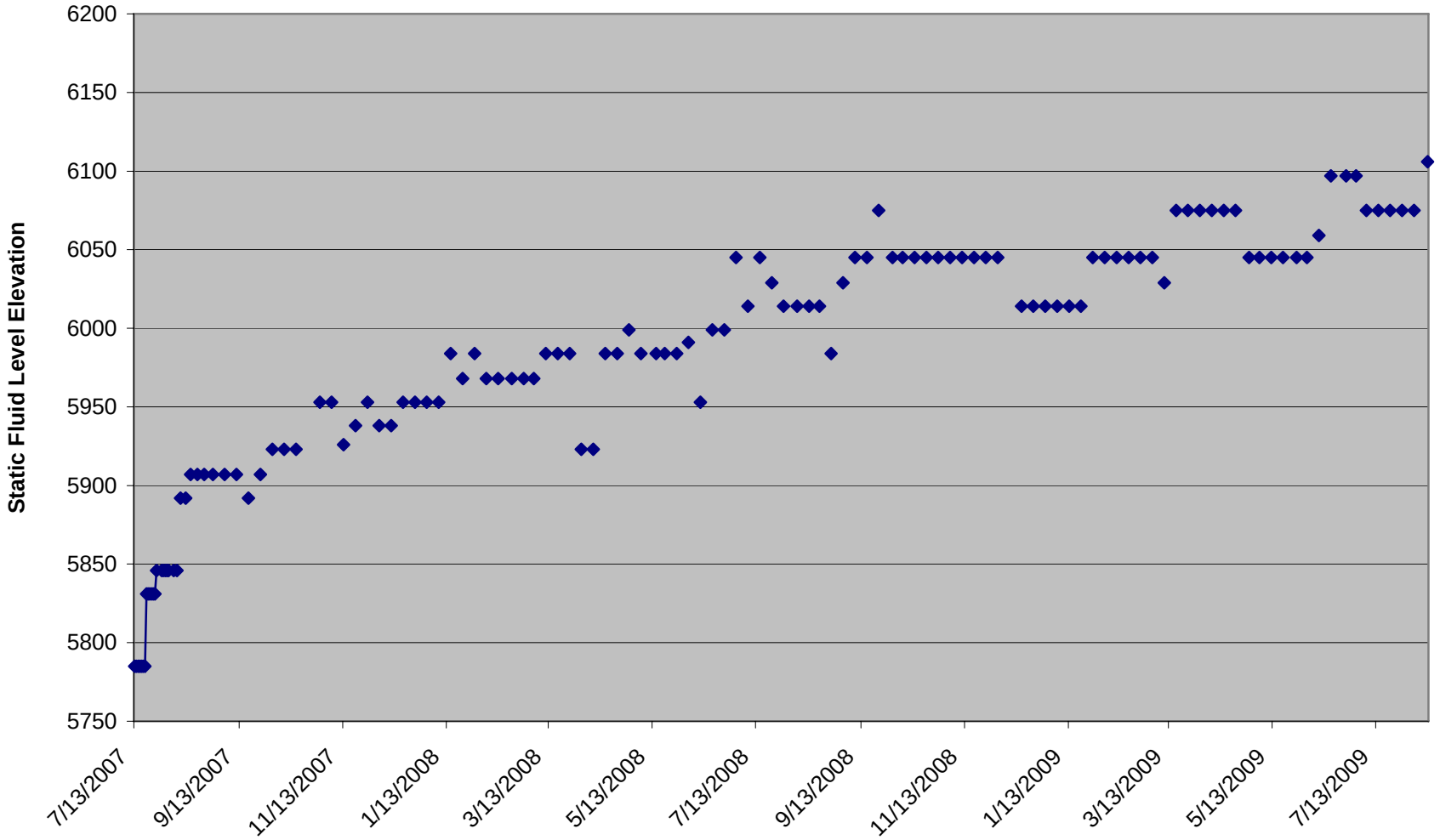
**State 36-02**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



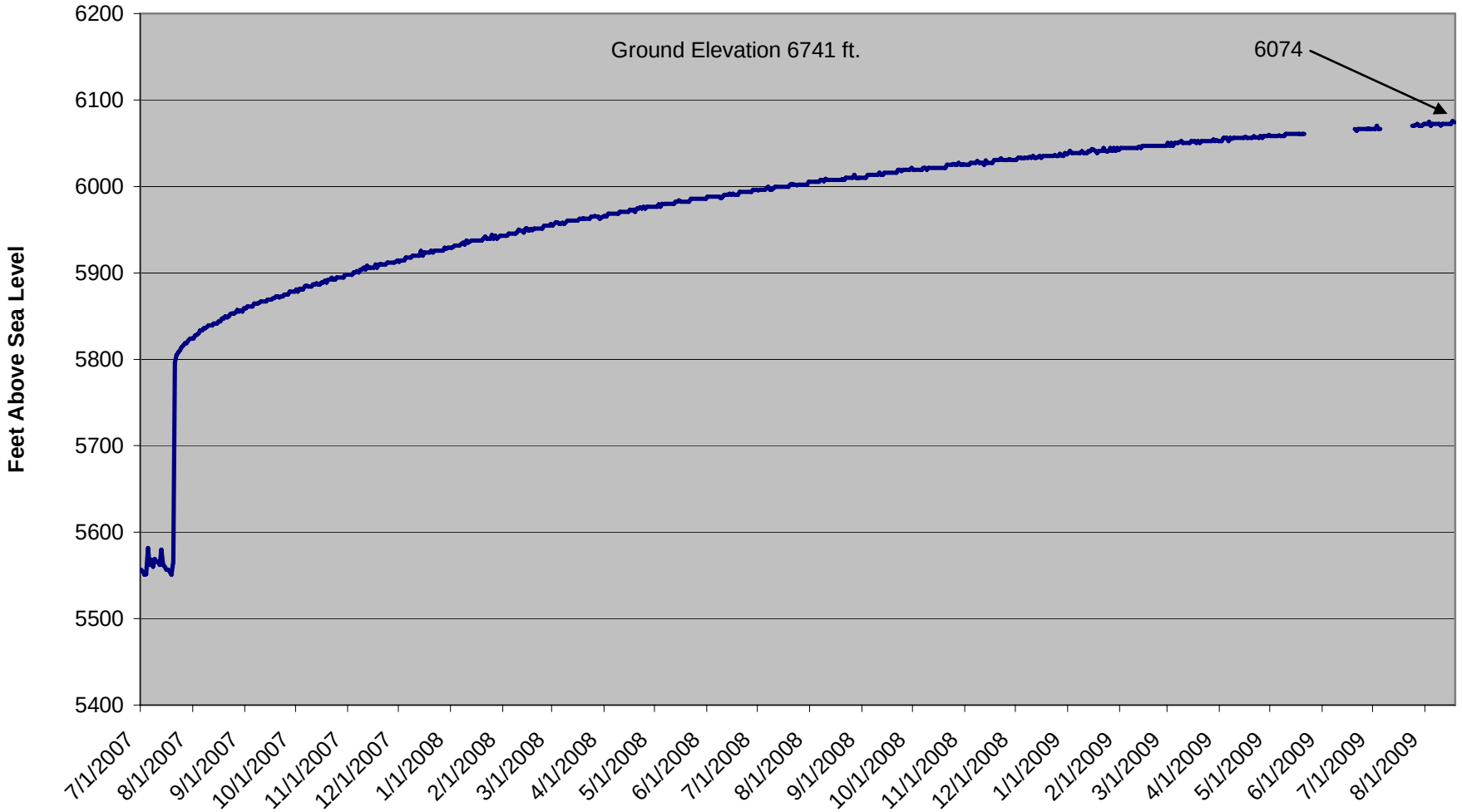
**State 36-05**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



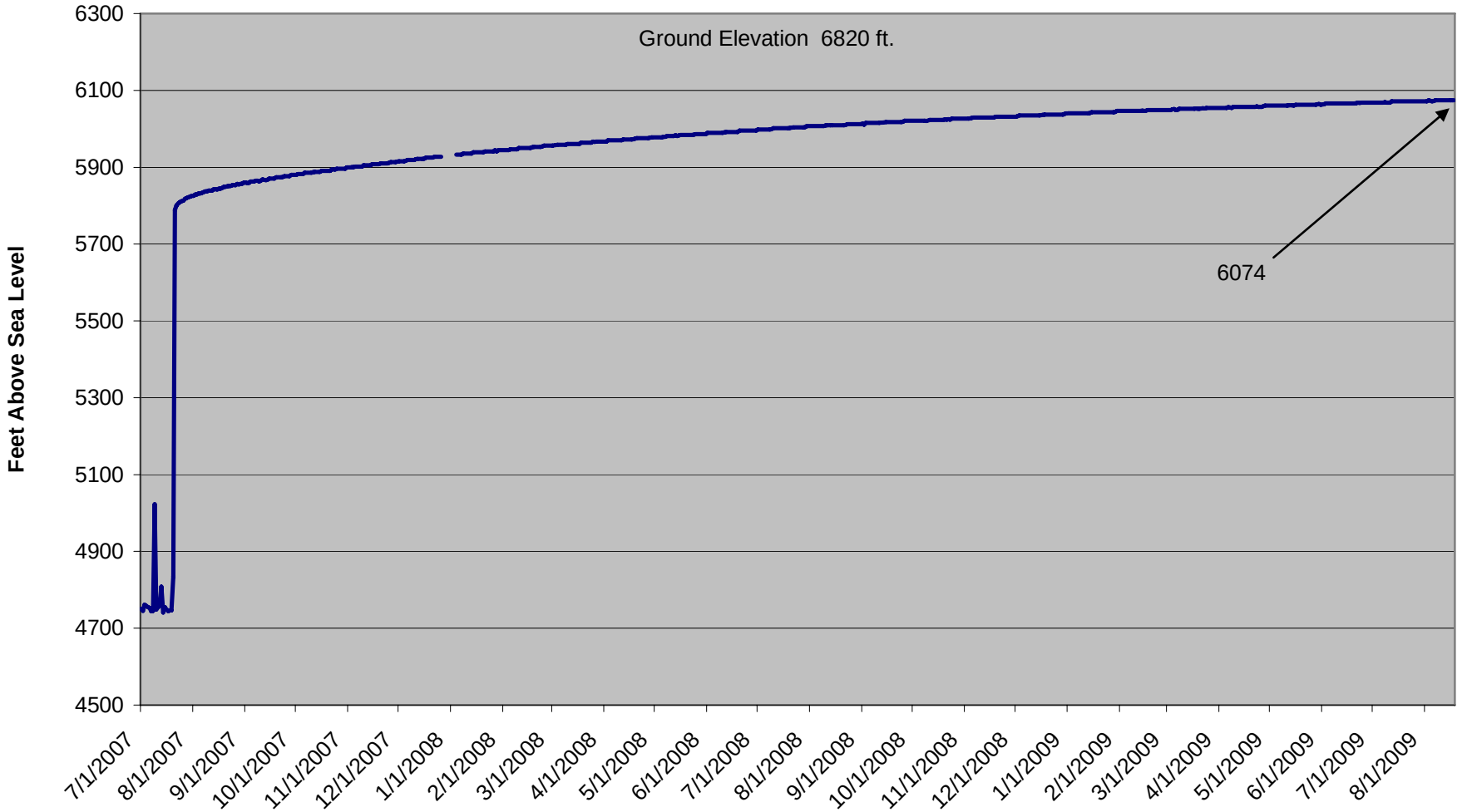
**State 36-11**
**7/13/07 thru 7/28/09**
**Wells shut down 7/20/07**



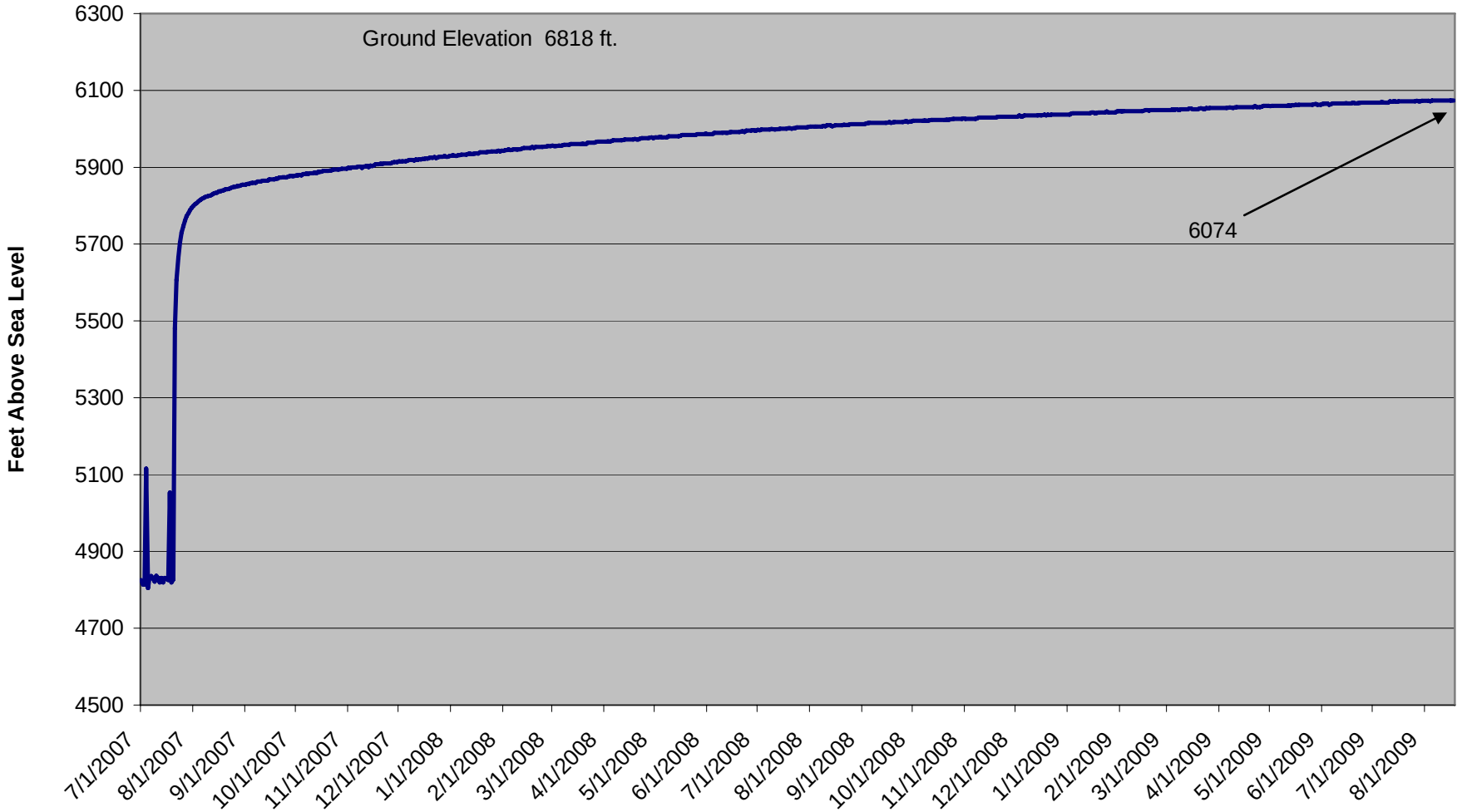
**Rohr 04-14 CBM Well**
**Static Water Level**
**from 7/1/07 to 8/18/09**



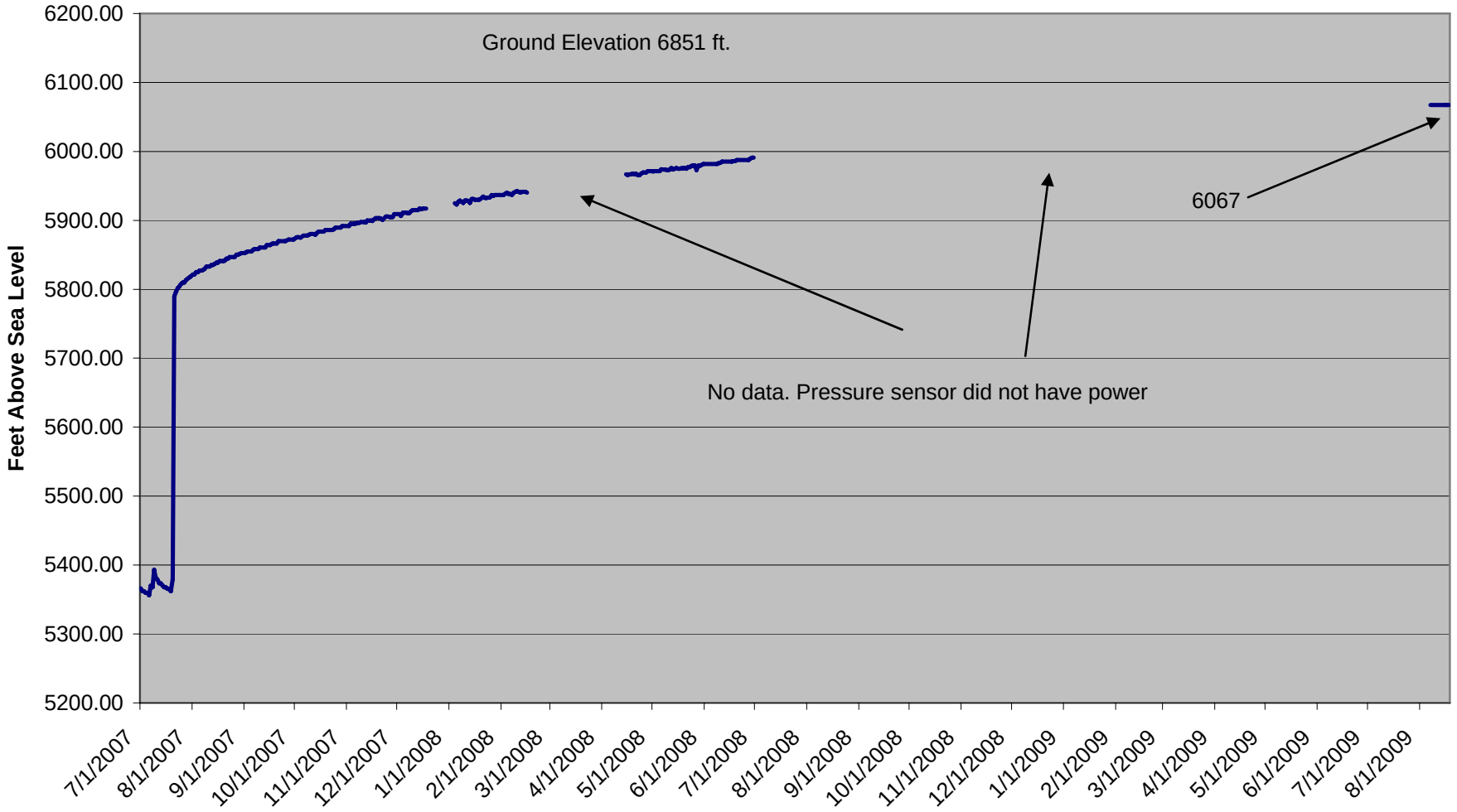
**Rohr 08-01 CBM Well**
**Static Water Level**
**from 7/1/07 to 8/18/09**



**Rohr 09-04 CBM Well**
**Static Water Level**
**from 7/1/07 to 8/18/09**

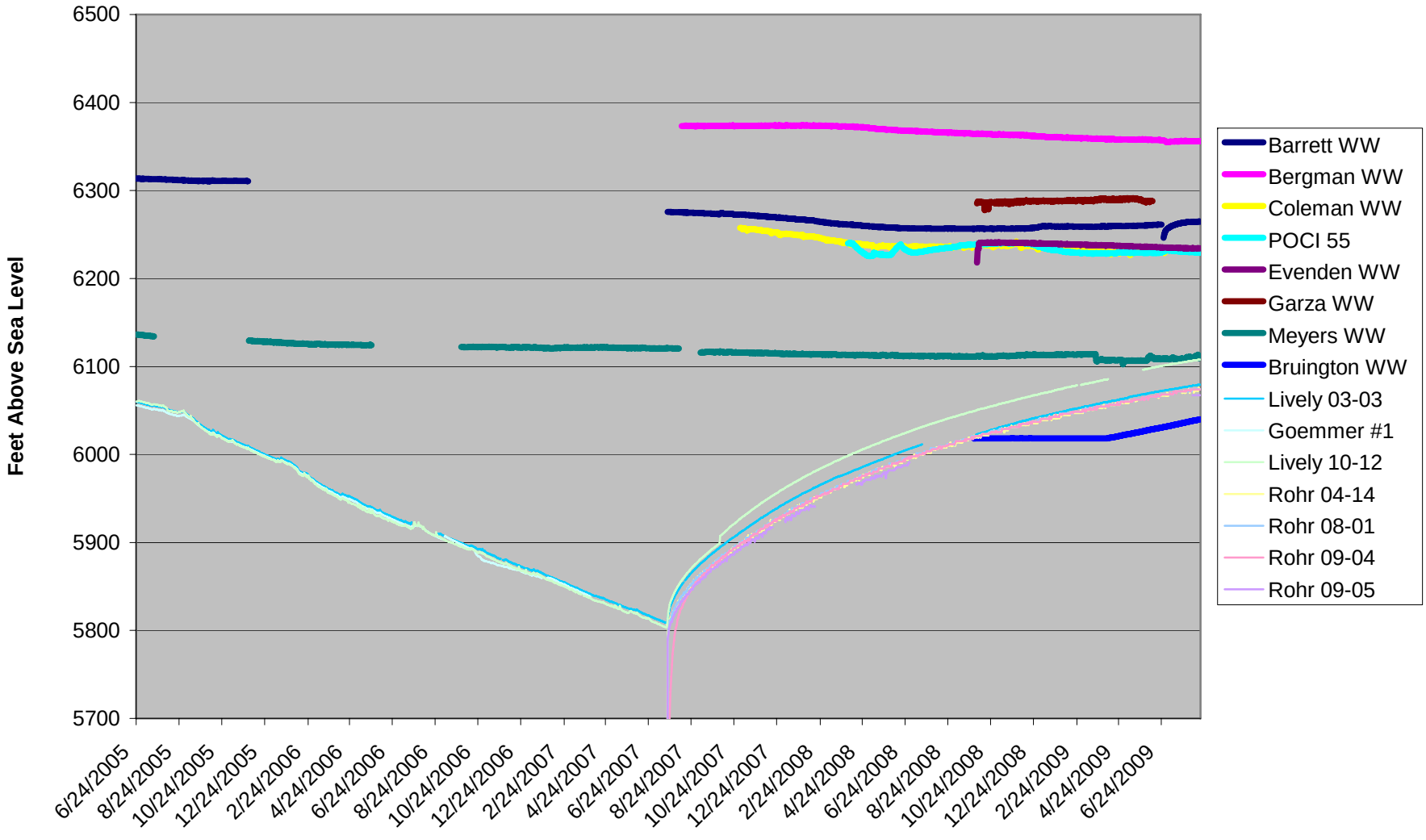


**Rohr 09-05 CBM Well**
**Static Water Level**
**from 7/1/07 to 8/18/09**



**Attachment 4**
**Comparison of Fluid Levels in Production Wells and Private Wells**

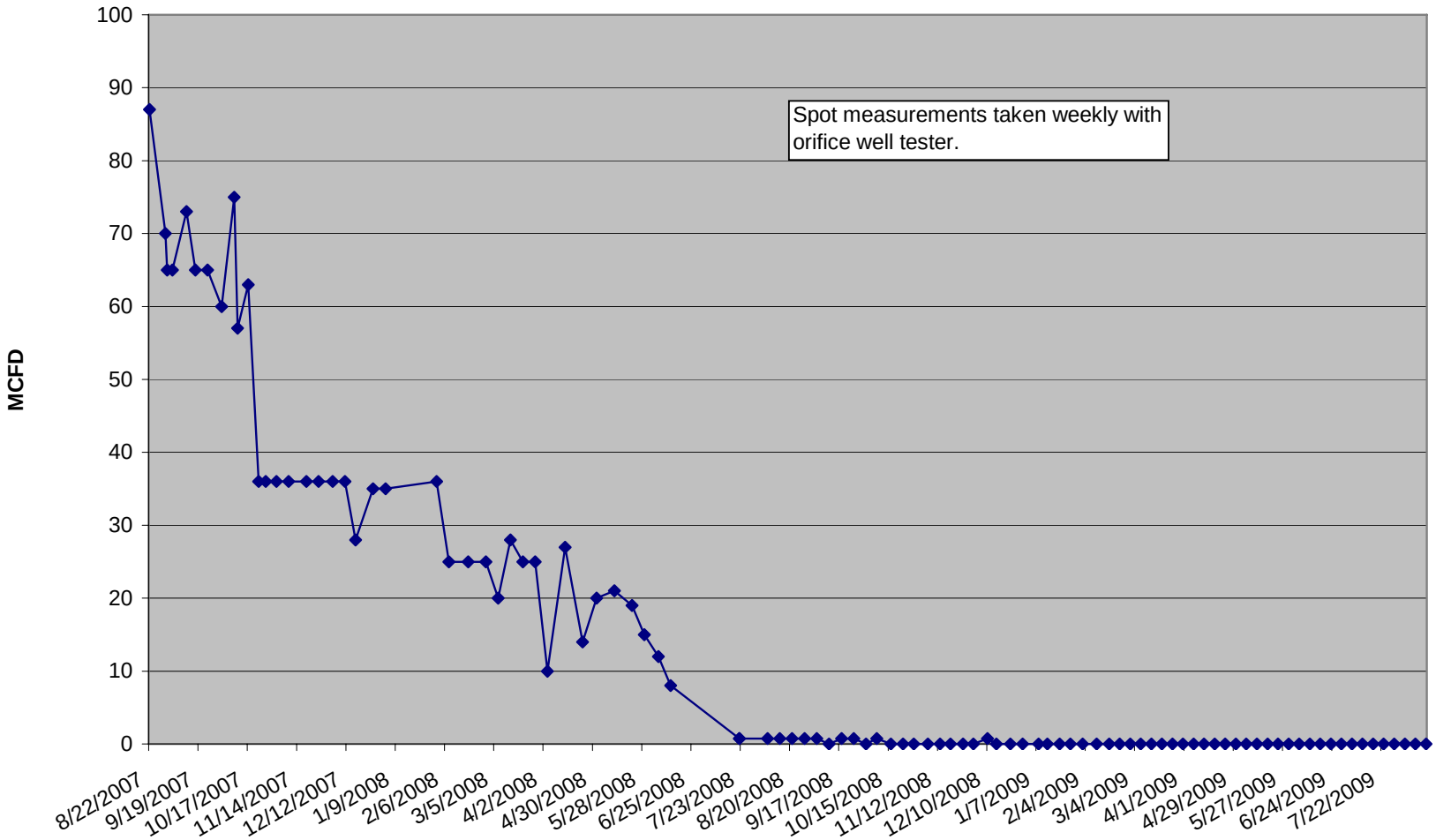
## CBM and Domestic WW,
## Water Levels from 6/24/05 to 8/18/09



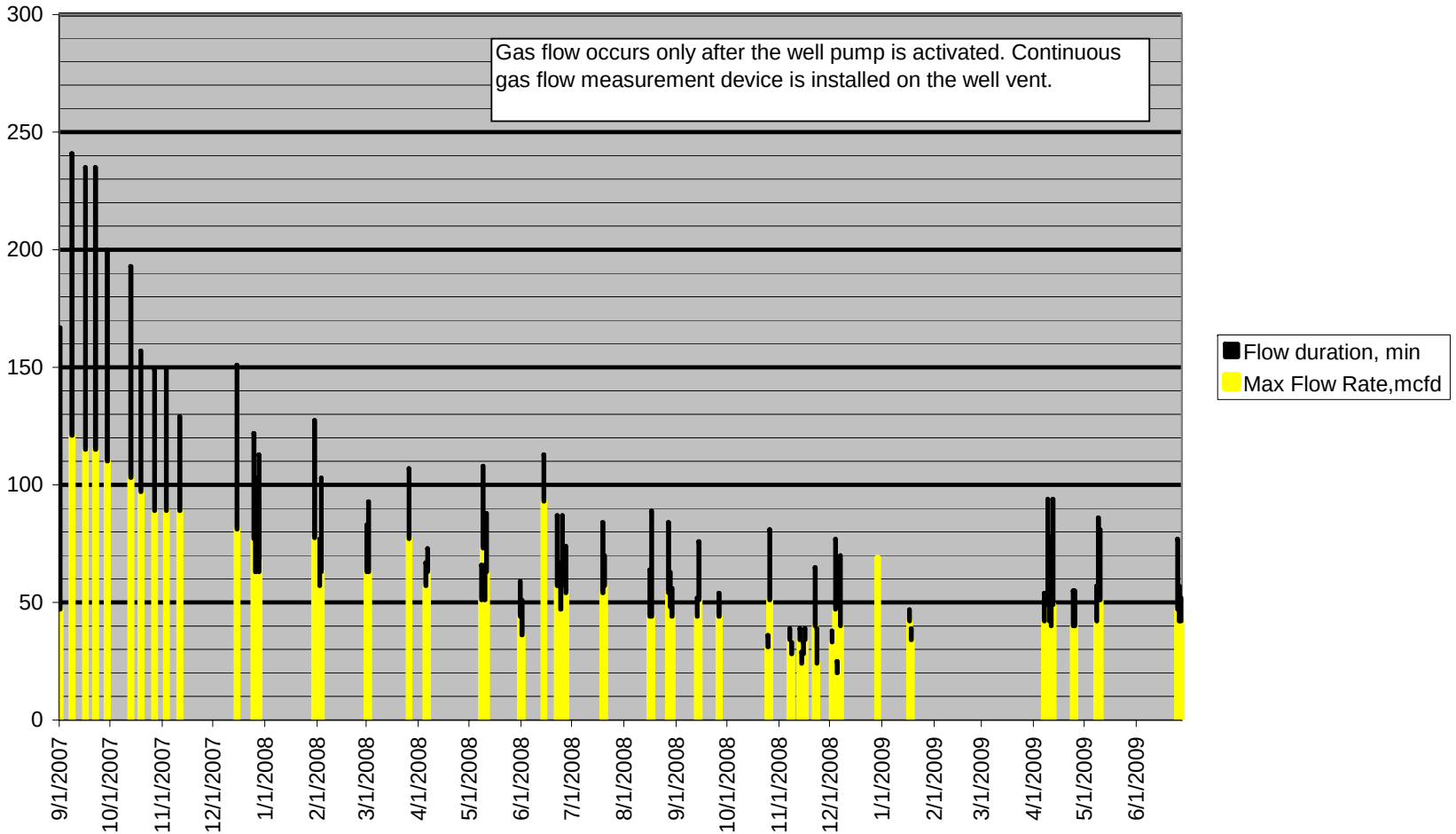
| Summary of Production Well Water Levels and Private Well Water Levels | | | | | | |
|---|---|---|---|---|---|---|
| **Well Name** | **Permit or API #** | **Ground Elevation ( ft above mean sea level)** | **Depth of Pressure Sensor (ft)** | **Formation** | **General Location** | **Well Status** |
| Barrett | 257994 | 6707 | 750 | Poison Canyon | In mitigation ring | non-active domestic well |
| Bergman | 244403 | 6690 | 400 | Poison Canyon | In mitigation ring | non-active domestic well |
| Coleman | 267694 | 6848 | 823 | Poison Canyon | In mitigation ring | active domestic well |
| Meyers | 248862 | 6575 | 600 | Raton | Outside 1 mile radius of mitigation ring | non-active domestic well |
| POCI 55 | 275819 | 6690 | 595 | Poison Canyon | In mitigation ring | monitor well |
| Bruington | 210526 | 6335 | 320 | Vermejo | City Ranch near outcrop | non-active domestic well |
| Evenden | 221465 | 6712 | 514 | Vermejo-Trindiad | Silver Spurs Ranch near outcrop | active domestic well |
| Garza | 206886 | 6536 | 288 | Trinidad | Silver Spurs Ranch near outcrop | active domestic well |
| Lively 03-03 | 222539 | 6647 | 995 | Trinidad | Within 1 mile radius of mitigation ring | Exploratory O&G well converted to water well (non-active) |
| Lively 10-12 | 55-06150 | 6825 | 1480 | Vermejo | In mitigation ring | CBM monitor well |
| Goemmer #1 | 16861-F | 6826 | 995 | Trinidad | In mitigation ring | Exploratory O&G well converted to water well (non-active) |
| Rohr 04-14 | 55-06291 | 6741 | 2186 | Vermejo-Trinidad | Within 1 mile radius of mitigation ring | Shut-in CBM well |
| Rohr 08-01 | 55-06292 | 6820 | 2365 | Vermejo-Trinidad | Within 1 mile radius of mitigation ring | Shut-in CBM well |
| Rohr 09-04 | 55-06290 | 6818 | 2273 | Vermejo-Trinidad | Within 1 mile radius of mitigation ring | Shut-in CBM well |
| Rohr 09-05 | 55-06289 | 6851 | 2285 | Vermejo-Trinidad | Within 1 mile radius of mitigation ring | Shut-in CBM well |

**Attachment 5**
**Gas Flow Measurements at Bruington, Coleman, Angely, Bounds, and Smith**

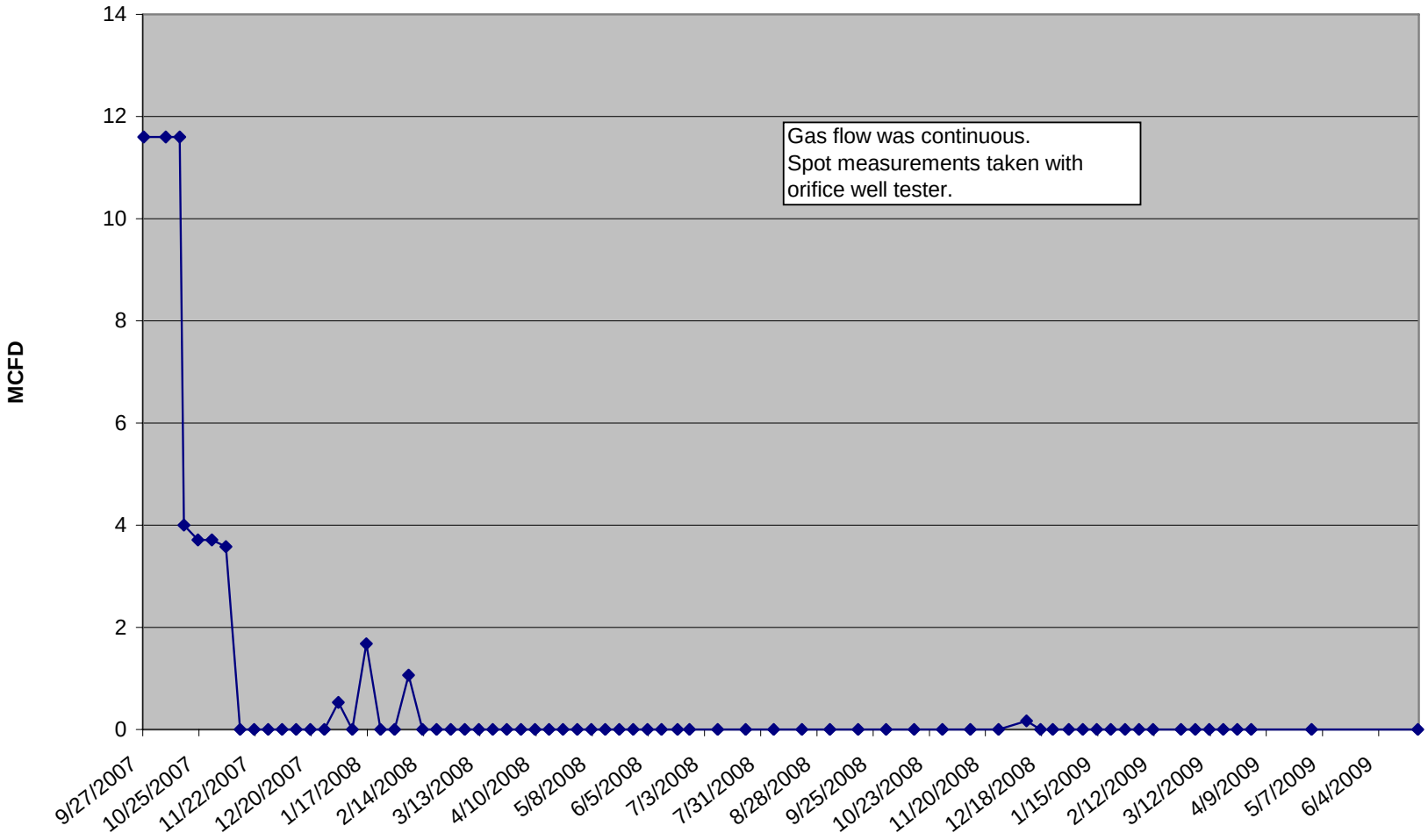
**Bruington WW # 210526 Measured Gas Flow
from 8/22/07 to 8/16/09**



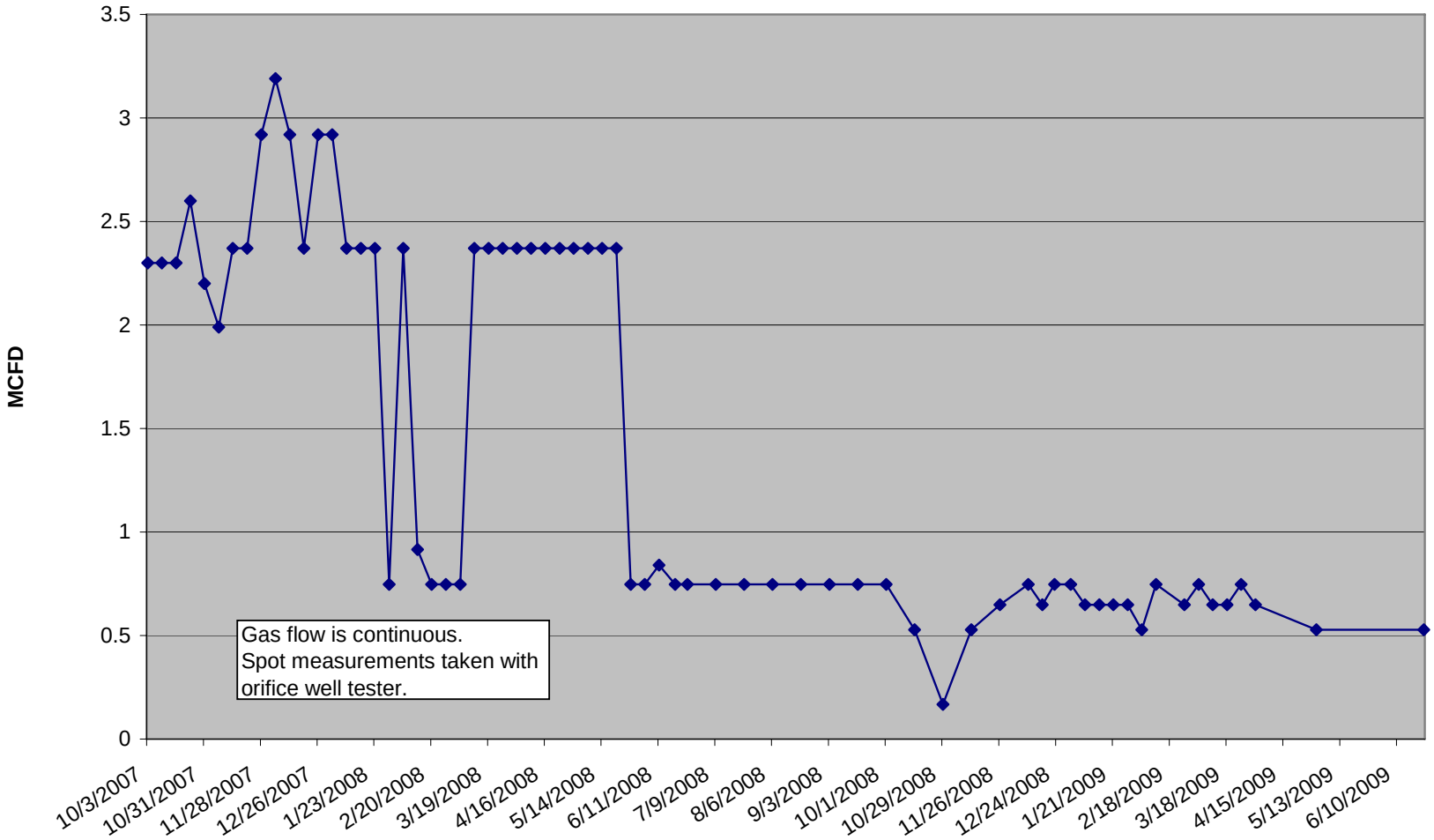
**Coleman WW #267294 Measured Gas Flow
from 9/1/07 to 6/27/09**



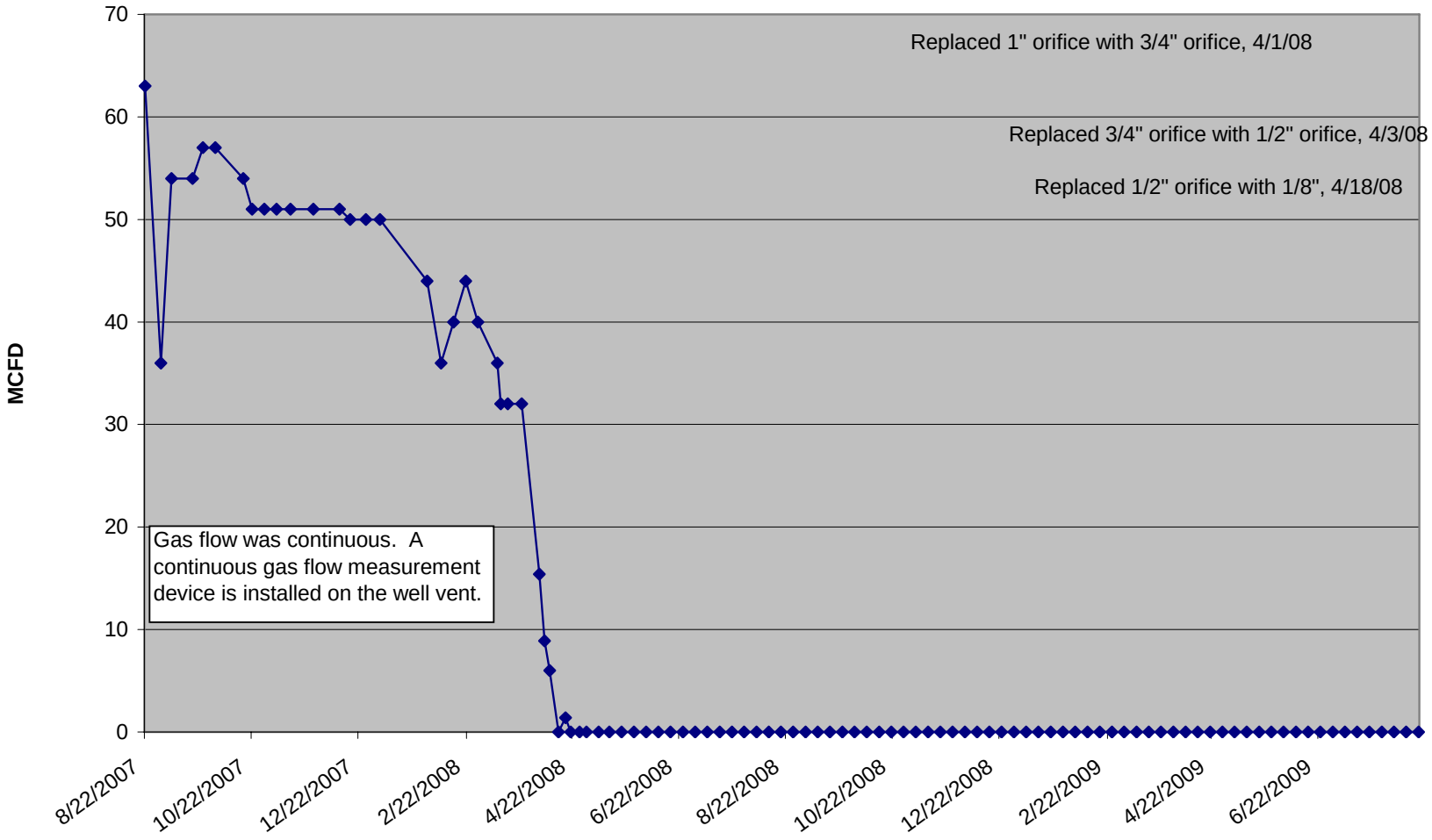
**Angely WW # 238689 Measured Gas Flow
from 9/27/07 to 6/23/09**



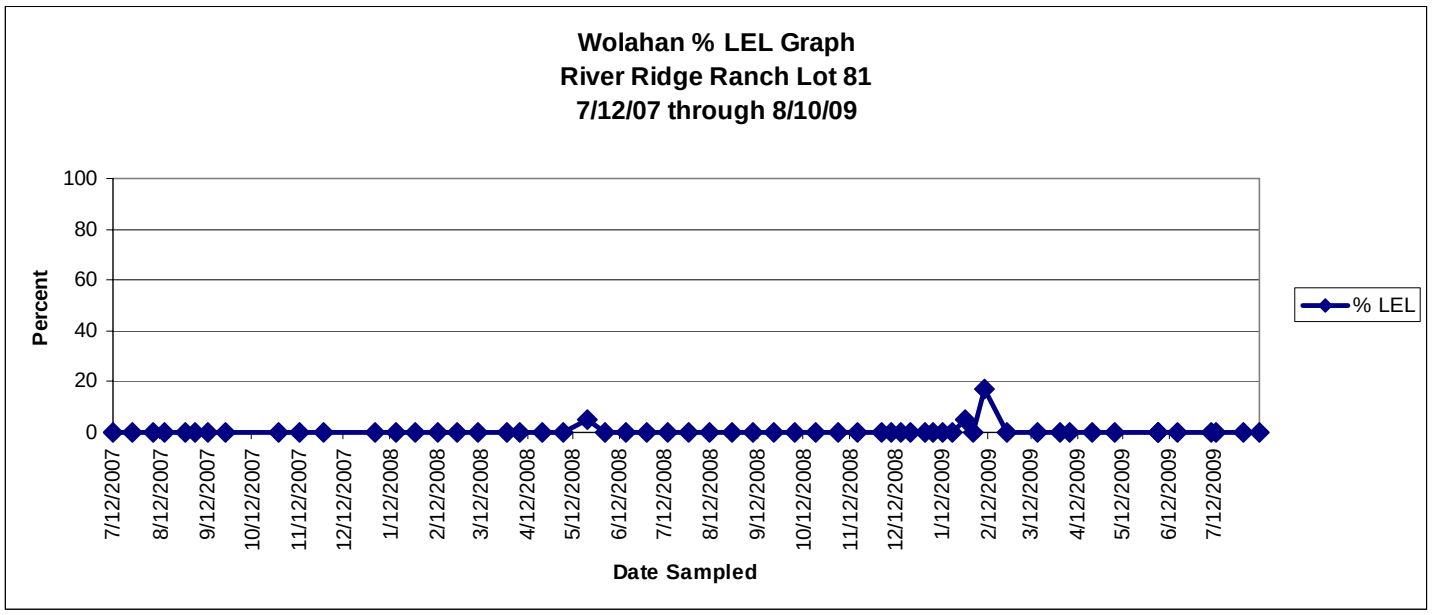
**Bounds WW #181278 Measured Gas Flow
from 10/3/07 to 6/23/09**

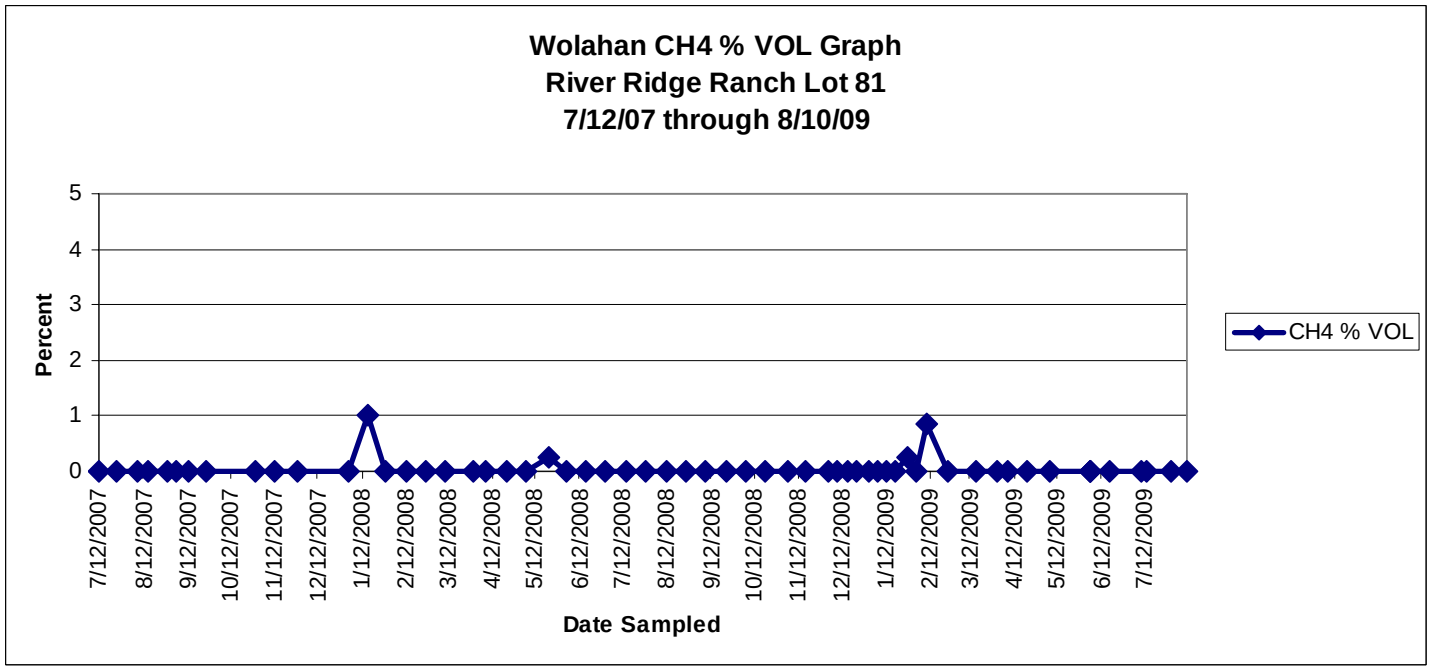


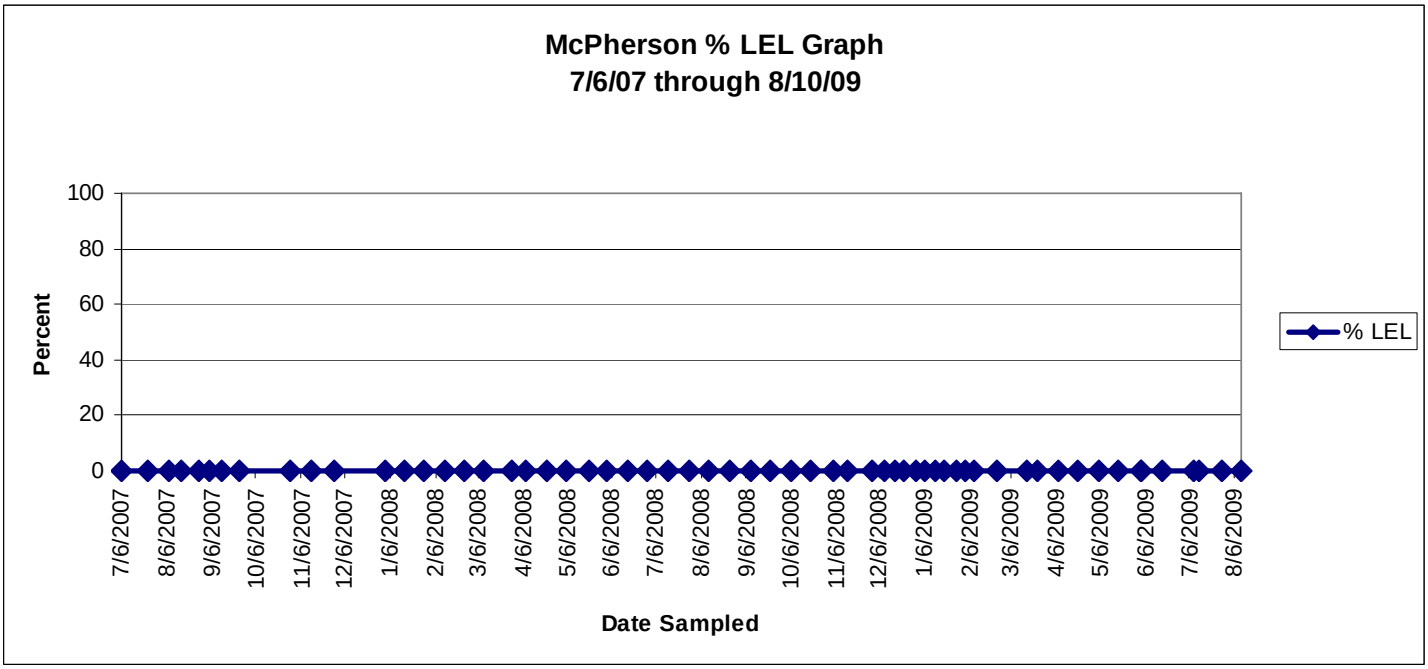
**Smith WW # 239657 Measured Gas Flow
from 8/22/07 to 8/18/09**

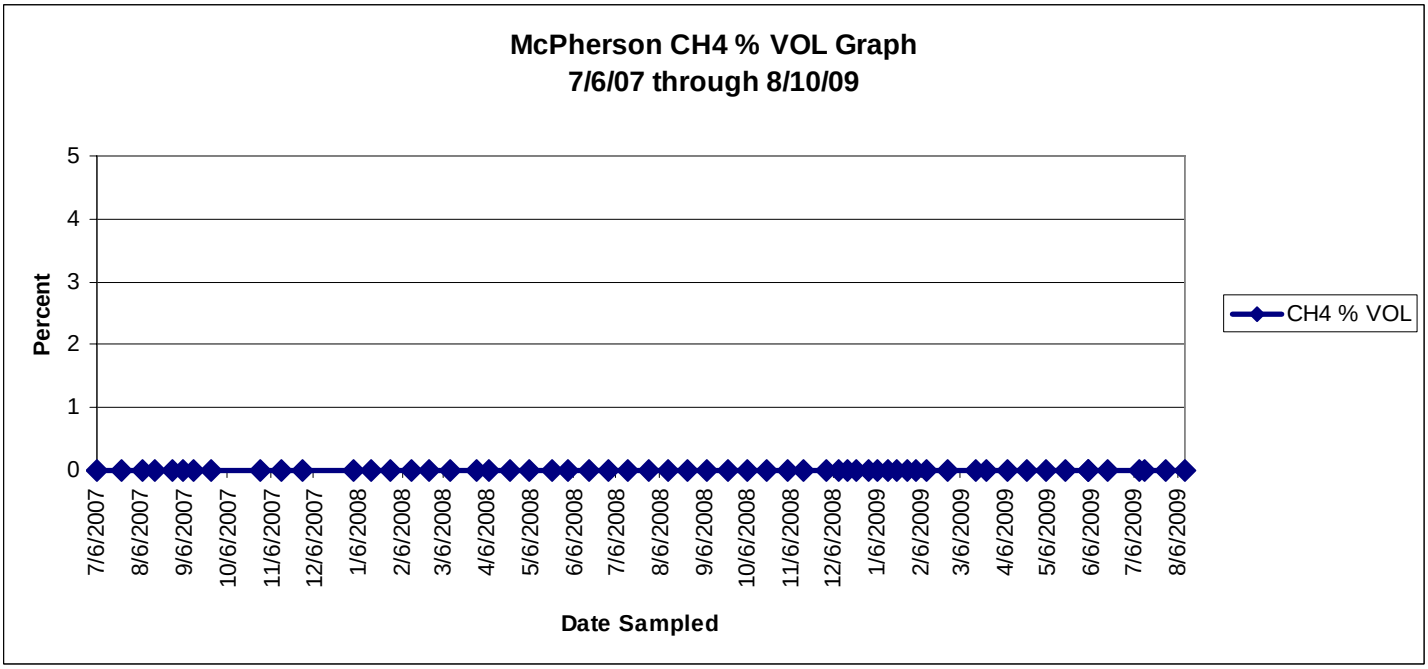


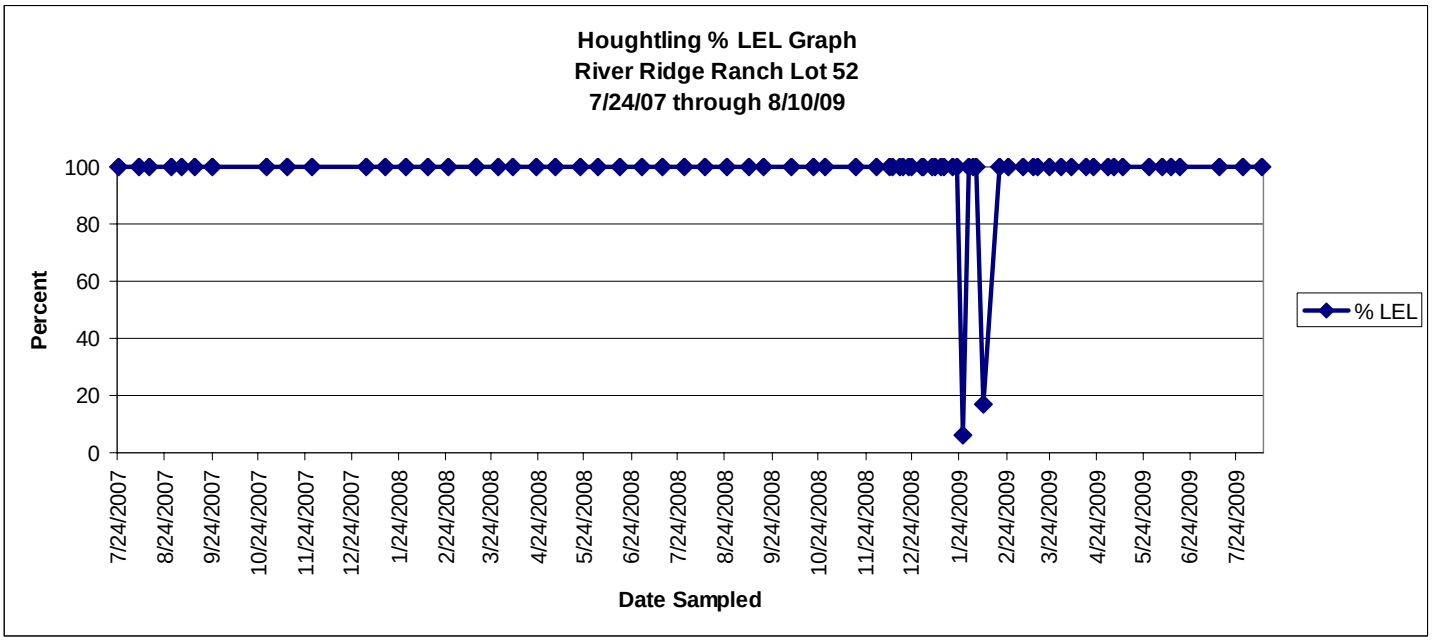
**Attachment 6**
**Gas Concentrations in**
**Private Water Wells near the Mitigation Project**

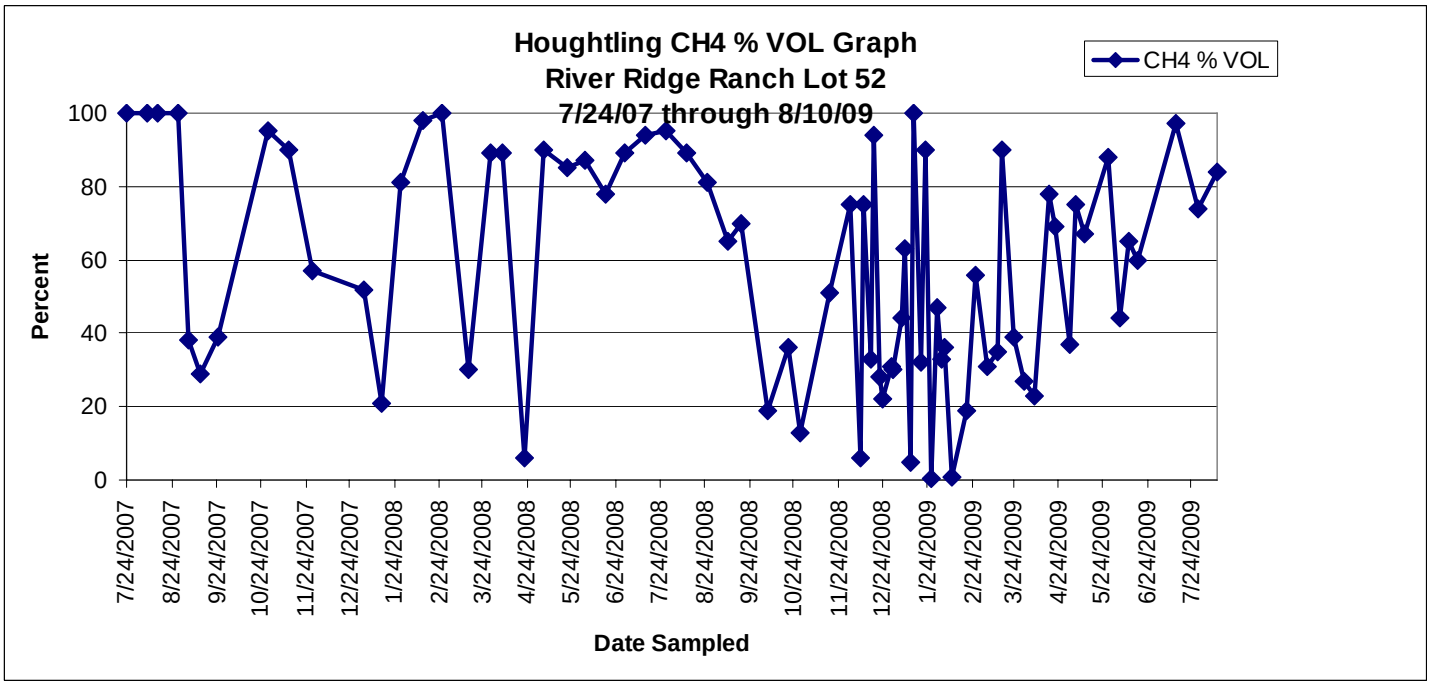

Wolahan % LEL Graph
River Ridge Ranch Lot 81
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
% LEL

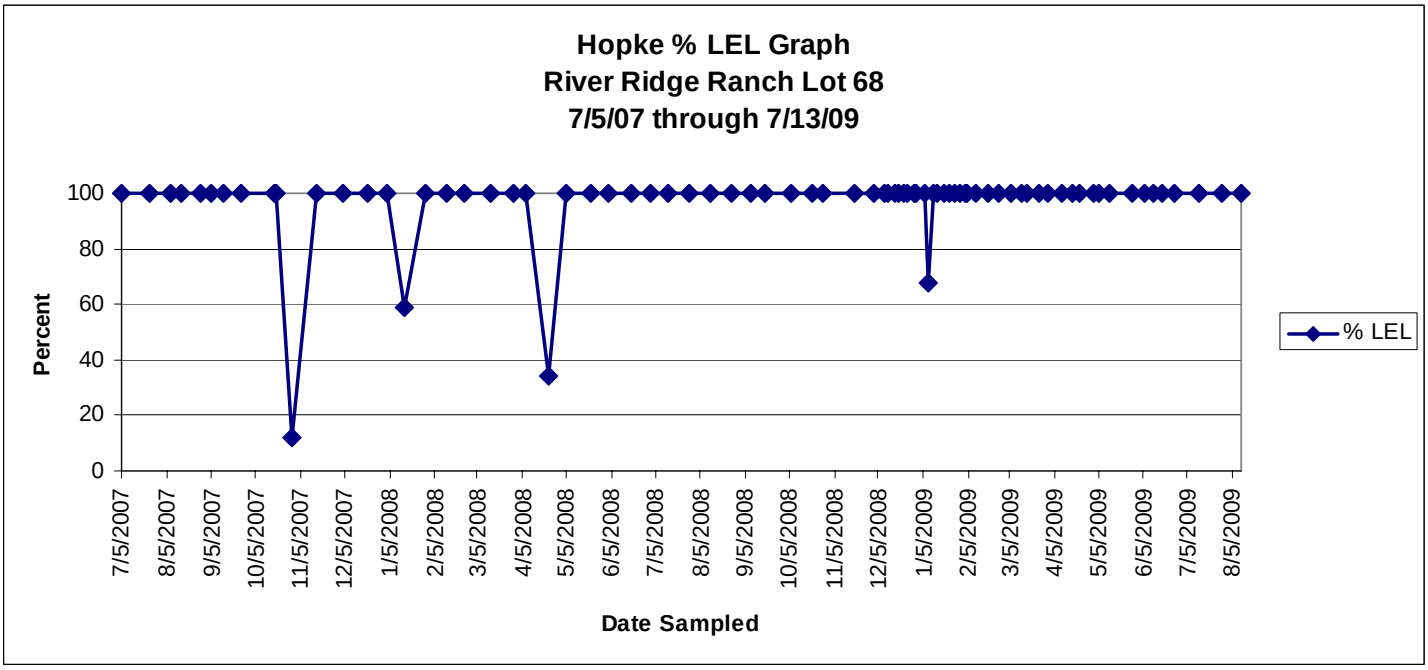

Wolahan CH4 % VOL Graph
River Ridge Ranch Lot 81
7/12/07 through 8/10/09
Percent
5
4
3
2
1
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
CH4 % VOL

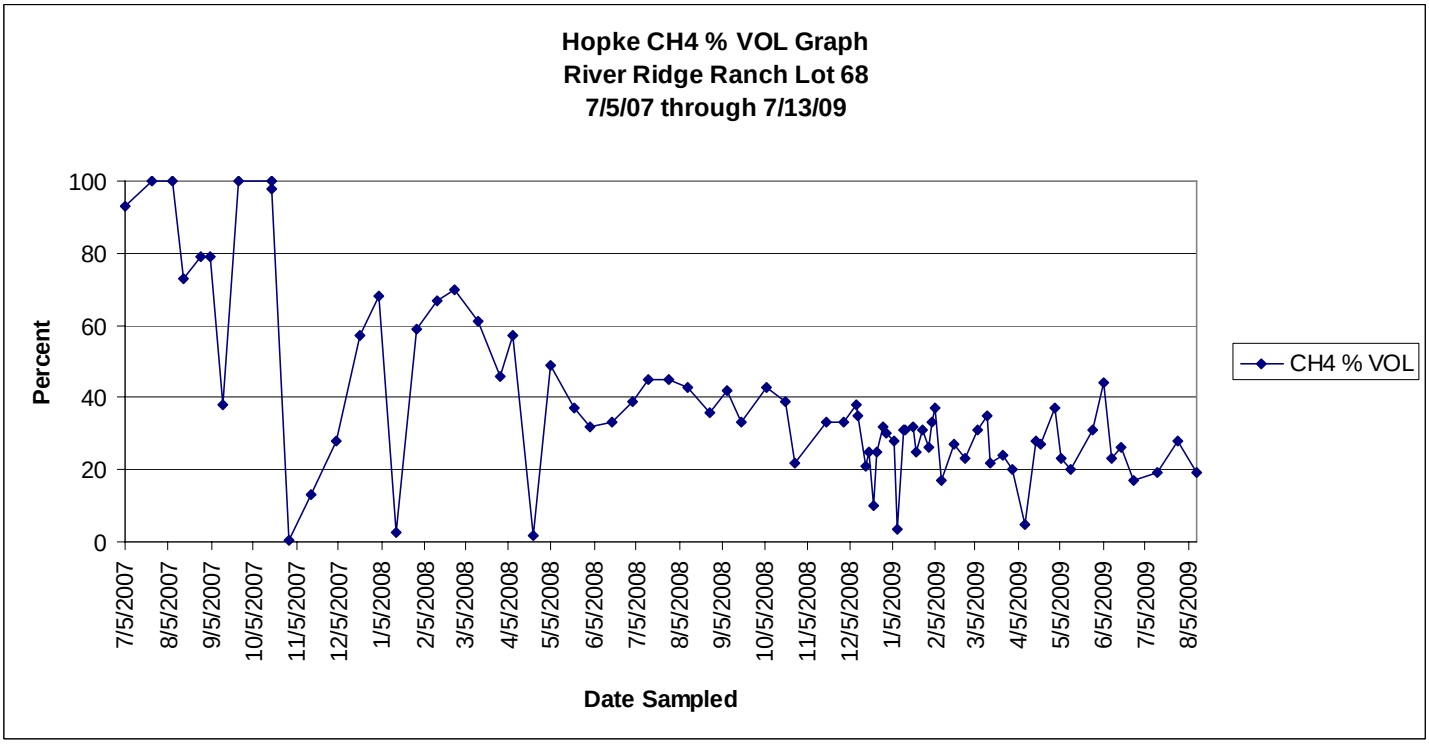

McPherson % LEL Graph
7/6/07 through 8/10/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
% LEL

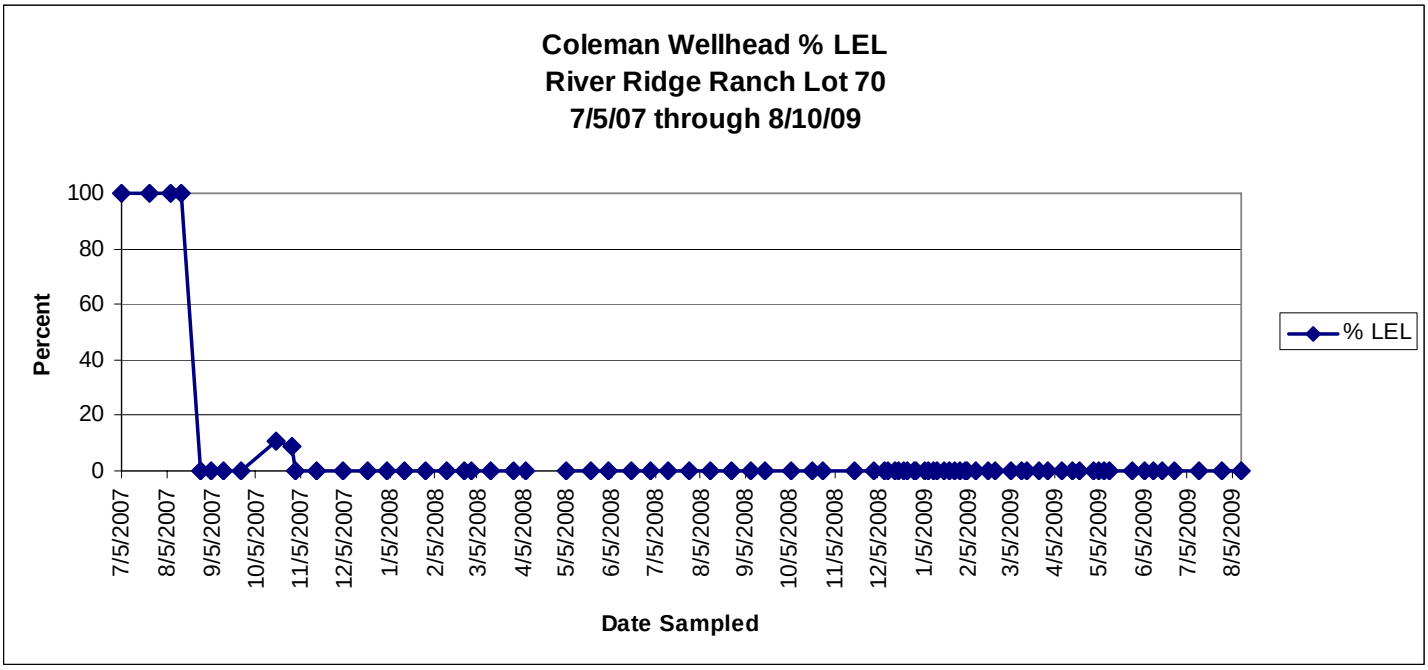

McPherson CH4 % VOL Graph
7/6/07 through 8/10/09
Percent
5
4
3
2
1
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
CH4 % VOL

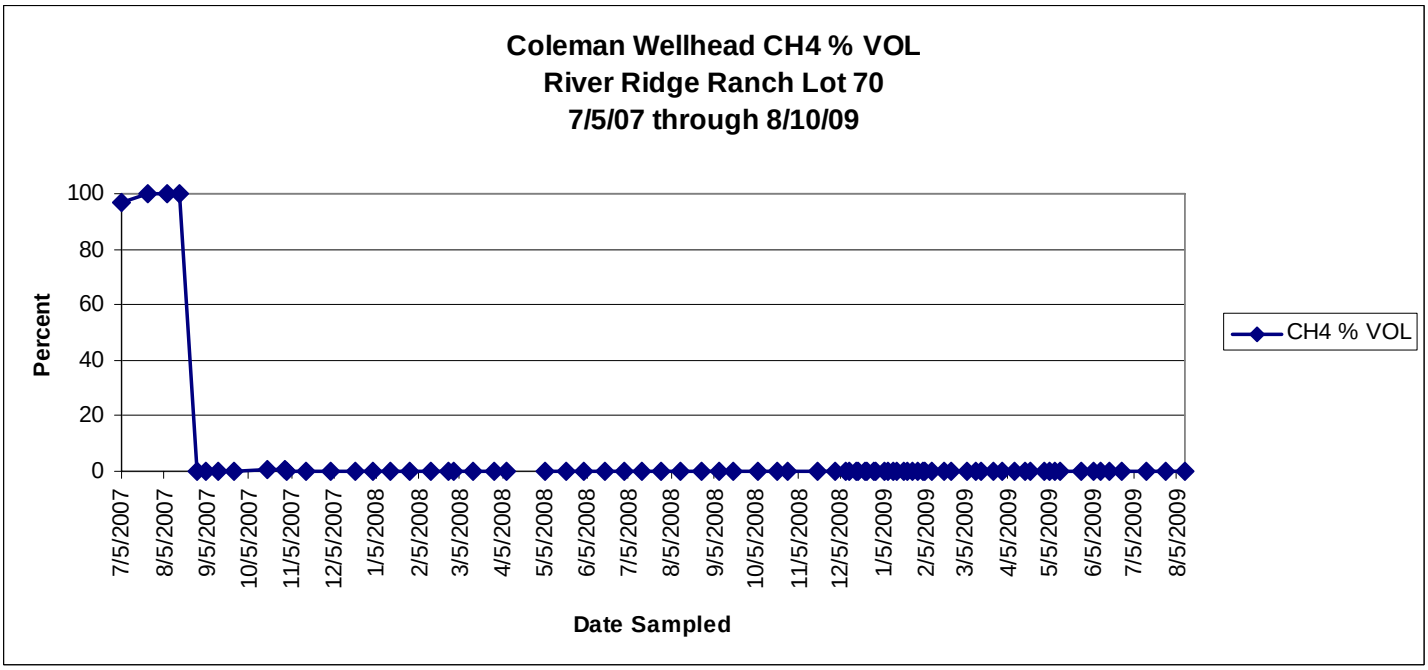

Houghtling % LEL Graph
River Ridge Ranch Lot 52
7/24/07 through 8/10/09
Percent
Date Sampled
% LEL

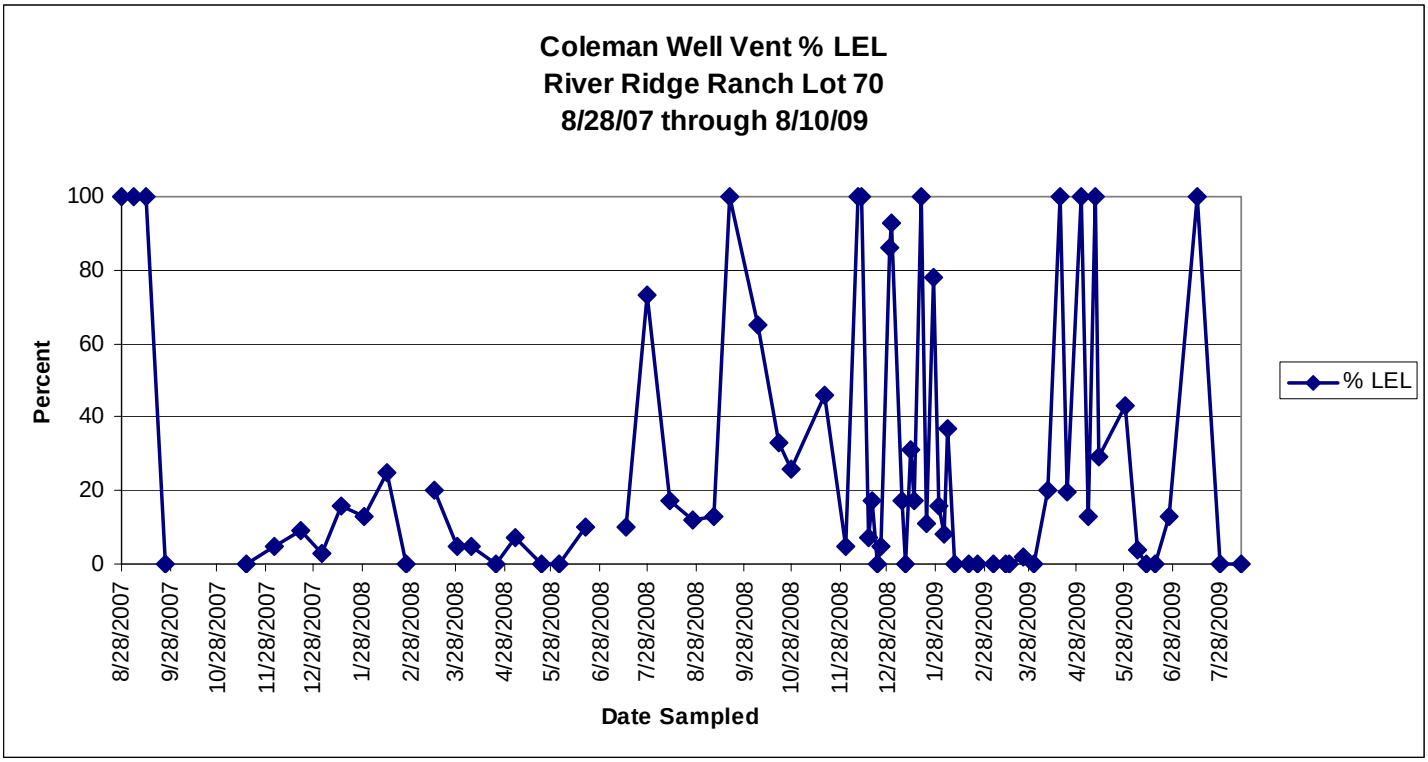

Houghtling CH4 % VOL Graph
River Ridge Ranch Lot 52
7/24/07 through 8/10/09
Percent
Date Sampled
CH4 % VOL

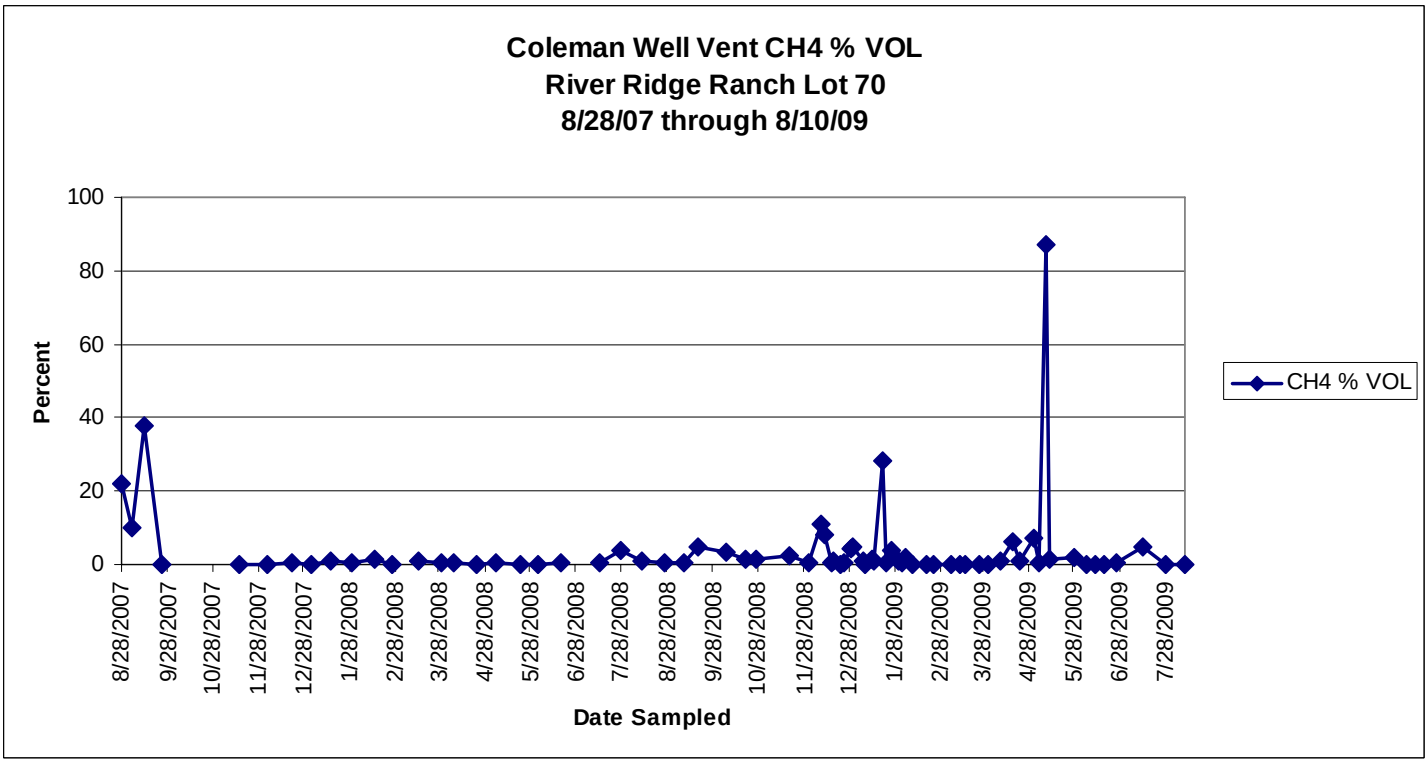

Hopke % LEL Graph
River Ridge Ranch Lot 68
7/5/07 through 7/13/09
Percent
100
80
60
40
20
0
7/5/2007
8/5/2007
9/5/2007
10/5/2007
11/5/2007
12/5/2007
1/5/2008
2/5/2008
3/5/2008
4/5/2008
5/5/2008
6/5/2008
7/5/2008
8/5/2008
9/5/2008
10/5/2008
11/5/2008
12/5/2008
1/5/2009
2/5/2009
3/5/2009
4/5/2009
5/5/2009
6/5/2009
7/5/2009
8/5/2009
Date Sampled
% LEL

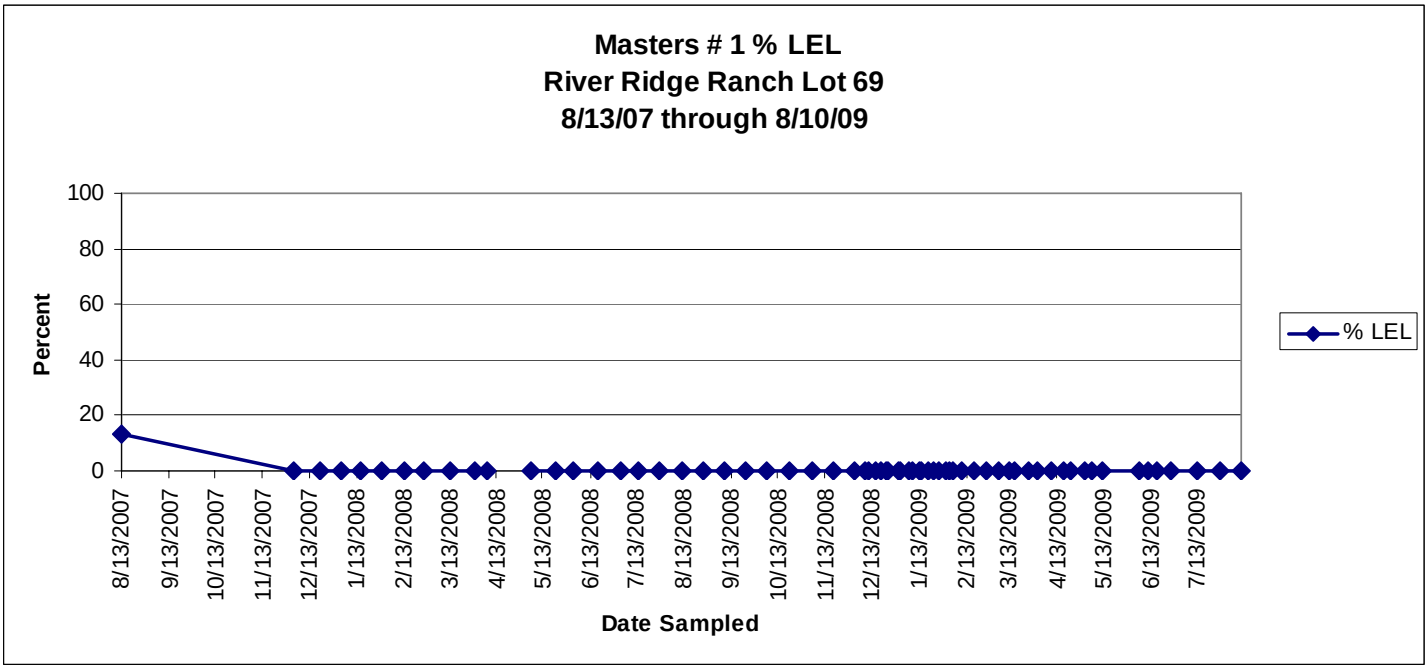

Hopke CH4 % VOL Graph
River Ridge Ranch Lot 68
7/5/07 through 7/13/09
Percent
100
80
60
40
20
0
7/5/2007
8/5/2007
9/5/2007
10/5/2007
11/5/2007
12/5/2007
1/5/2008
2/5/2008
3/5/2008
4/5/2008
5/5/2008
6/5/2008
7/5/2008
8/5/2008
9/5/2008
10/5/2008
11/5/2008
12/5/2008
1/5/2009
2/5/2009
3/5/2009
4/5/2009
5/5/2009
6/5/2009
7/5/2009
8/5/2009
Date Sampled
CH4 % VOL

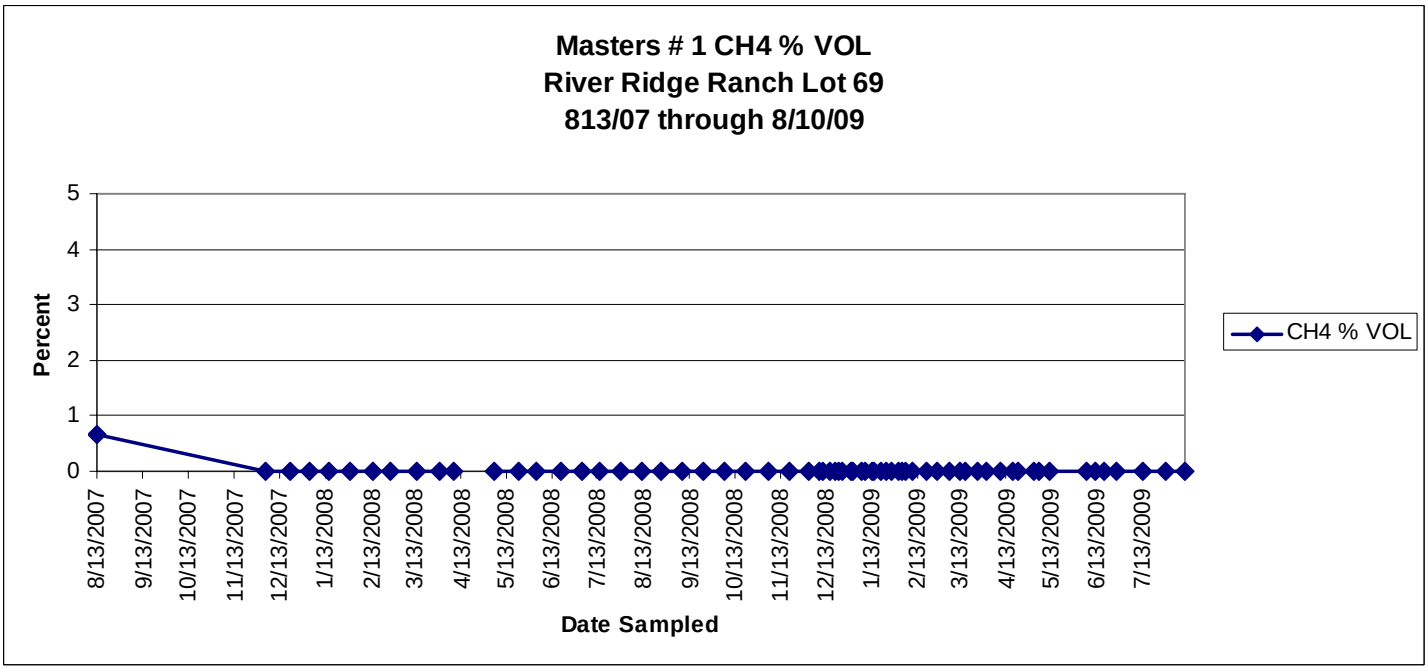

Coleman Wellhead % LEL
River Ridge Ranch Lot 70
7/5/07 through 8/10/09
Percent
100
80
60
40
20
0
7/5/2007
8/5/2007
9/5/2007
10/5/2007
11/5/2007
12/5/2007
1/5/2008
2/5/2008
3/5/2008
4/5/2008
5/5/2008
6/5/2008
7/5/2008
8/5/2008
9/5/2008
10/5/2008
11/5/2008
12/5/2008
1/5/2009
2/5/2009
3/5/2009
4/5/2009
5/5/2009
6/5/2009
7/5/2009
8/5/2009
Date Sampled
% LEL

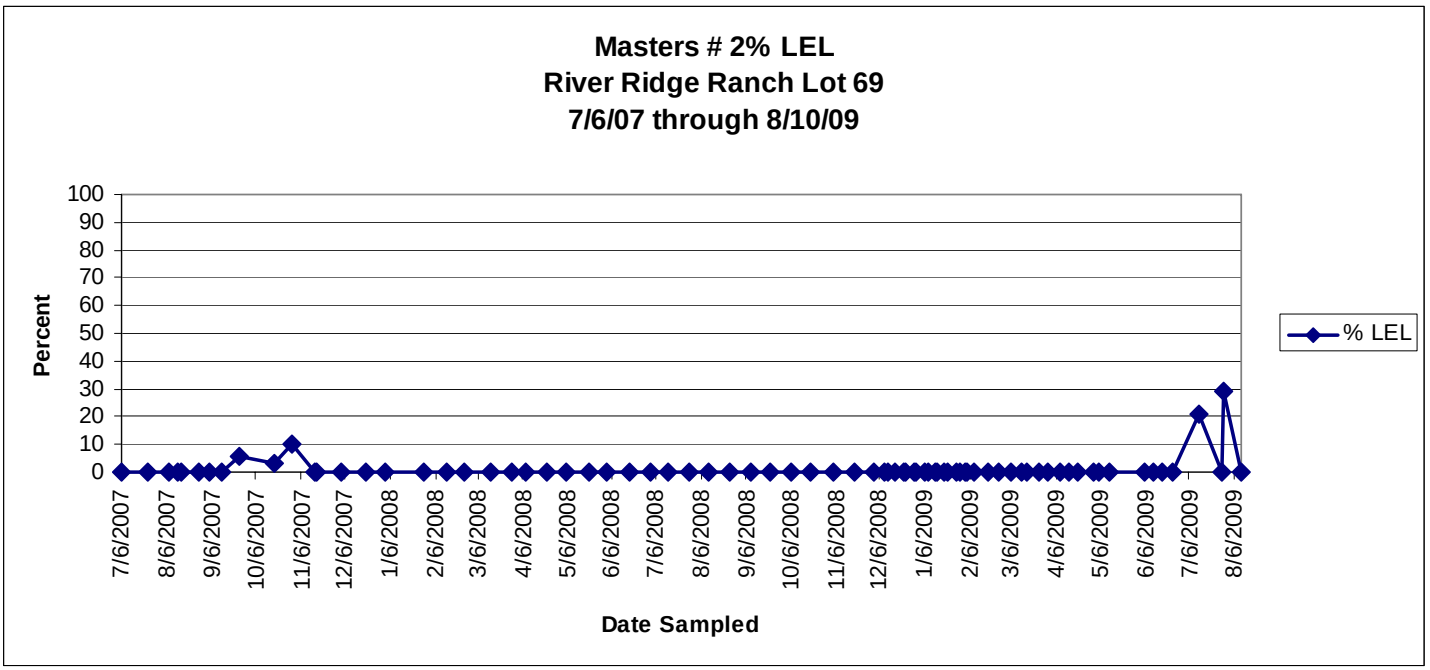

Coleman Wellhead CH4 % VOL
River Ridge Ranch Lot 70
7/5/07 through 8/10/09
Percent
100
80
60
40
20
0
7/5/2007
8/5/2007
9/5/2007
10/5/2007
11/5/2007
12/5/2007
1/5/2008
2/5/2008
3/5/2008
4/5/2008
5/5/2008
6/5/2008
7/5/2008
8/5/2008
9/5/2008
10/5/2008
11/5/2008
12/5/2008
1/5/2009
2/5/2009
3/5/2009
4/5/2009
5/5/2009
6/5/2009
7/5/2009
8/5/2009
Date Sampled
CH4 % VOL

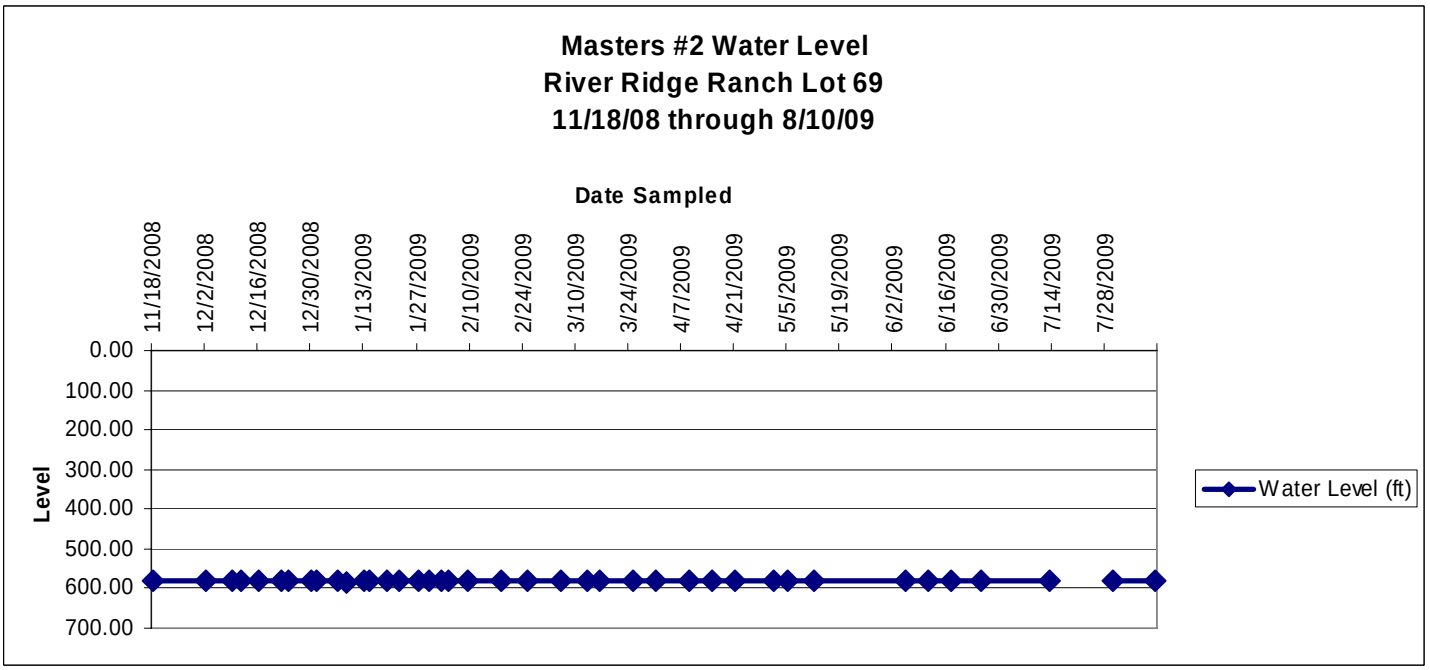

Coleman Well Vent % LEL
River Ridge Ranch Lot 70
8/28/07 through 8/10/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
% LEL

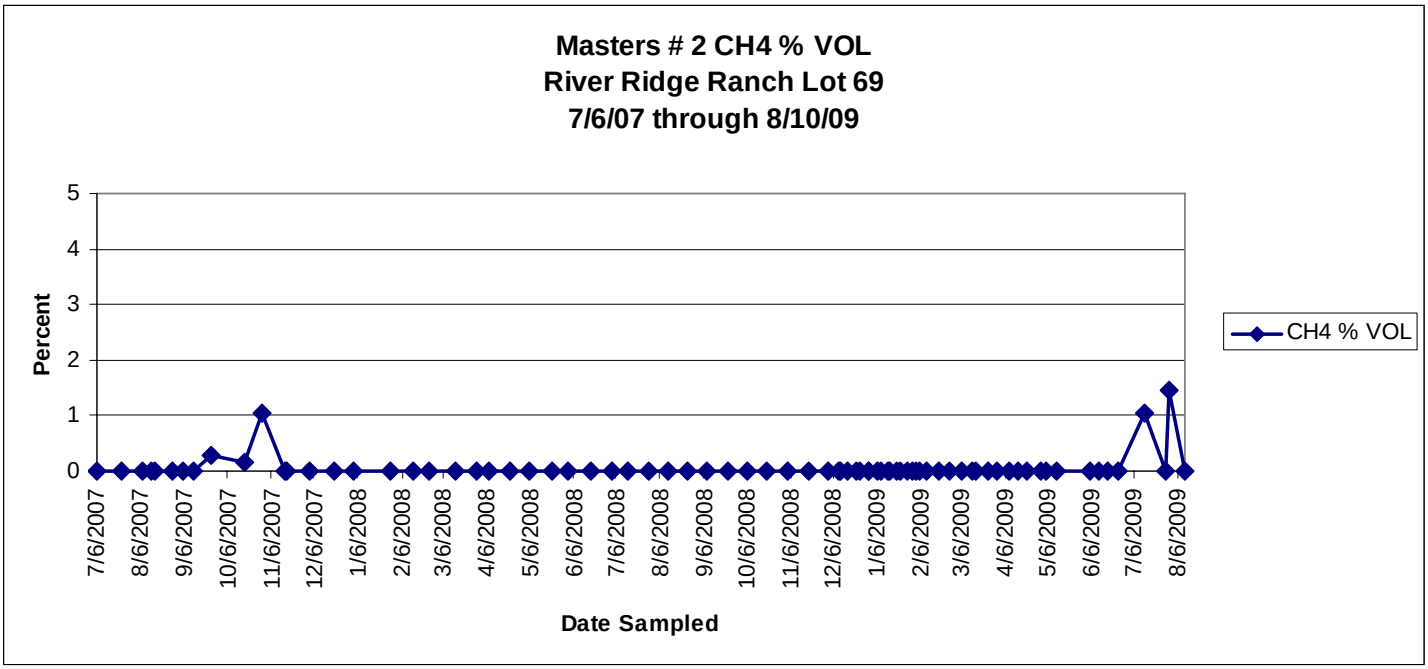

Coleman Well Vent CH4 % VOL
River Ridge Ranch Lot 70
8/28/07 through 8/10/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
CH4 % VOL

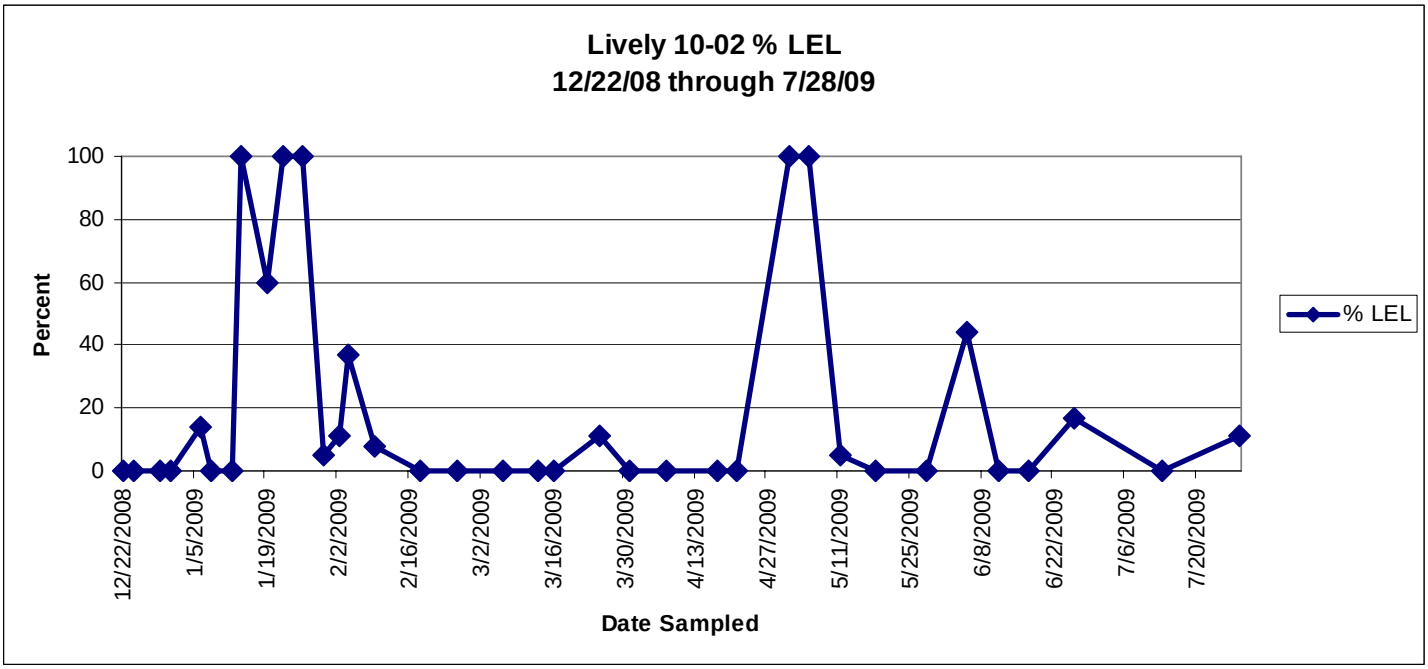

Masters # 1 % LEL
River Ridge Ranch Lot 69
8/13/07 through 8/10/09
Percent
100
80
60
40
20
0
8/13/2007
9/13/2007
10/13/2007
11/13/2007
12/13/2007
1/13/2008
2/13/2008
3/13/2008
4/13/2008
5/13/2008
6/13/2008
7/13/2008
8/13/2008
9/13/2008
10/13/2008
11/13/2008
12/13/2008
1/13/2009
2/13/2009
3/13/2009
4/13/2009
5/13/2009
6/13/2009
7/13/2009
Date Sampled
% LEL

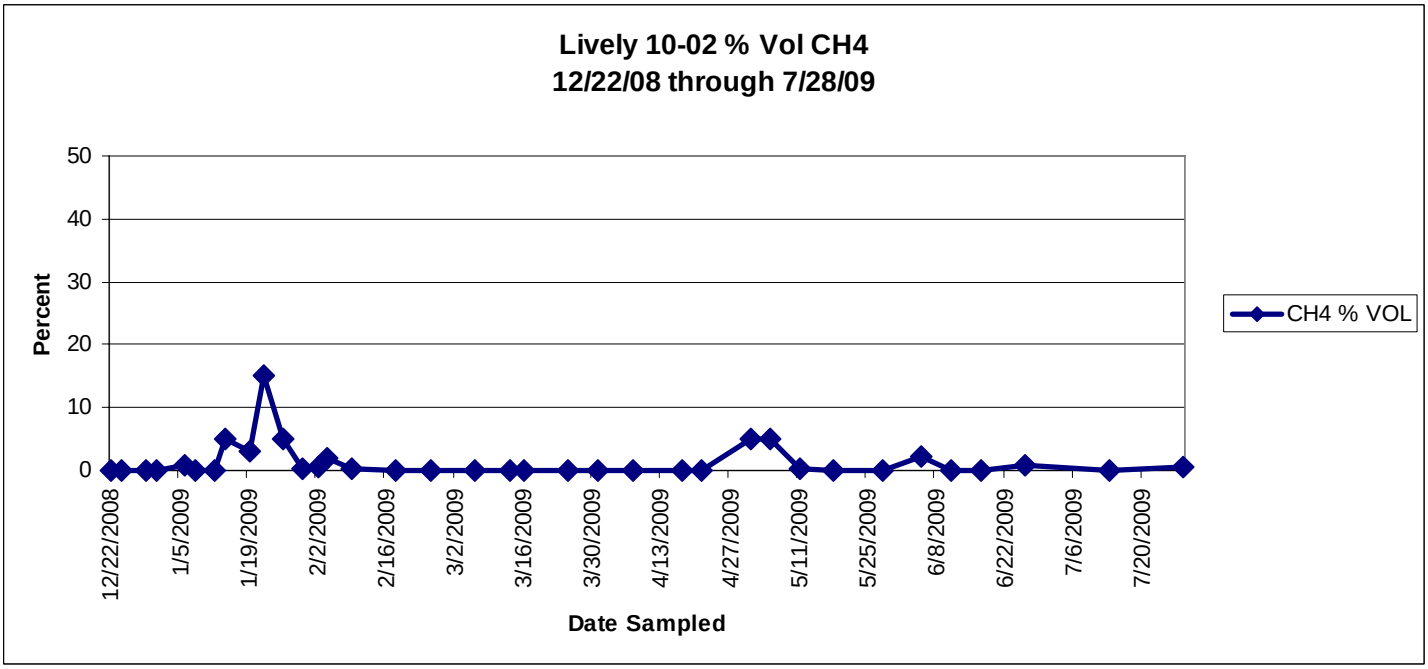

Masters # 1 CH4 % VOL
River Ridge Ranch Lot 69
813/07 through 8/10/09
Percent
5
4
3
2
1
0
8/13/2007
9/13/2007
10/13/2007
11/13/2007
12/13/2007
1/13/2008
2/13/2008
3/13/2008
4/13/2008
5/13/2008
6/13/2008
7/13/2008
8/13/2008
9/13/2008
10/13/2008
11/13/2008
12/13/2008
1/13/2009
2/13/2009
3/13/2009
4/13/2009
5/13/2009
6/13/2009
7/13/2009
Date Sampled
CH4 % VOL

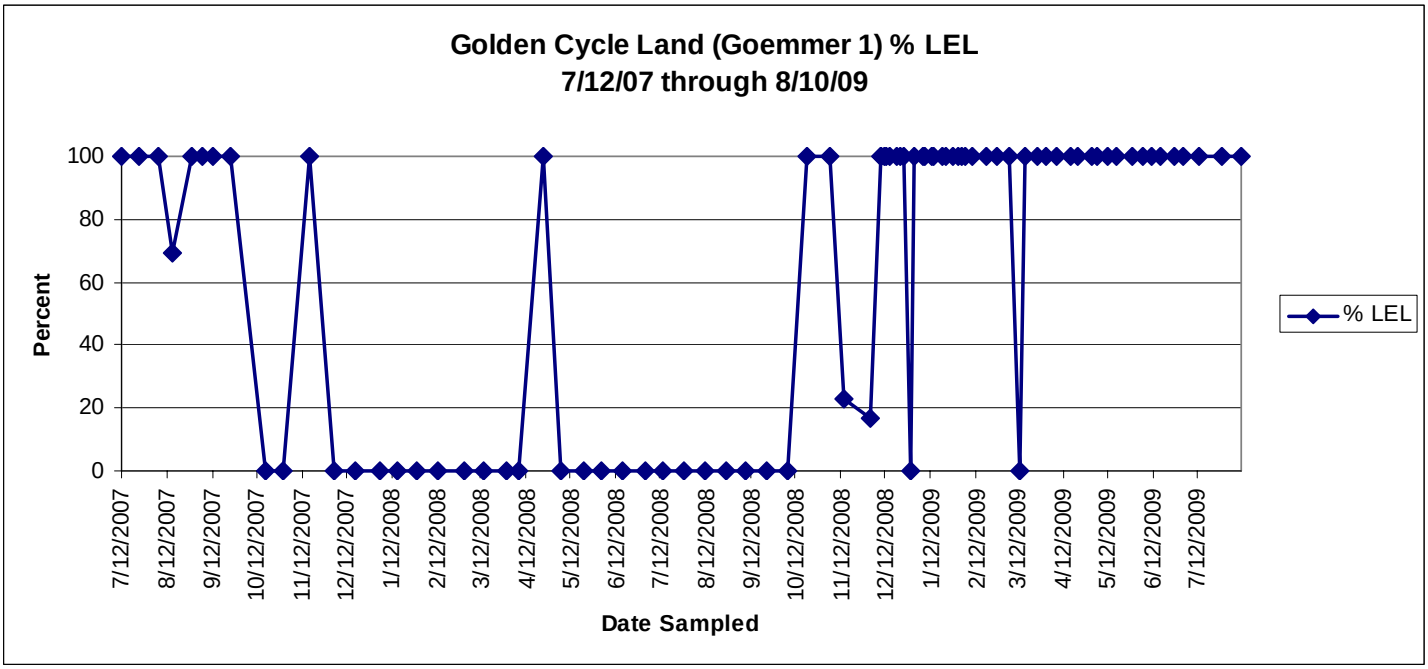

Masters # 2% LEL
River Ridge Ranch Lot 69
7/6/07 through 8/10/09
Percent
100
90
80
70
60
50
40
30
20
10
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
% LEL

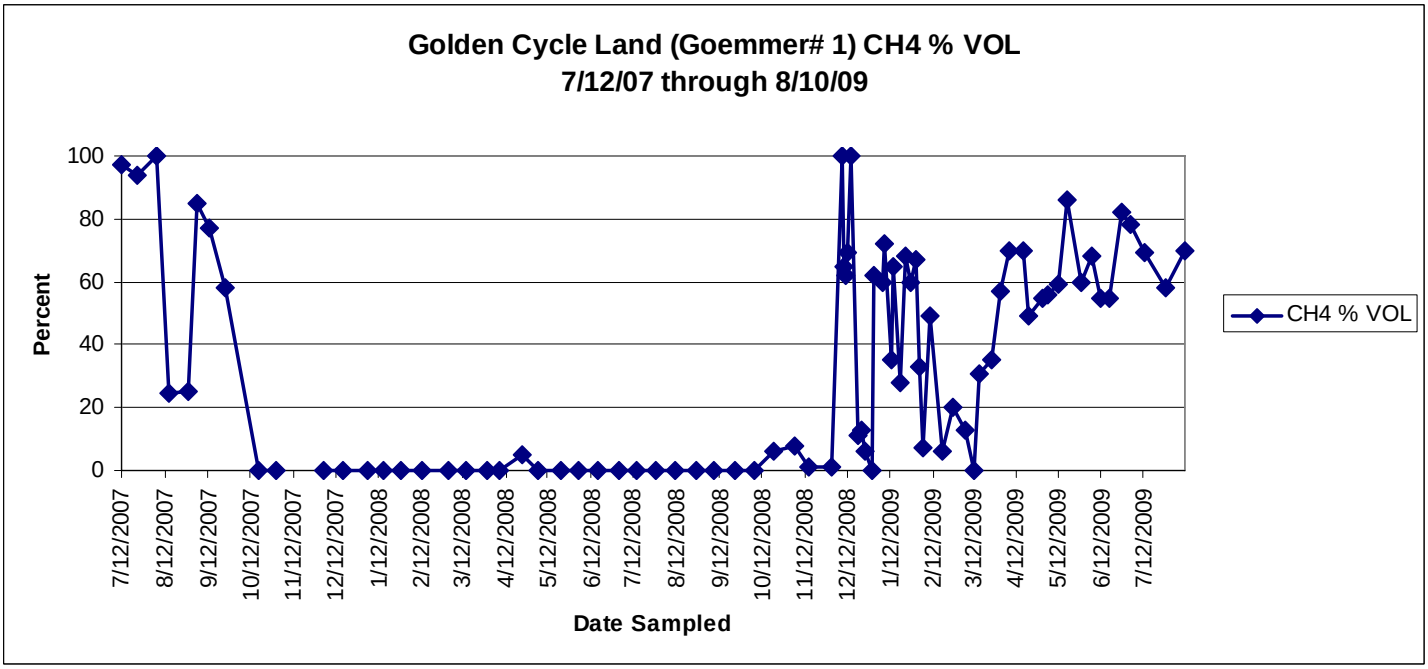

Masters #2 Water Level
River Ridge Ranch Lot 69
11/18/08 through 8/10/09
Date Sampled
11/18/2008
12/2/2008
12/16/2008
12/30/2008
1/13/2009
1/27/2009
2/10/2009
2/24/2009
3/10/2009
3/24/2009
4/7/2009
4/21/2009
5/5/2009
5/19/2009
6/2/2009
6/16/2009
6/30/2009
7/14/2009
7/28/2009
Level
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
Water Level (ft)

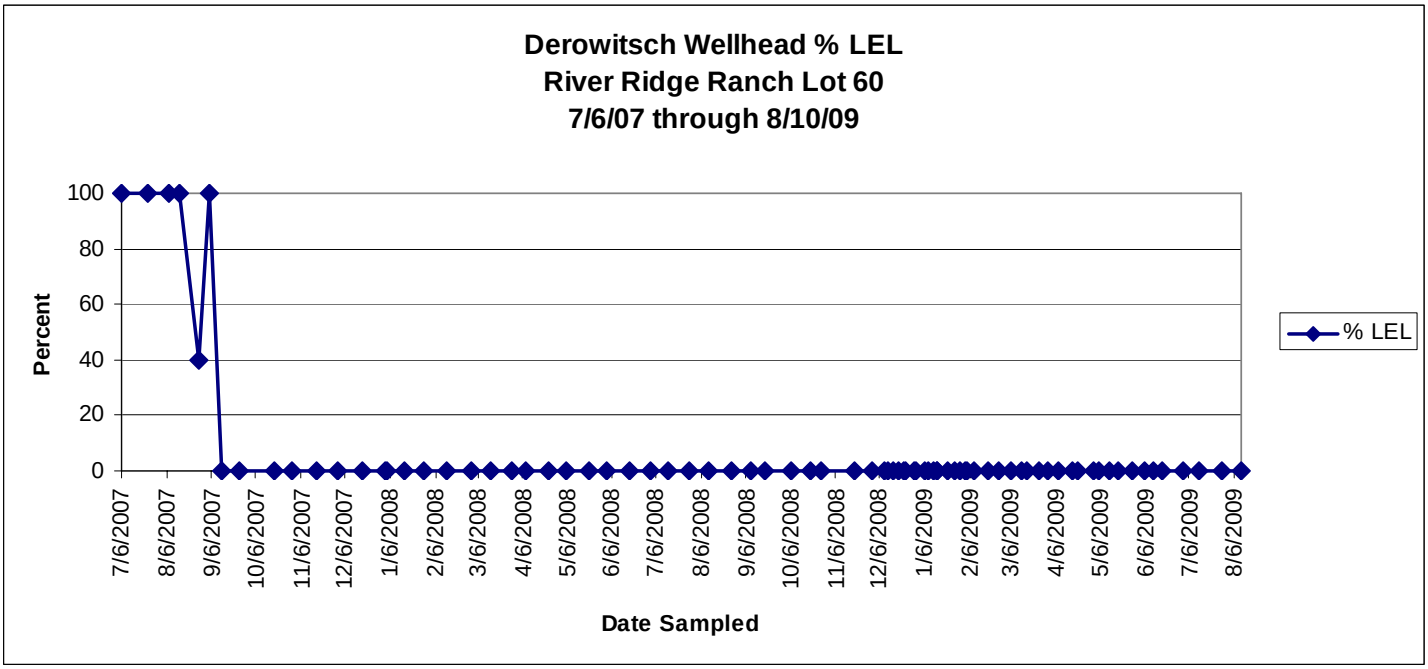

Masters # 2 CH4 % VOL
River Ridge Ranch Lot 69
7/6/07 through 8/10/09
Percent
5
4
3
2
1
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
CH4 % VOL

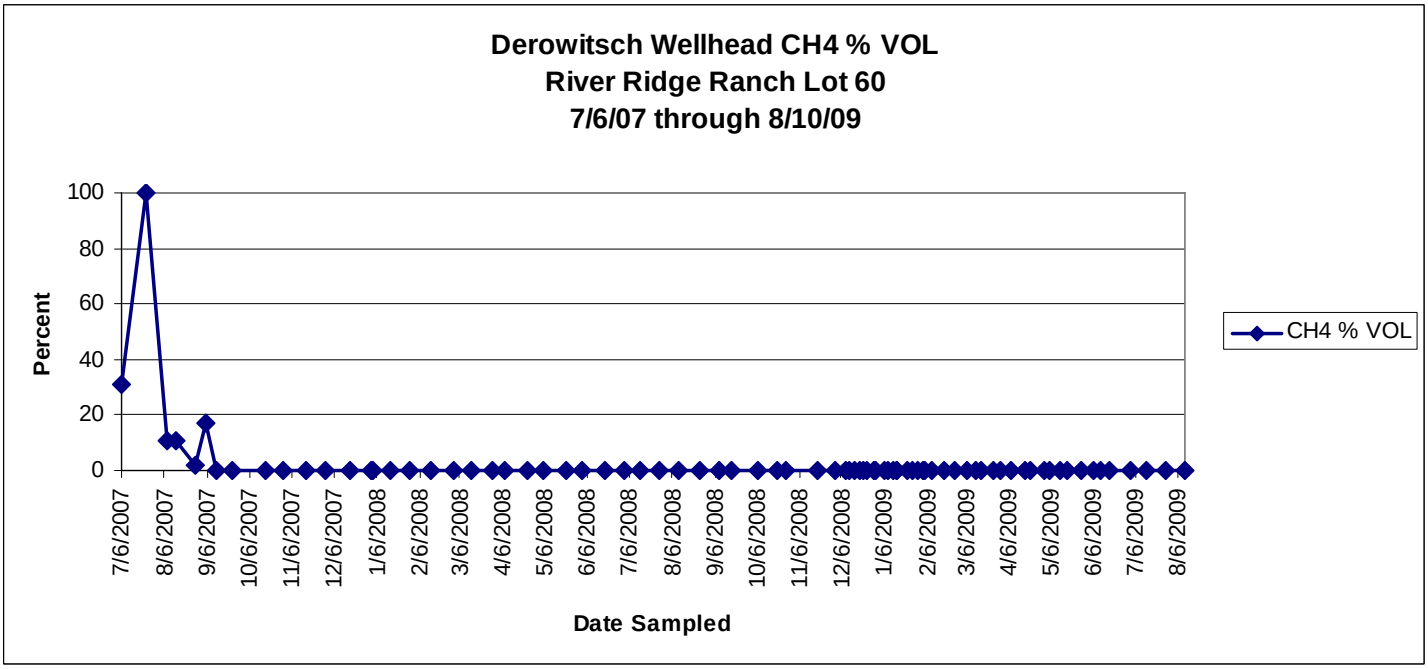

Lively 10-02 % LEL
12/22/08 through 7/28/09
Percent
100
80
60
40
20
0
12/22/2008
1/5/2009
1/19/2009
2/2/2009
2/16/2009
3/2/2009
3/16/2009
3/30/2009
4/13/2009
4/27/2009
5/11/2009
5/25/2009
6/8/2009
6/22/2009
7/6/2009
7/20/2009
Date Sampled
% LEL

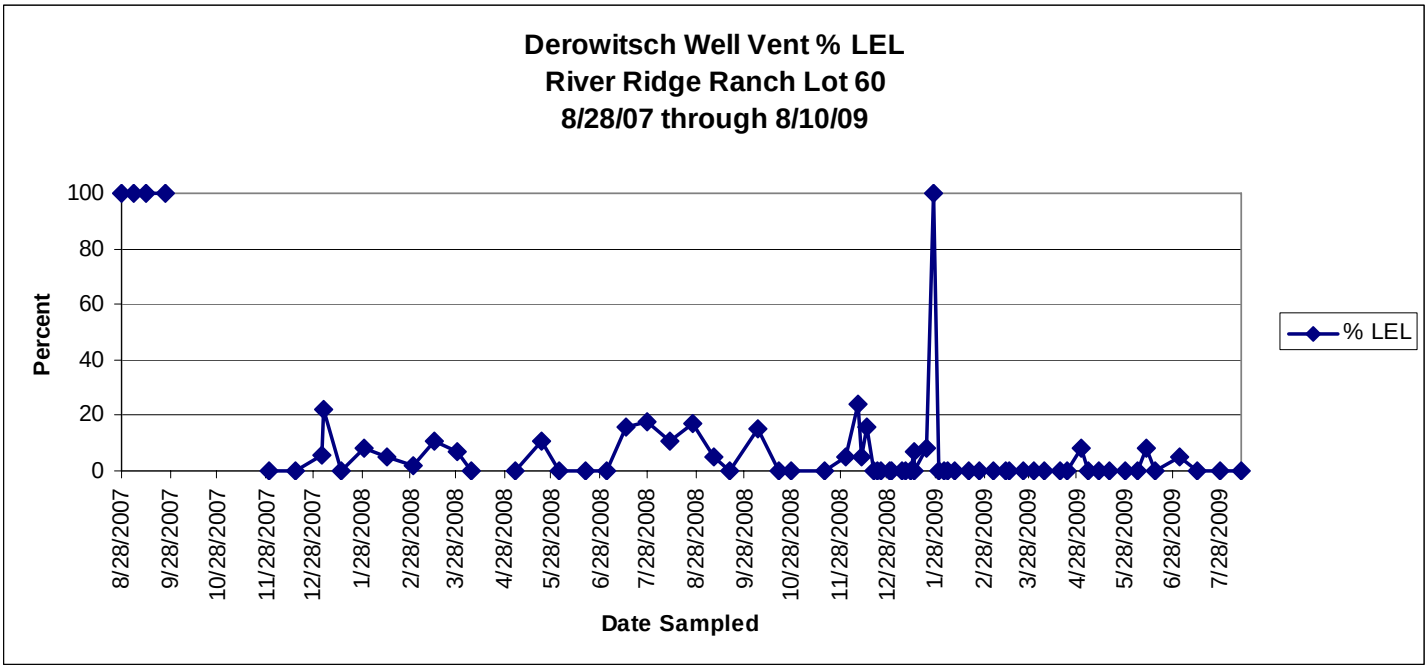

Lively 10-02 % Vol CH4
12/22/08 through 7/28/09
Percent
50
40
30
20
10
0
12/22/2008
1/5/2009
1/19/2009
2/2/2009
2/16/2009
3/2/2009
3/16/2009
3/30/2009
4/13/2009
4/27/2009
5/11/2009
5/25/2009
6/8/2009
6/22/2009
7/6/2009
7/20/2009
Date Sampled
CH4 % VOL

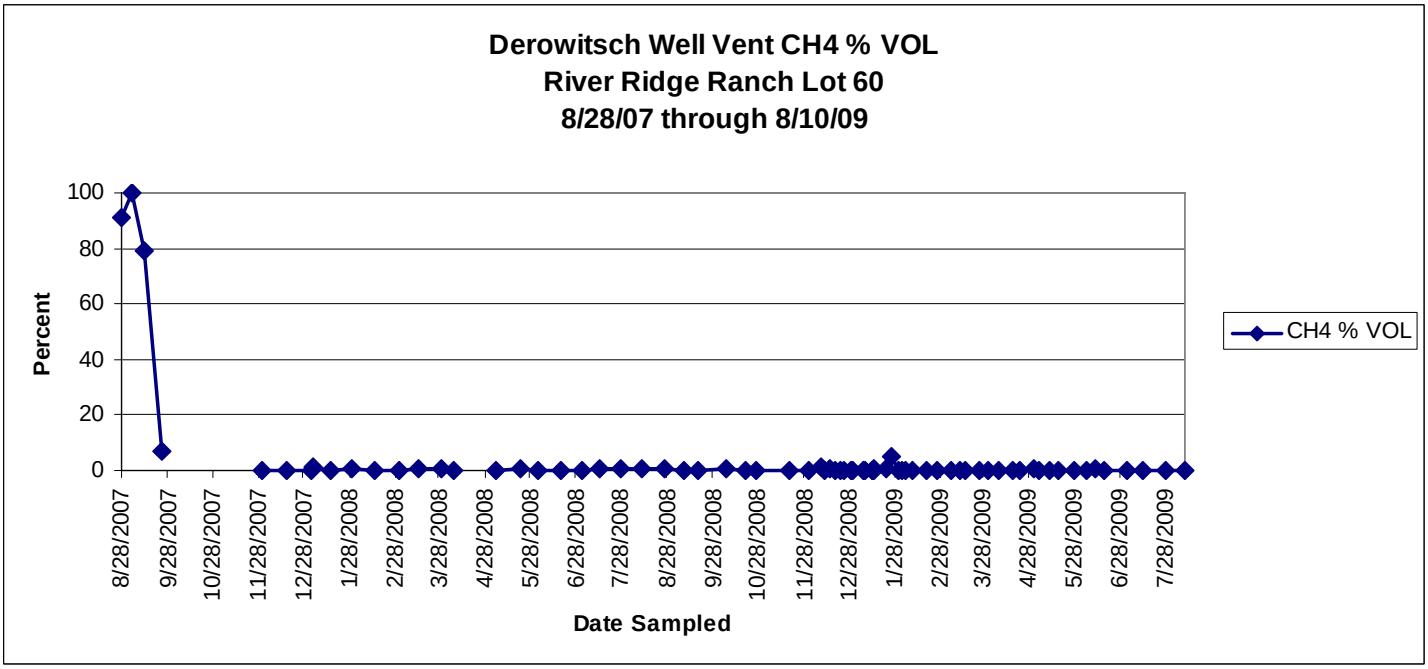

Golden Cycle Land (Goemmer 1) % LEL
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
% LEL

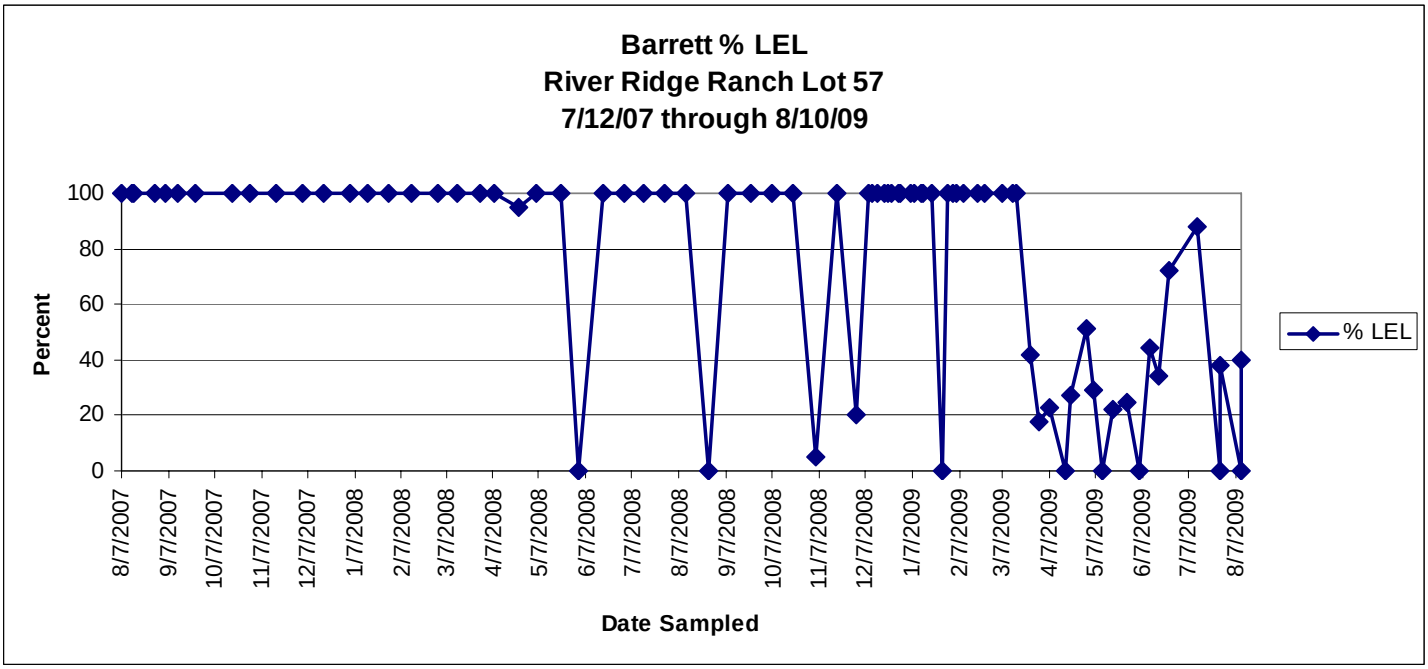

Golden Cycle Land (Goemmer# 1) CH4 % VOL
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
CH4 % VOL

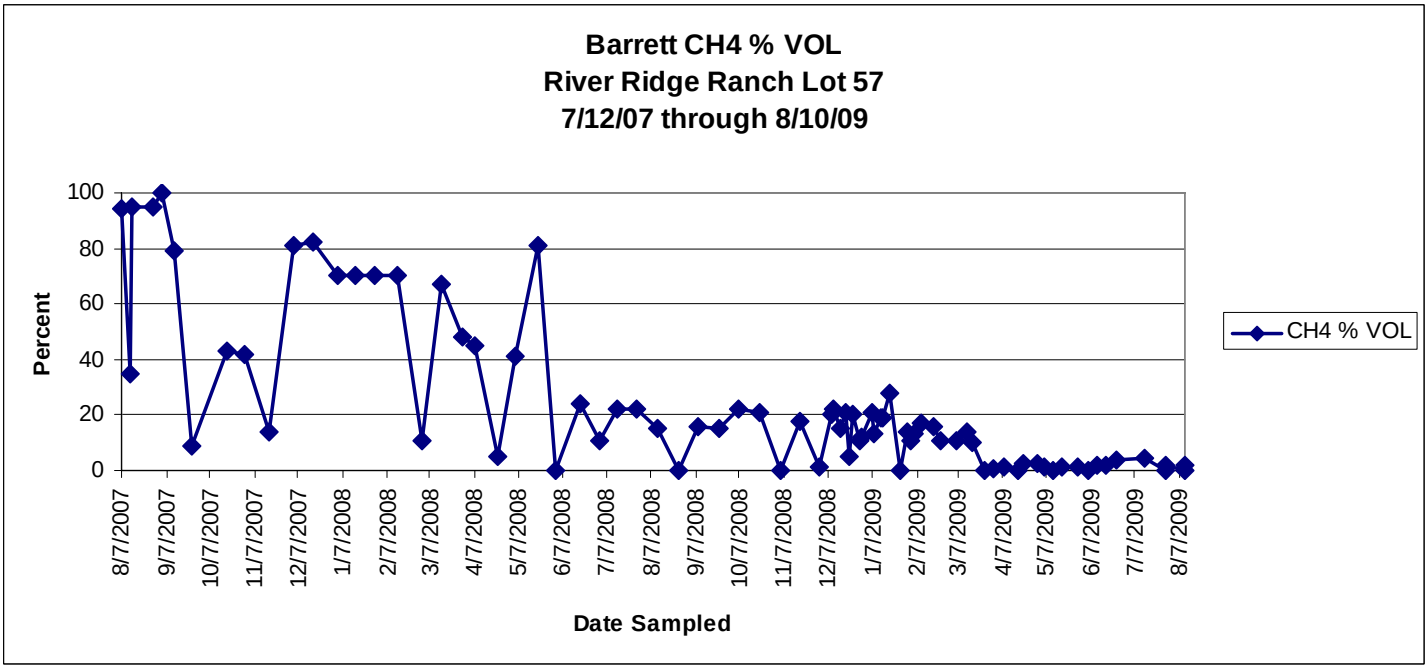

Derowitsch Wellhead % LEL
River Ridge Ranch Lot 60
7/6/07 through 8/10/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
% LEL

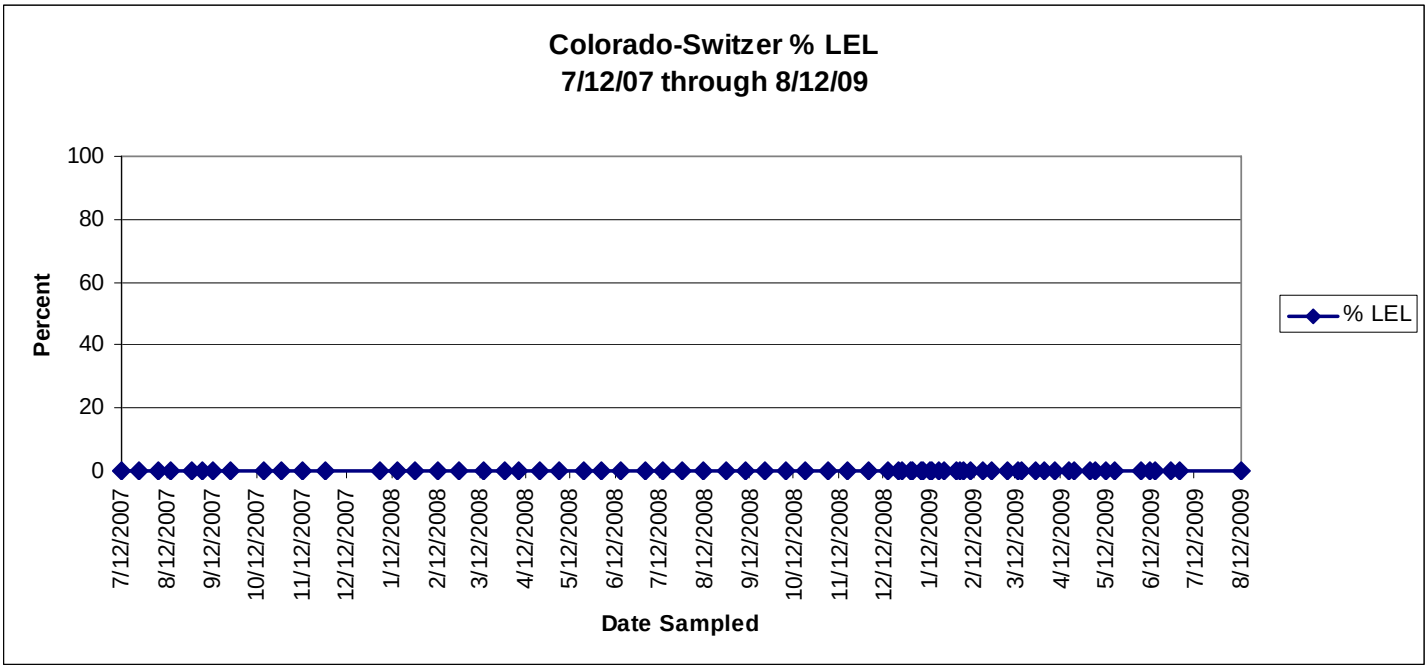

Derowitsch Wellhead CH4 % VOL
River Ridge Ranch Lot 60
7/6/07 through 8/10/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
CH4 % VOL

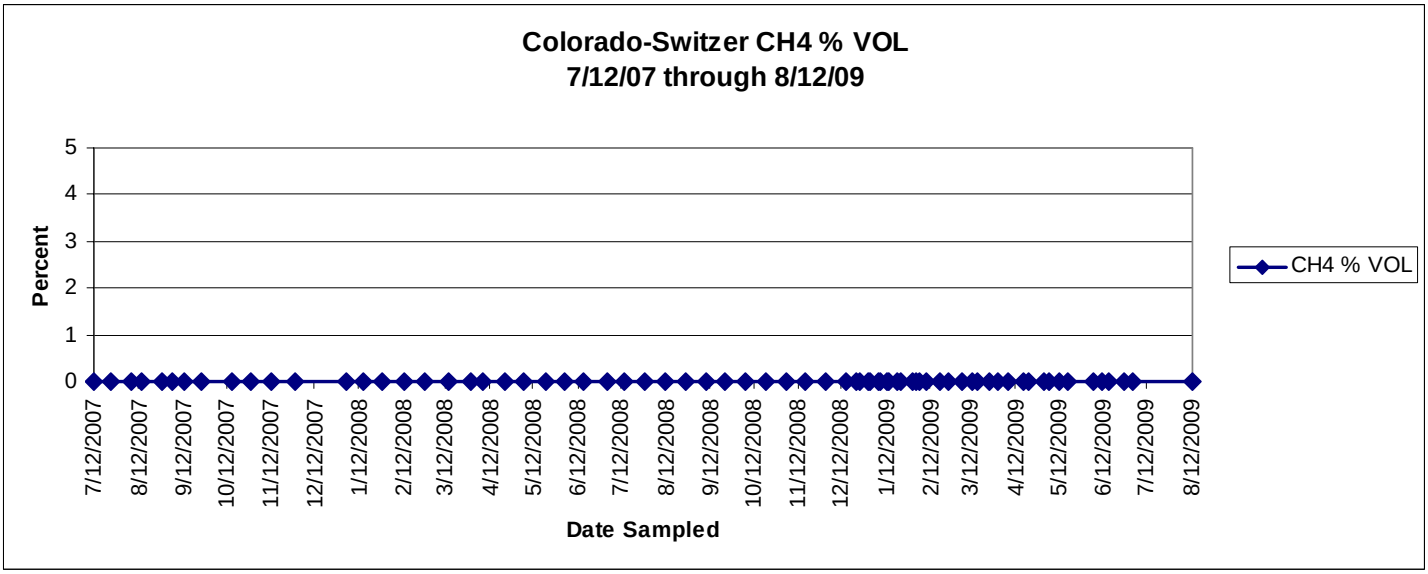

Derowitsch Well Vent % LEL
River Ridge Ranch Lot 60
8/28/07 through 8/10/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
% LEL

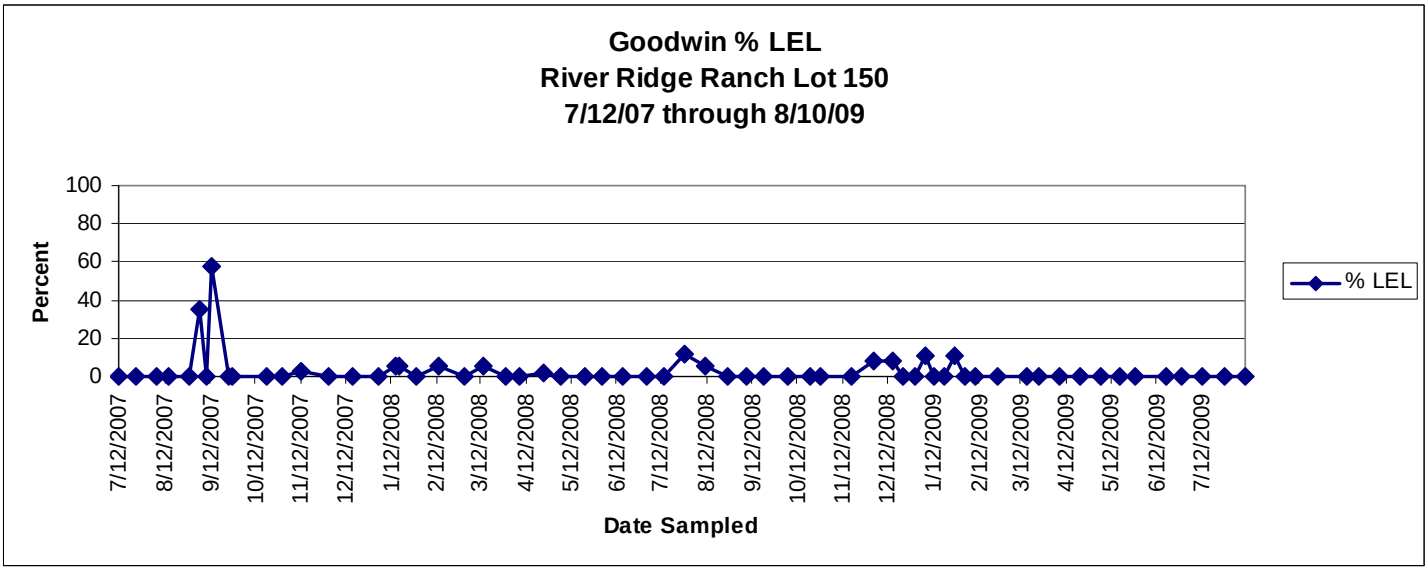

Derowitsch Well Vent CH4 % VOL
River Ridge Ranch Lot 60
8/28/07 through 8/10/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
CH4 % VOL

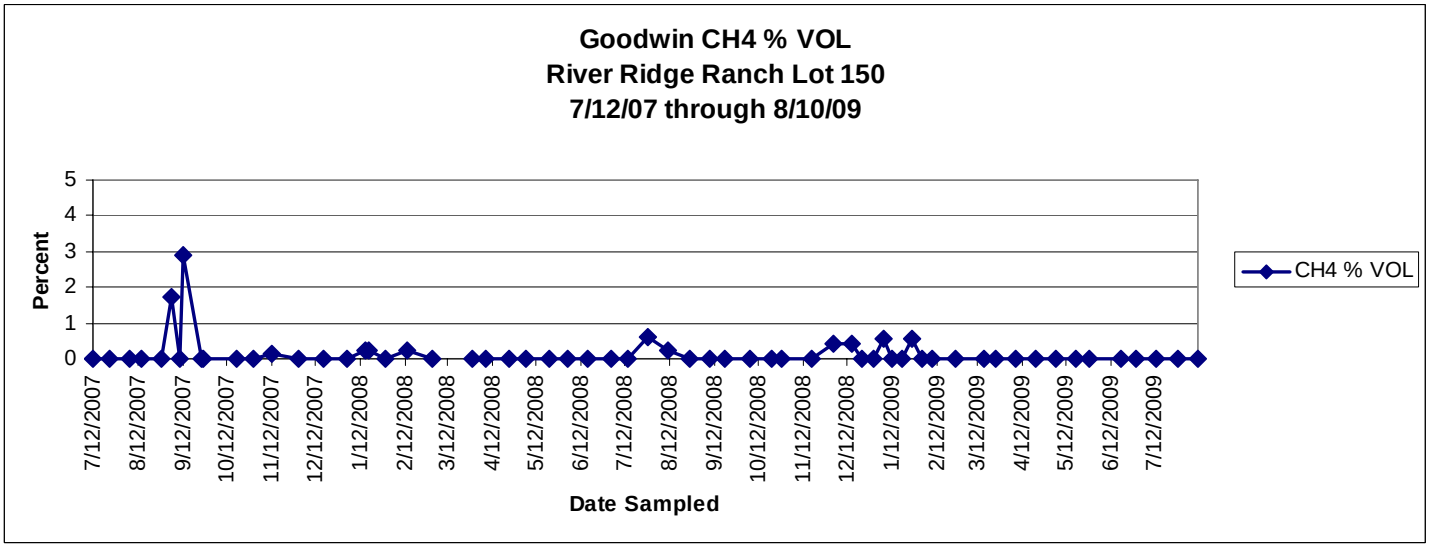

Barrett % LEL
River Ridge Ranch Lot 57
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
8/7/2007
9/7/2007
10/7/2007
11/7/2007
12/7/2007
1/7/2008
2/7/2008
3/7/2008
4/7/2008
5/7/2008
6/7/2008
7/7/2008
8/7/2008
9/7/2008
10/7/2008
11/7/2008
12/7/2008
1/7/2009
2/7/2009
3/7/2009
4/7/2009
5/7/2009
6/7/2009
7/7/2009
8/7/2009
Date Sampled
% LEL

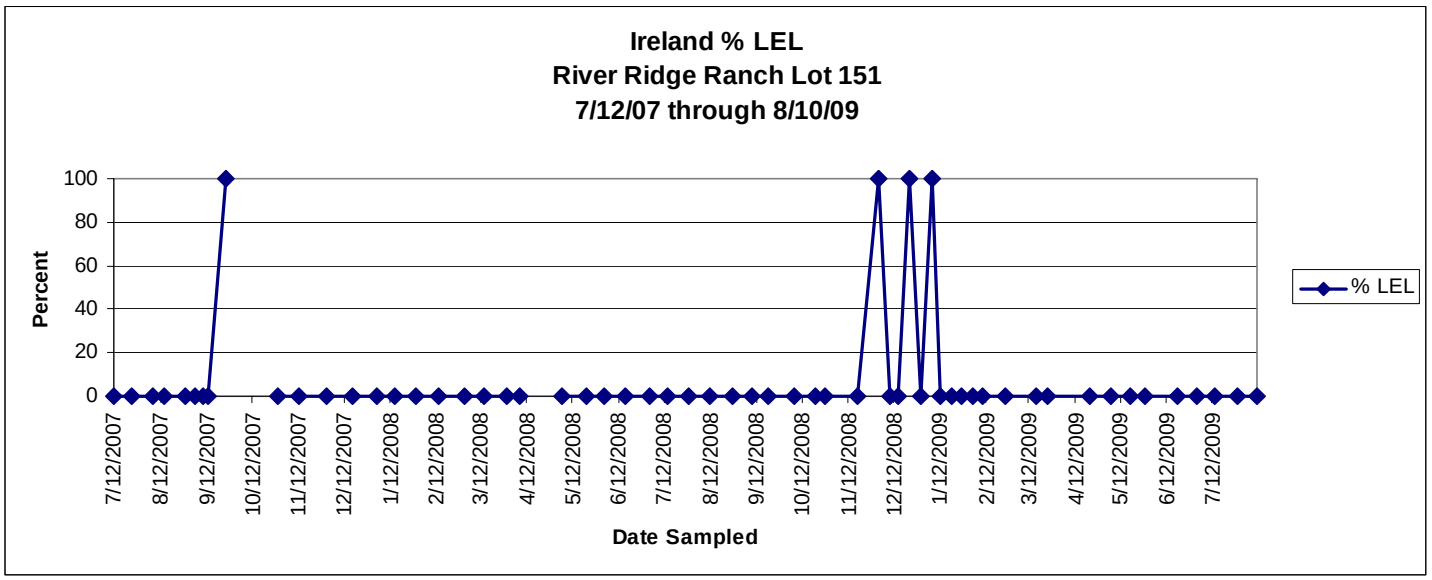

Barrett CH4 % VOL
River Ridge Ranch Lot 57
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
8/7/2007
9/7/2007
10/7/2007
11/7/2007
12/7/2007
1/7/2008
2/7/2008
3/7/2008
4/7/2008
5/7/2008
6/7/2008
7/7/2008
8/7/2008
9/7/2008
10/7/2008
11/7/2008
12/7/2008
1/7/2009
2/7/2009
3/7/2009
4/7/2009
5/7/2009
6/7/2009
7/7/2009
8/7/2009
Date Sampled
CH4 % VOL

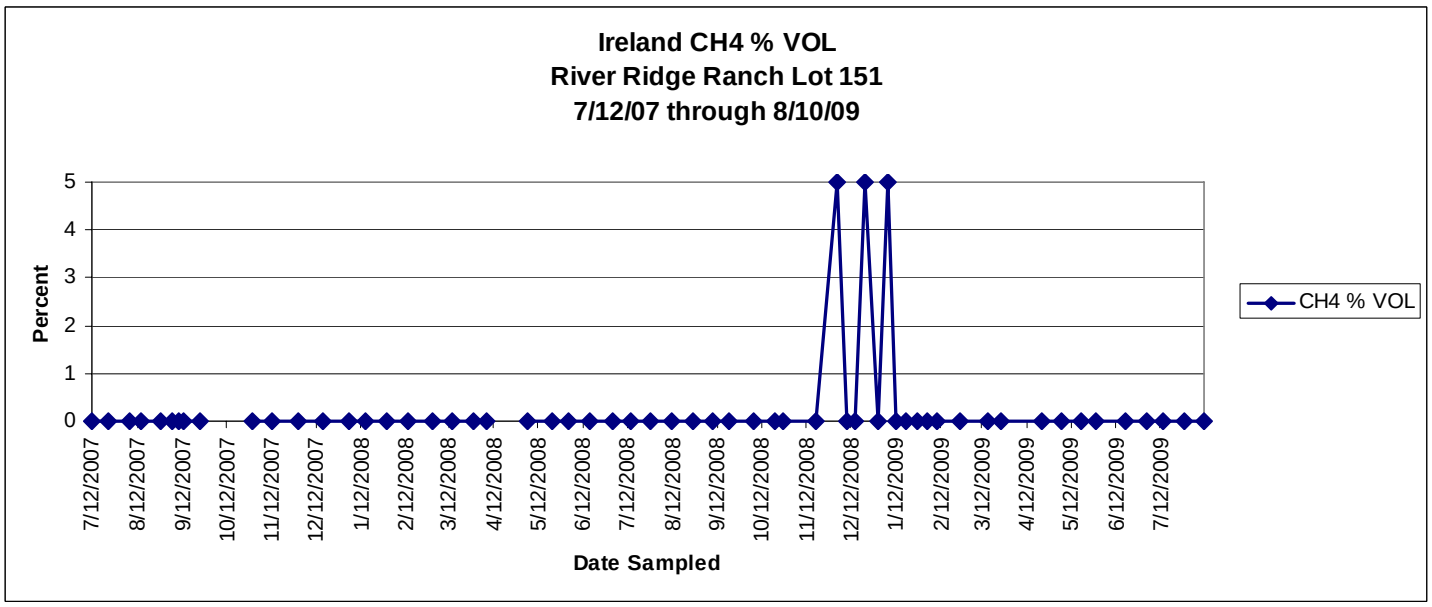

Colorado-Switzer % LEL
7/12/07 through 8/12/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
8/12/2009
Date Sampled
% LEL

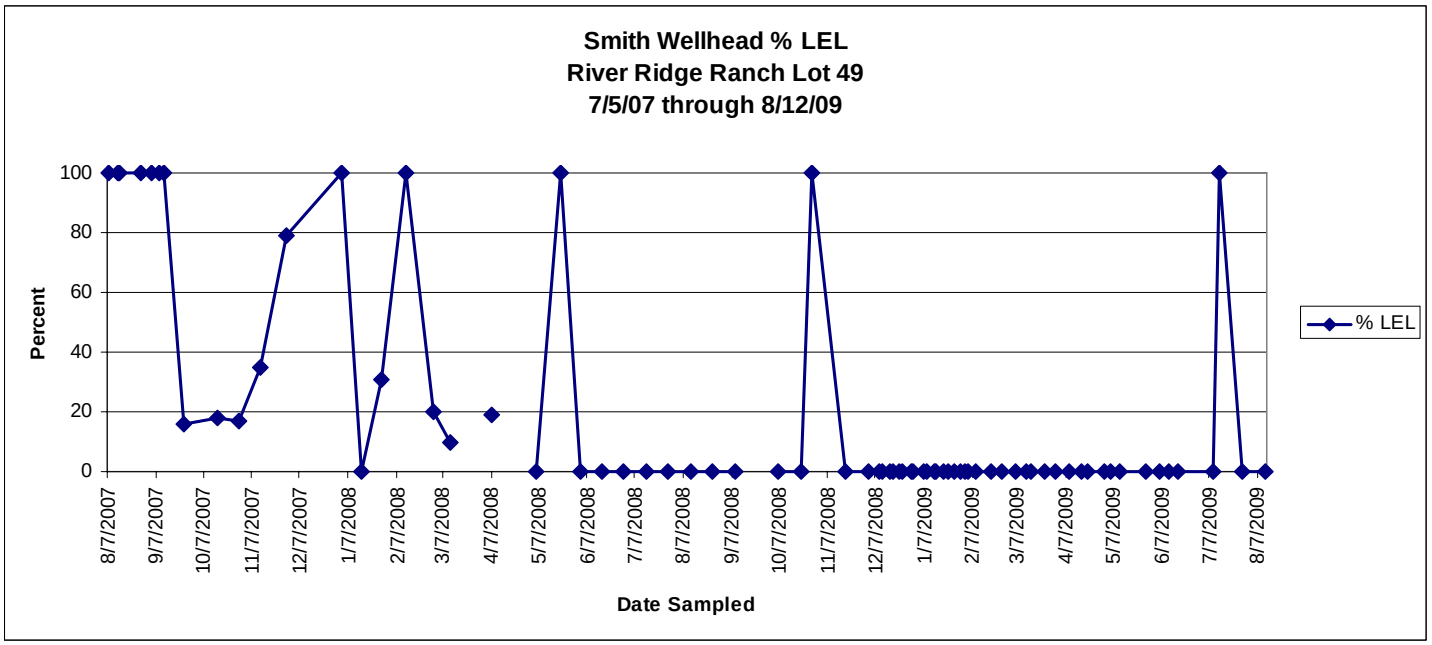

Colorado-Switzer CH4 % VOL
7/12/07 through 8/12/09
Percent
5
4
3
2
1
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
8/12/2009
Date Sampled
CH4 % VOL

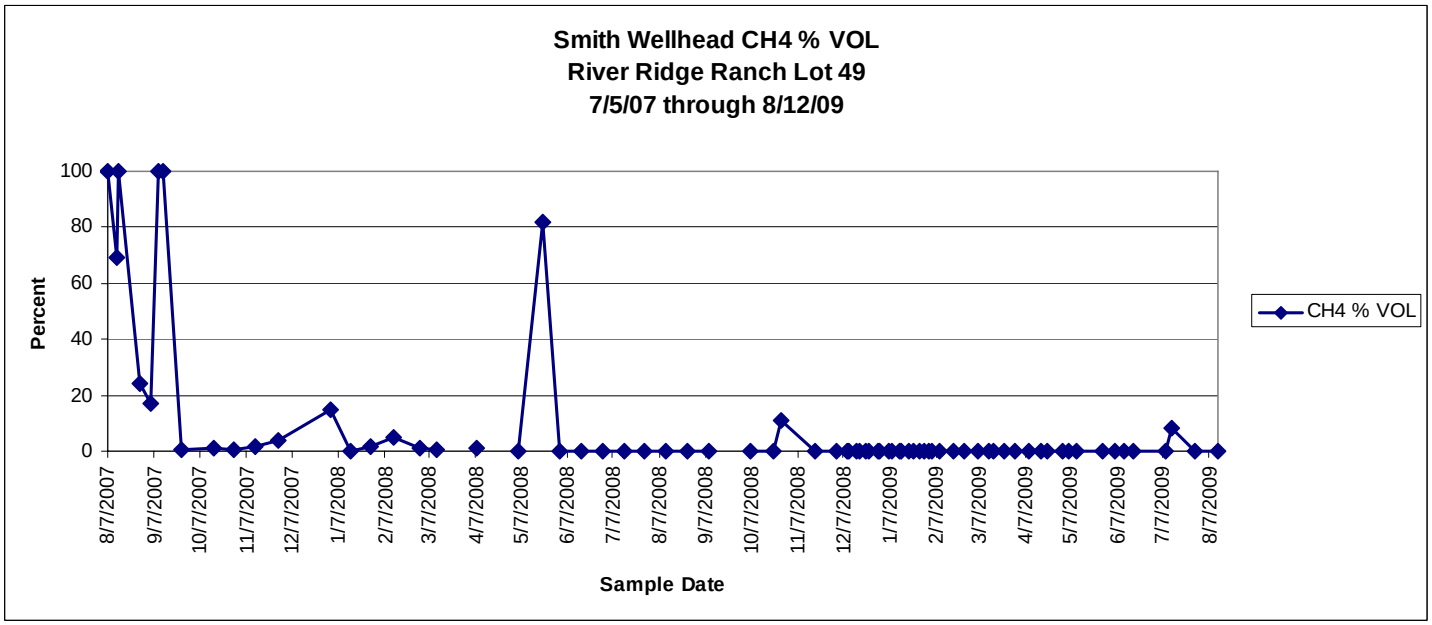

Goodwin % LEL
River Ridge Ranch Lot 150
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
% LEL

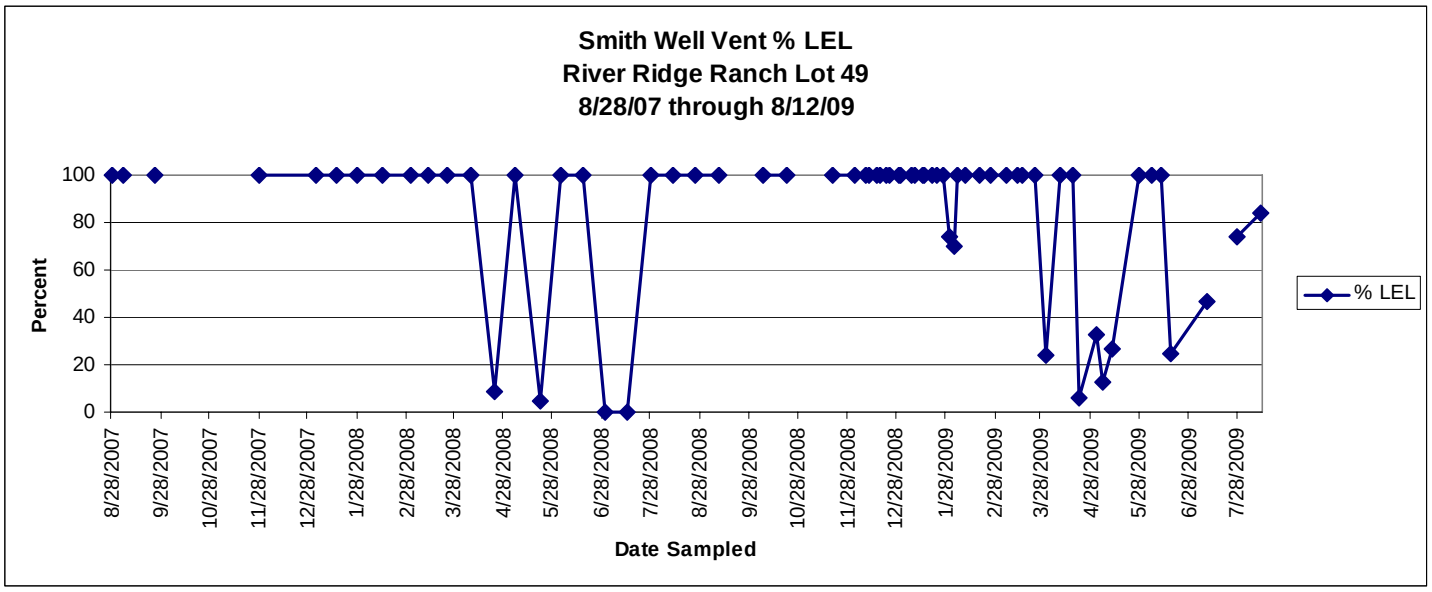

Goodwin CH4 % VOL
River Ridge Ranch Lot 150
7/12/07 through 8/10/09
Percent
5
4
3
2
1
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
CH4 % VOL

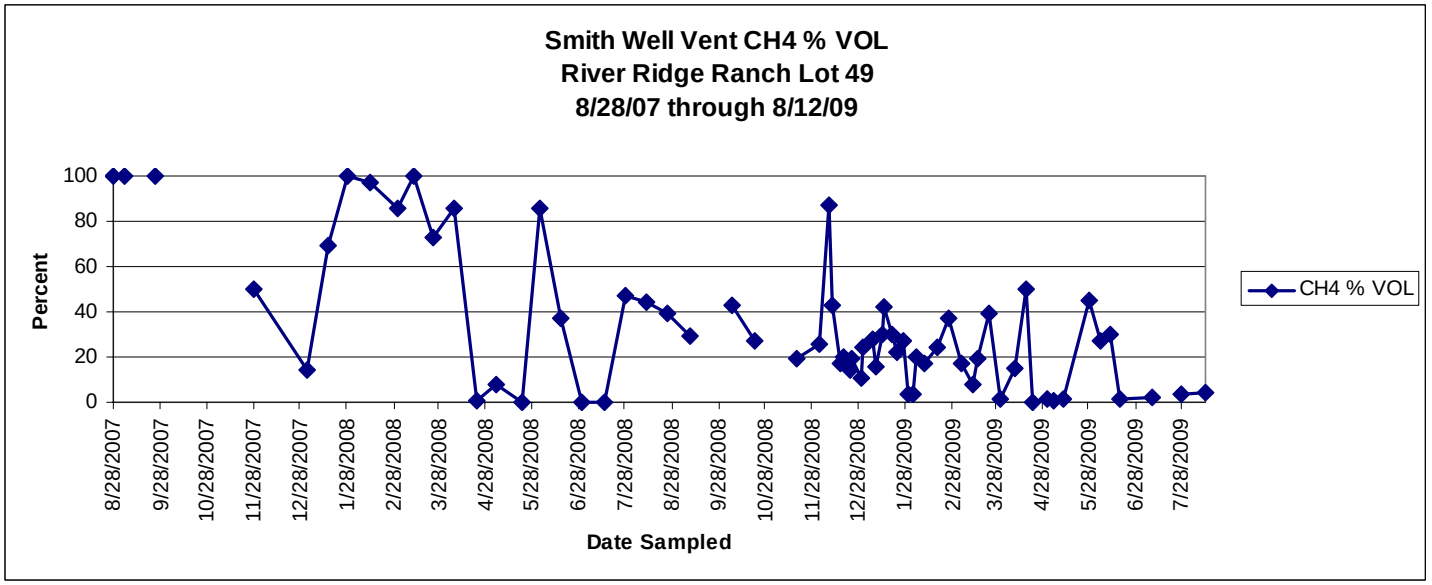

Ireland % LEL
River Ridge Ranch Lot 151
7/12/07 through 8/10/09
Percent
100
80
60
40
20
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
% LEL

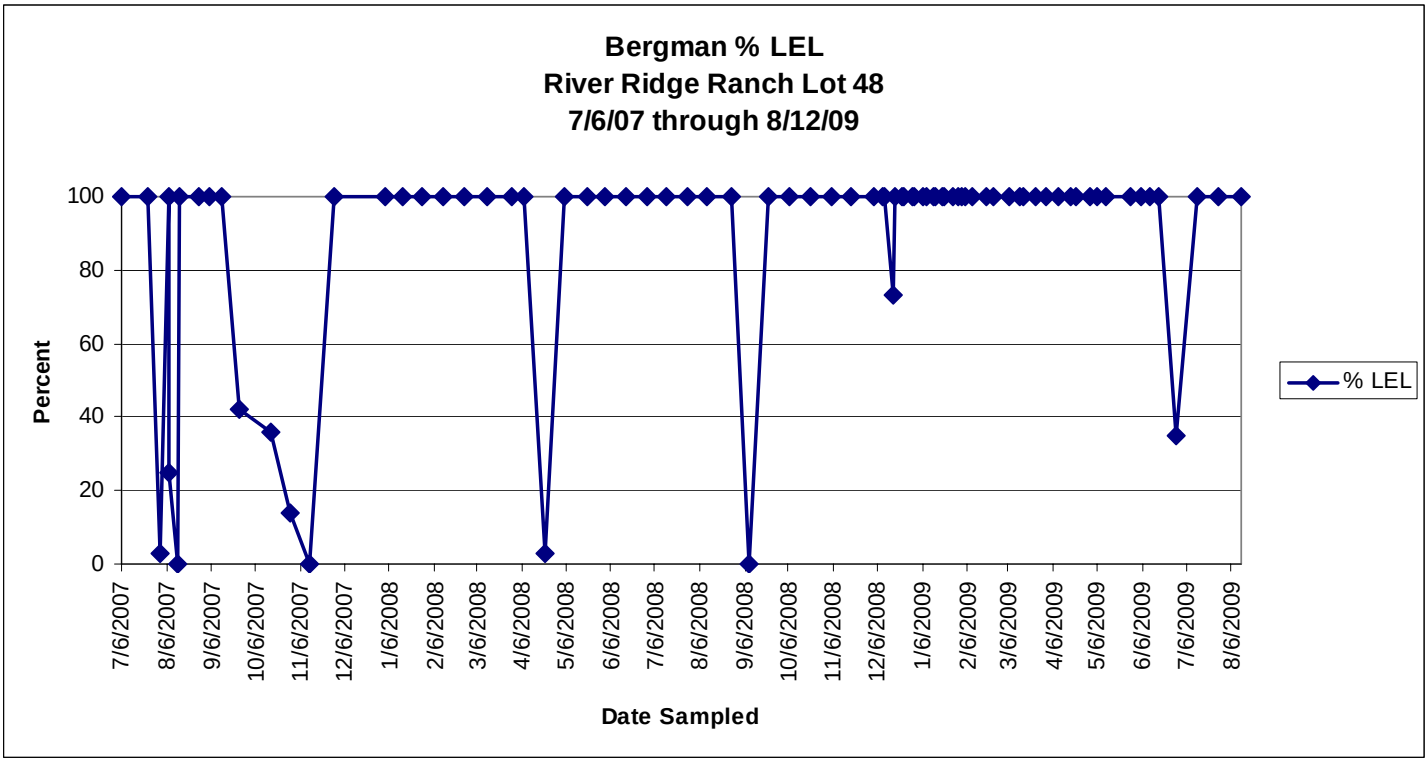

Ireland CH4 % VOL
River Ridge Ranch Lot 151
7/12/07 through 8/10/09
Percent
5
4
3
2
1
0
7/12/2007
8/12/2007
9/12/2007
10/12/2007
11/12/2007
12/12/2007
1/12/2008
2/12/2008
3/12/2008
4/12/2008
5/12/2008
6/12/2008
7/12/2008
8/12/2008
9/12/2008
10/12/2008
11/12/2008
12/12/2008
1/12/2009
2/12/2009
3/12/2009
4/12/2009
5/12/2009
6/12/2009
7/12/2009
Date Sampled
CH4 % VOL

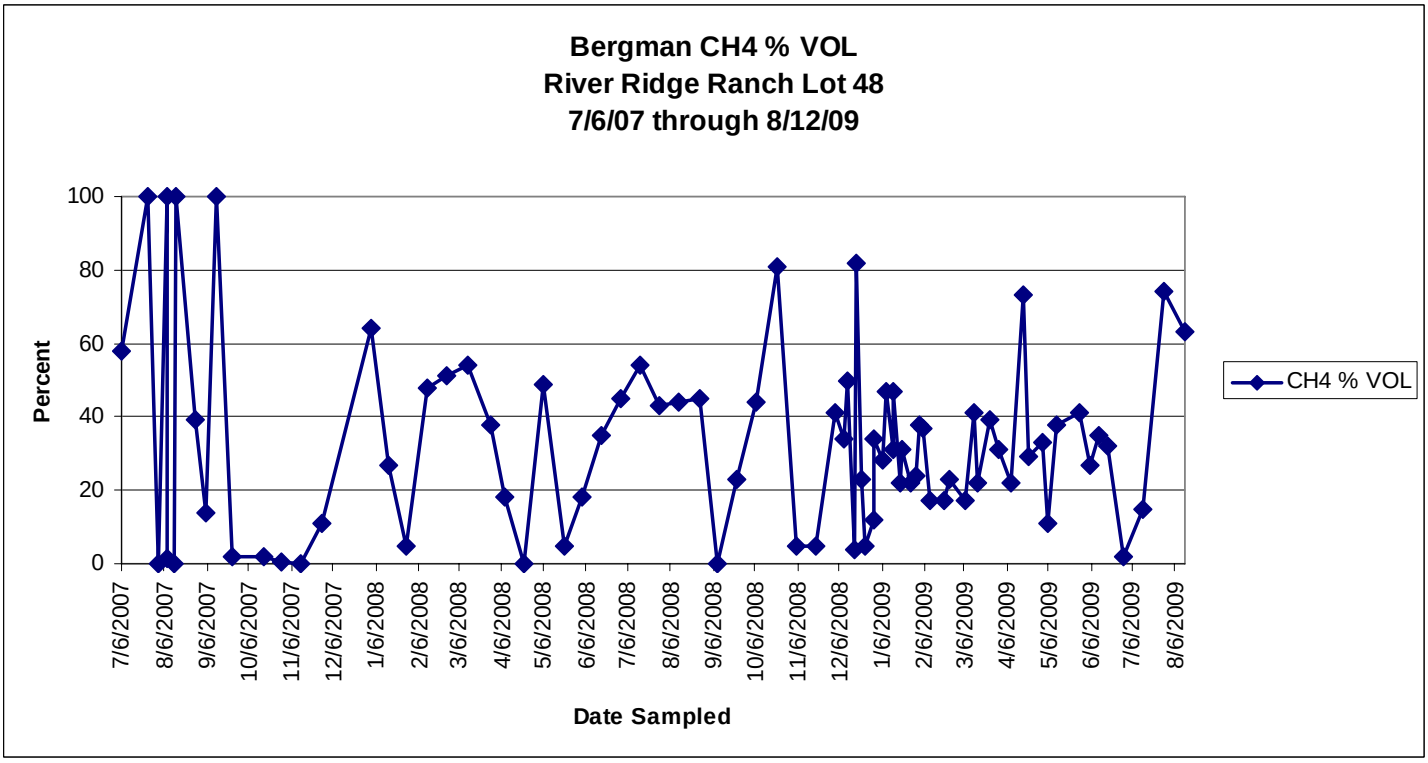

Smith Wellhead % LEL
River Ridge Ranch Lot 49
7/5/07 through 8/12/09
Percent
Date Sampled
% LEL

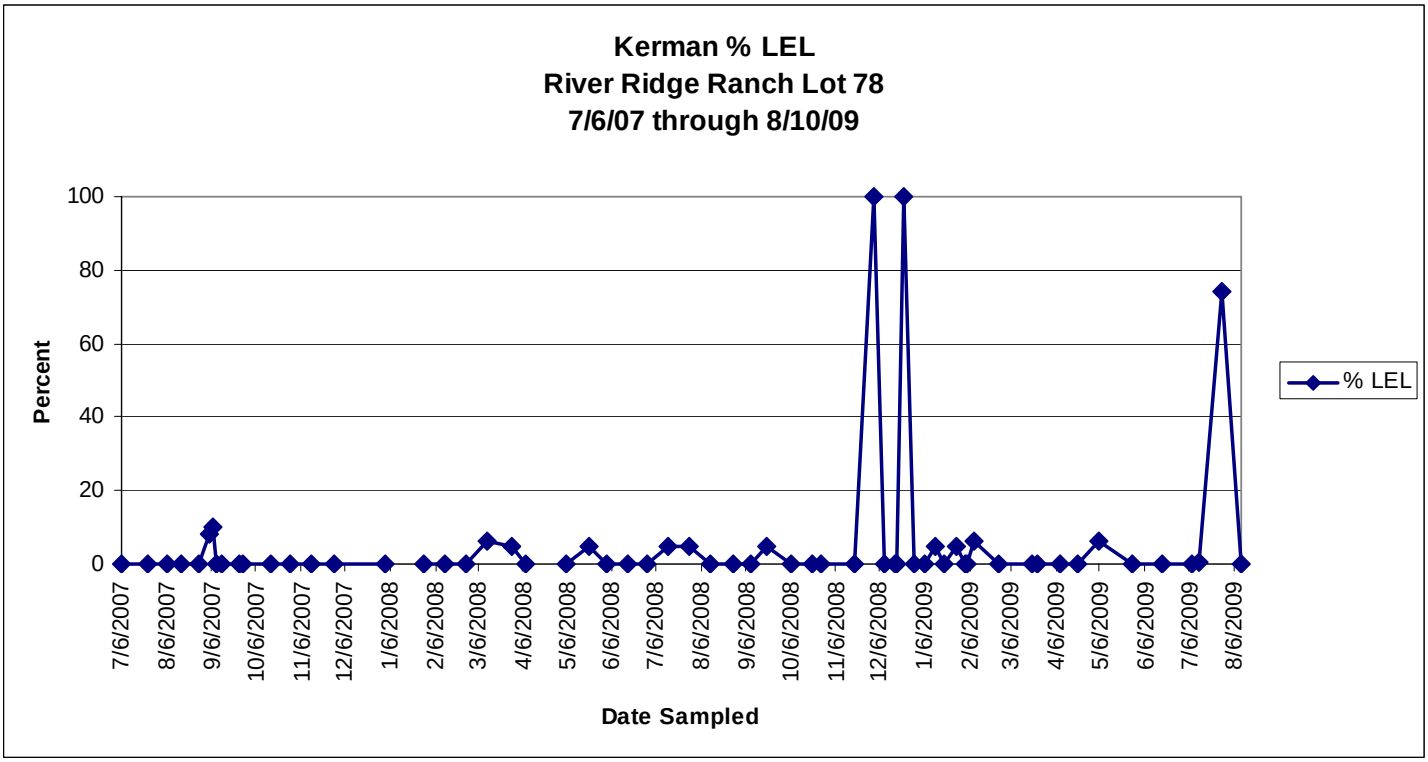

Smith Wellhead CH4 % VOL
River Ridge Ranch Lot 49
7/5/07 through 8/12/09
Percent
Sample Date
CH4 % VOL

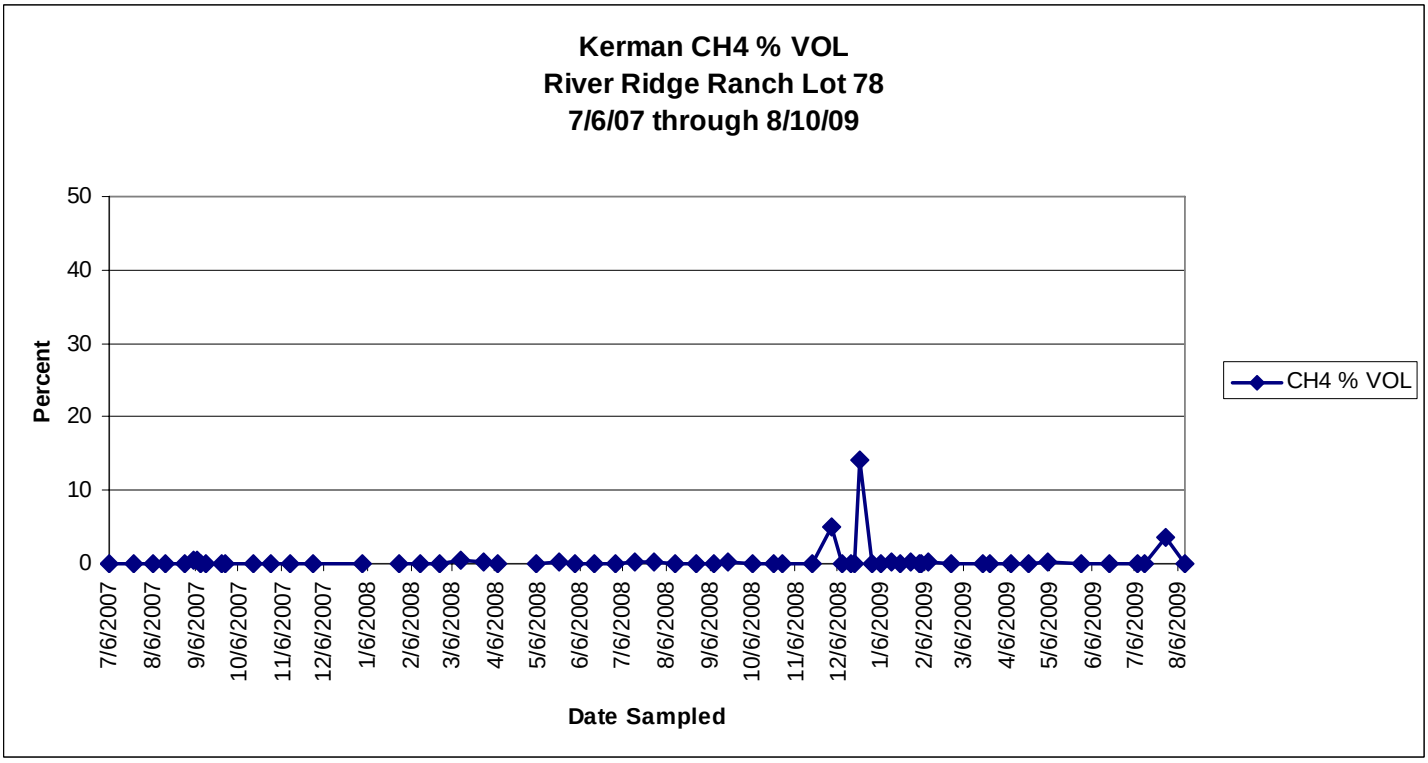

Smith Well Vent % LEL
River Ridge Ranch Lot 49
8/28/07 through 8/12/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
% LEL

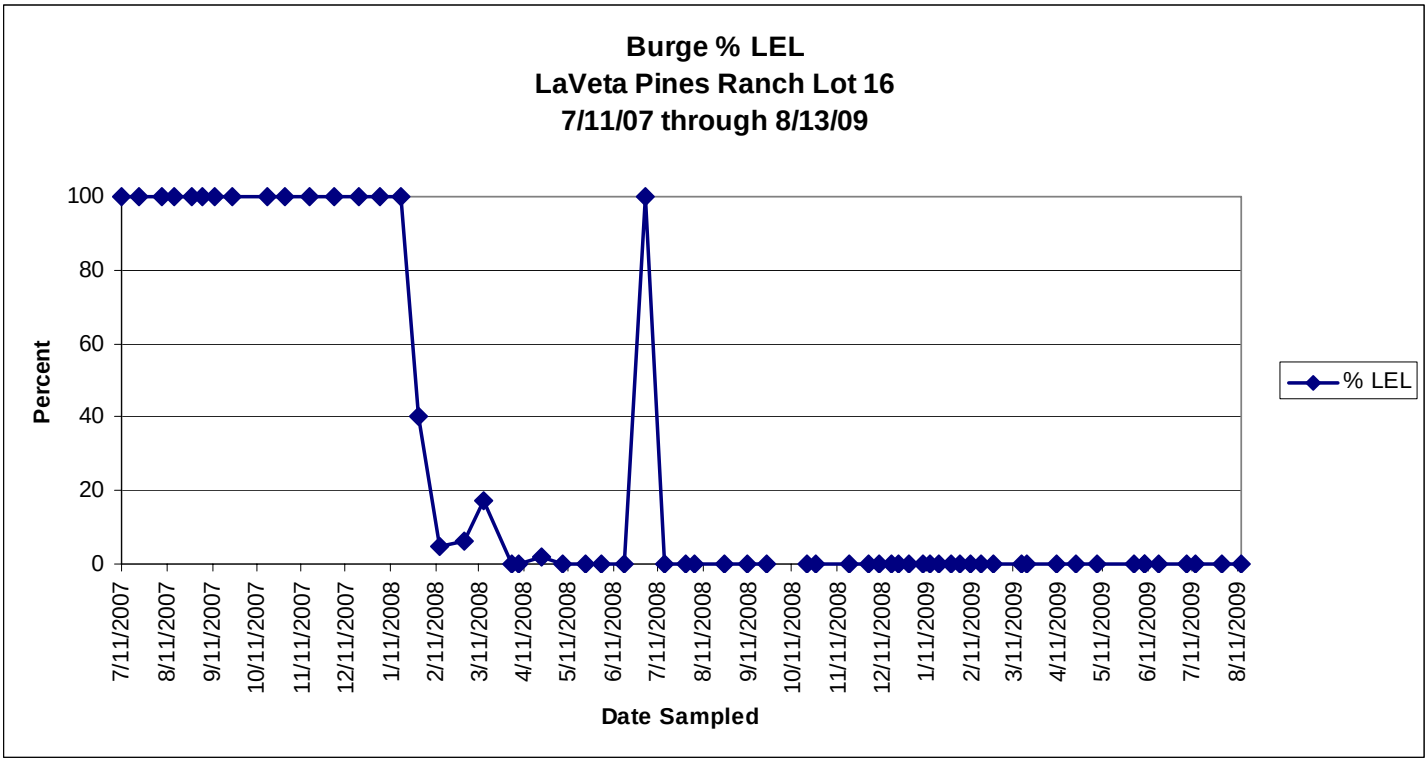

Smith Well Vent CH4 % VOL
River Ridge Ranch Lot 49
8/28/07 through 8/12/09
Percent
100
80
60
40
20
0
8/28/2007
9/28/2007
10/28/2007
11/28/2007
12/28/2007
1/28/2008
2/28/2008
3/28/2008
4/28/2008
5/28/2008
6/28/2008
7/28/2008
8/28/2008
9/28/2008
10/28/2008
11/28/2008
12/28/2008
1/28/2009
2/28/2009
3/28/2009
4/28/2009
5/28/2009
6/28/2009
7/28/2009
Date Sampled
CH4 % VOL

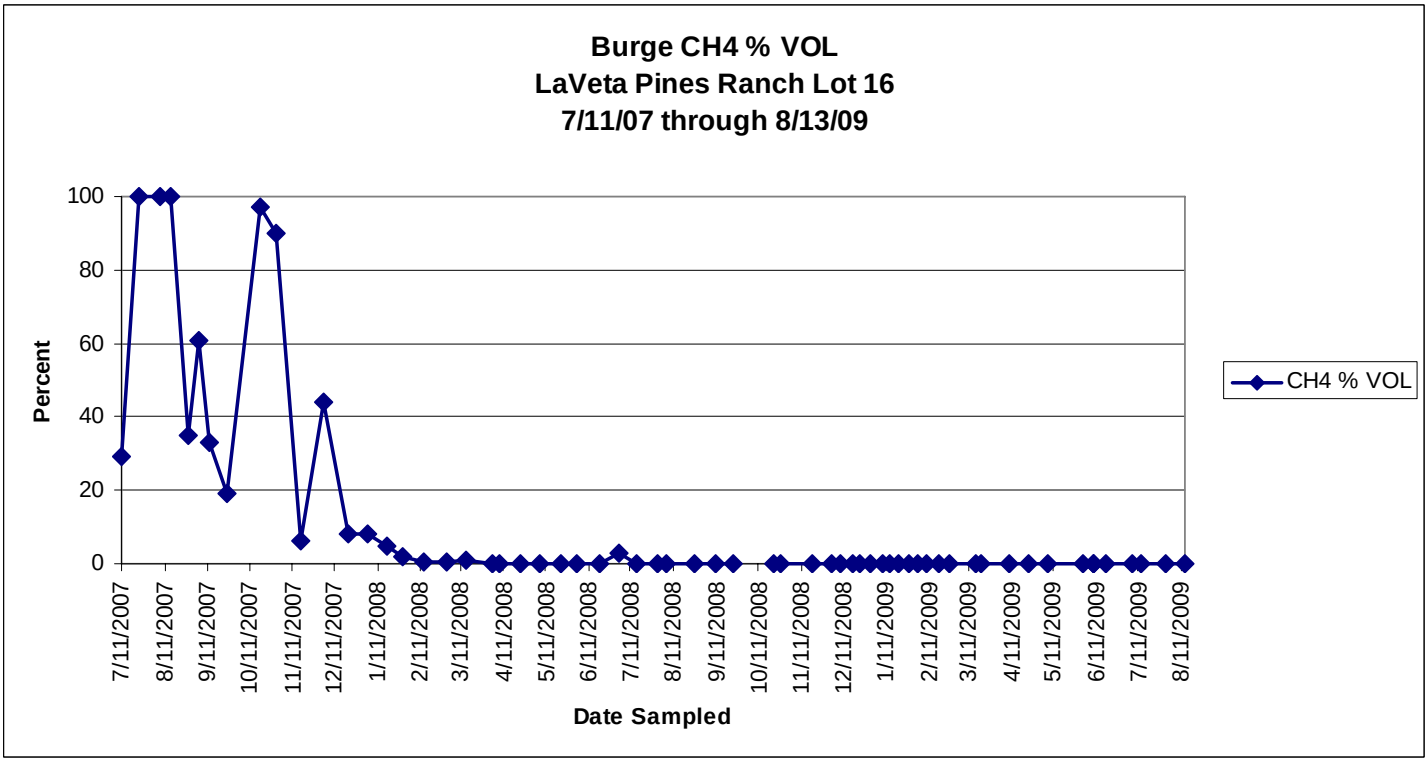

Bergman % LEL
River Ridge Ranch Lot 48
7/6/07 through 8/12/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
% LEL

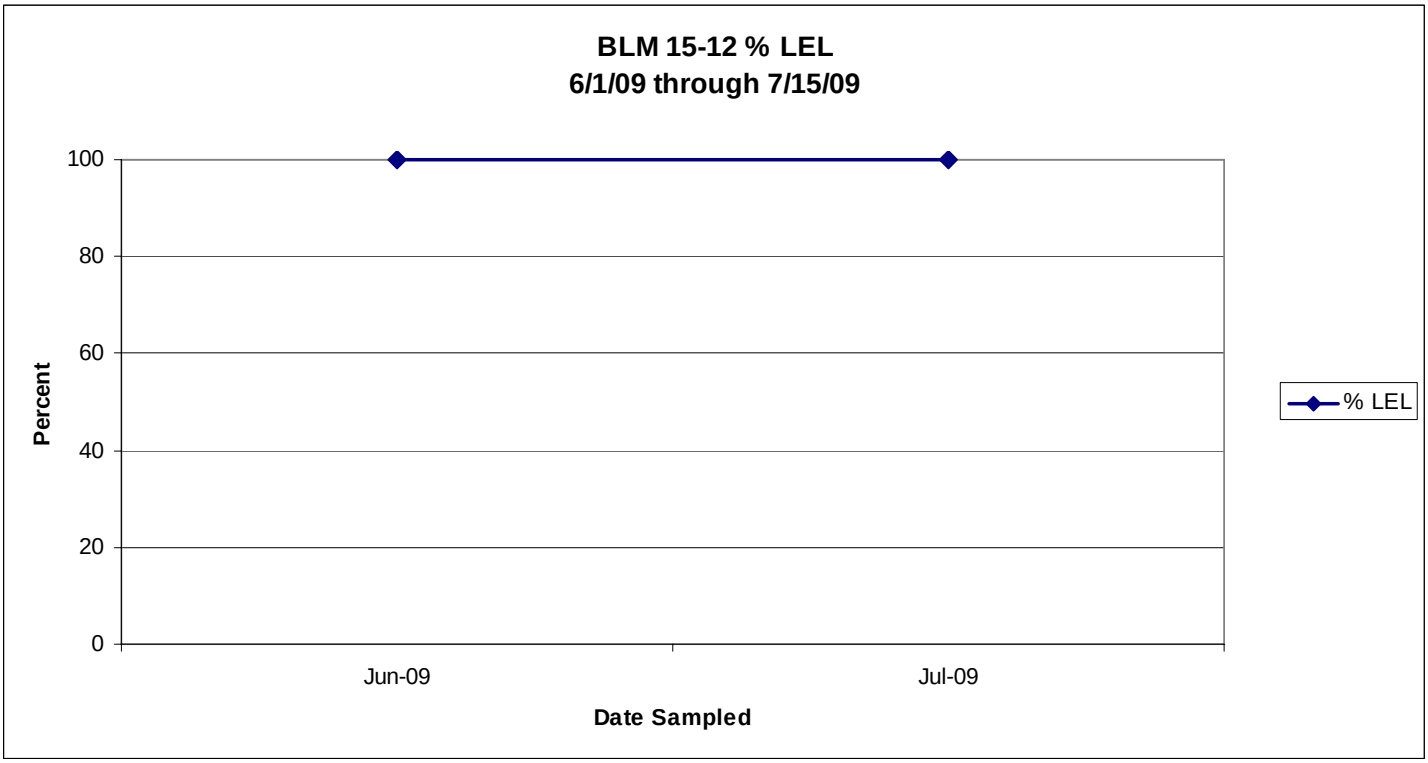

Bergman CH4 % VOL
River Ridge Ranch Lot 48
7/6/07 through 8/12/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
CH4 % VOL

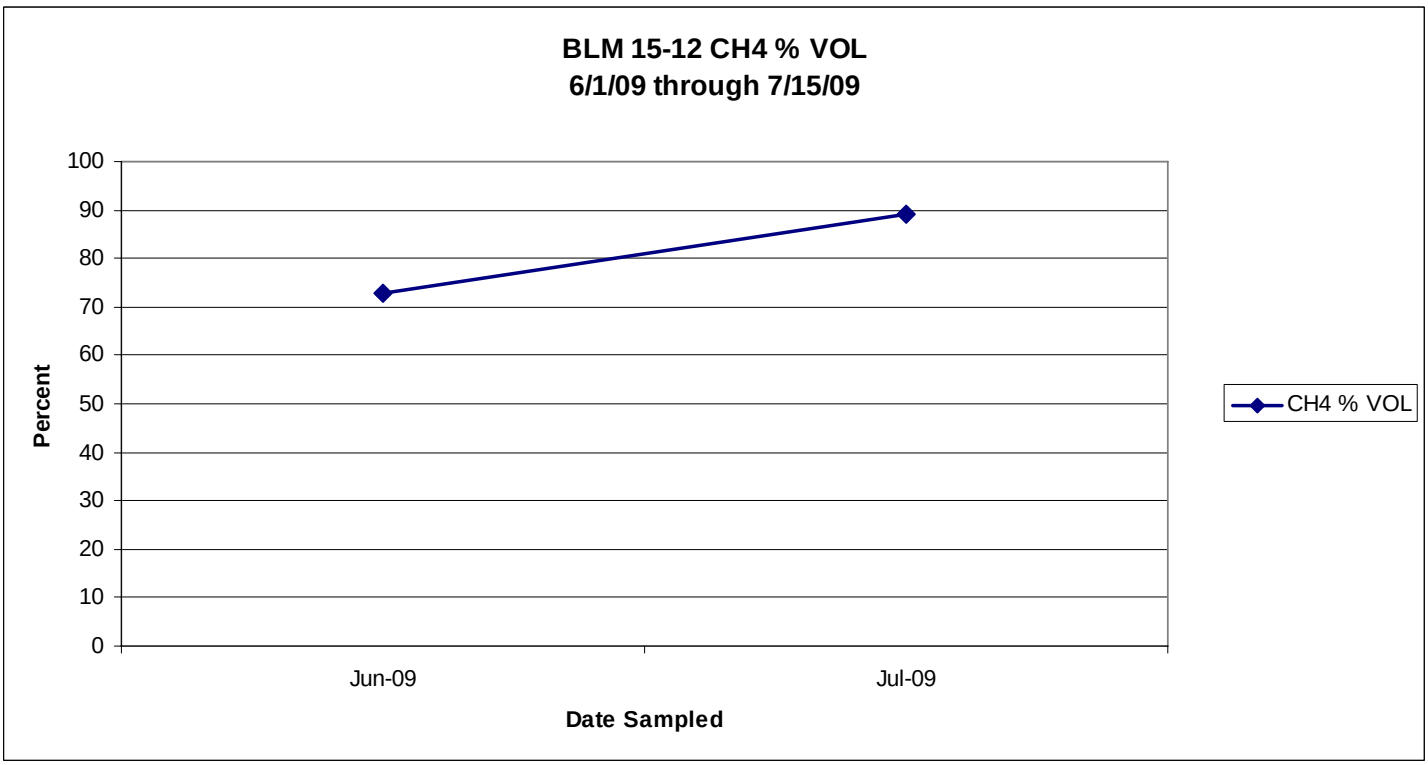

Kerman % LEL
River Ridge Ranch Lot 78
7/6/07 through 8/10/09
Percent
100
80
60
40
20
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
% LEL

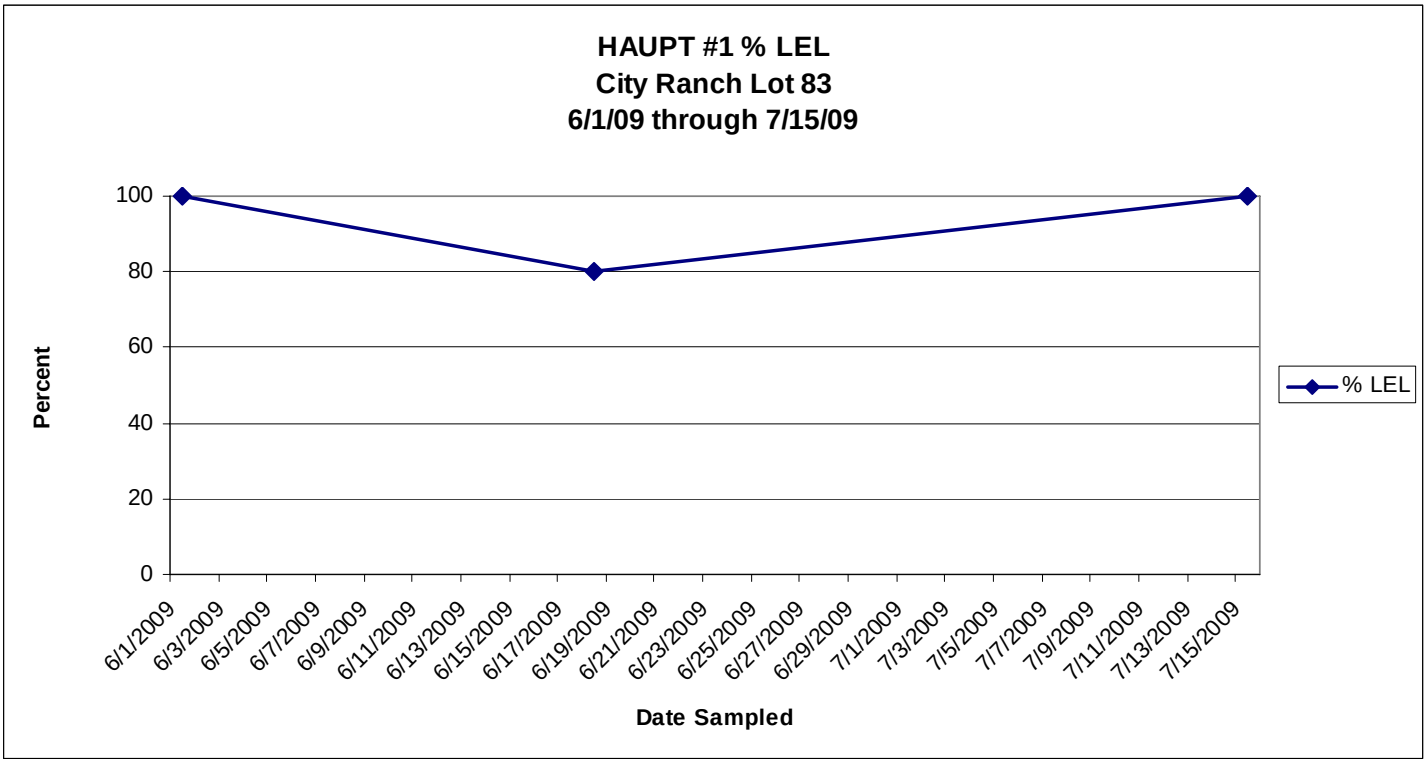

Kerman CH4 % VOL
River Ridge Ranch Lot 78
7/6/07 through 8/10/09
Percent
50
40
30
20
10
0
7/6/2007
8/6/2007
9/6/2007
10/6/2007
11/6/2007
12/6/2007
1/6/2008
2/6/2008
3/6/2008
4/6/2008
5/6/2008
6/6/2008
7/6/2008
8/6/2008
9/6/2008
10/6/2008
11/6/2008
12/6/2008
1/6/2009
2/6/2009
3/6/2009
4/6/2009
5/6/2009
6/6/2009
7/6/2009
8/6/2009
Date Sampled
CH4 % VOL

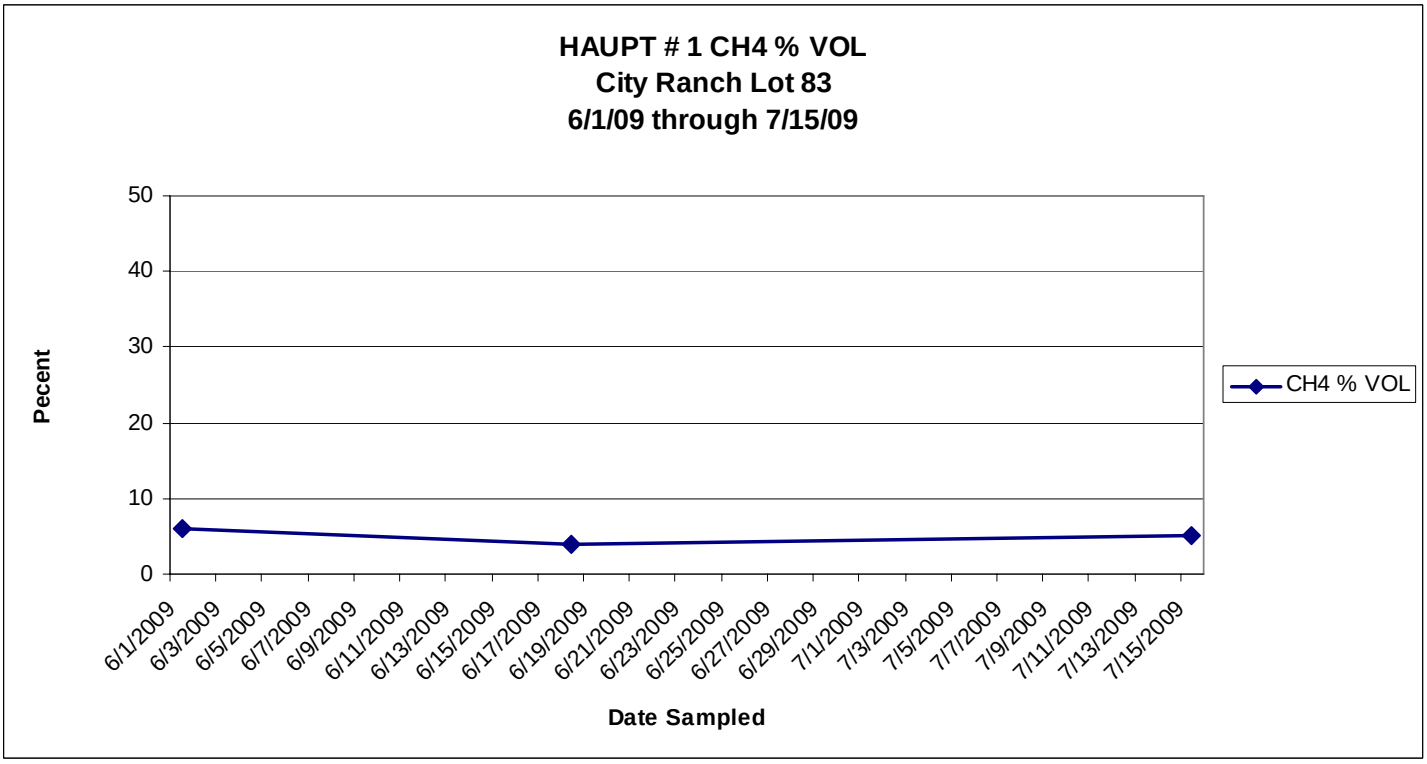

Burge % LEL
LaVeta Pines Ranch Lot 16
7/11/07 through 8/13/09
Percent
100
80
60
40
20
0
7/11/2007
8/11/2007
9/11/2007
10/11/2007
11/11/2007
12/11/2007
1/11/2008
2/11/2008
3/11/2008
4/11/2008
5/11/2008
6/11/2008
7/11/2008
8/11/2008
9/11/2008
10/11/2008
11/11/2008
12/11/2008
1/11/2009
2/11/2009
3/11/2009
4/11/2009
5/11/2009
6/11/2009
7/11/2009
8/11/2009
Date Sampled
% LEL


Burge CH4 % VOL
LaVeta Pines Ranch Lot 16
7/11/07 through 8/13/09
Percent
100
80
60
40
20
0
7/11/2007
8/11/2007
9/11/2007
10/11/2007
11/11/2007
12/11/2007
1/11/2008
2/11/2008
3/11/2008
4/11/2008
5/11/2008
6/11/2008
7/11/2008
8/11/2008
9/11/2008
10/11/2008
11/11/2008
12/11/2008
1/11/2009
2/11/2009
3/11/2009
4/11/2009
5/11/2009
6/11/2009
7/11/2009
8/11/2009
Date Sampled
CH4 % VOL


BLM 15-12 % LEL
6/1/09 through 7/15/09
100
80
60
40
20
0
Percent
Jun-09
Jul-09
Date Sampled
% LEL


BLM 15-12 CH4 % VOL
6/1/09 through 7/15/09
100
90
80
70
60
50
40
30
20
10
0
Percent
Jun-09
Jul-09
Date Sampled
CH4 % VOL


HAUPT #1 % LEL
City Ranch Lot 83
6/1/09 through 7/15/09
Percent
100
80
60
40
20
0
6/1/2009
6/3/2009
6/5/2009
6/7/2009
6/9/2009
6/11/2009
6/13/2009
6/15/2009
6/17/2009
6/19/2009
6/21/2009
6/23/2009
6/25/2009
6/27/2009
6/29/2009
7/1/2009
7/3/2009
7/5/2009
7/7/2009
7/9/2009
7/11/2009
7/13/2009
7/15/2009
Date Sampled
% LEL


HAUPT # 1 CH4 % VOL
City Ranch Lot 83
6/1/09 through 7/15/09
Pecent
50
40
30
20
10
0
6/1/2009
6/3/2009
6/5/2009
6/7/2009
6/9/2009
6/11/2009
6/13/2009
6/15/2009
6/17/2009
6/19/2009
6/21/2009
6/23/2009
6/25/2009
6/27/2009
6/29/2009
7/1/2009
7/3/2009
7/5/2009
7/7/2009
7/9/2009
7/11/2009
7/13/2009
7/15/2009
Date Sampled
CH4 % VOL